```
**************************************************
*                                                *
*           STAAD.Pro V8i SELECTseries6           *
*           Version  20.07.11.33                 *
*           Proprietary Program of               *
*           Bentley Systems, Inc.                *
*           Date=    DEC 20, 2021                *
*           Time=    19: 3:57                    *
*                                                *
*      USER ID:                                  *
**************************************************
```

```
     1. STAAD SPACE
INPUT FILE: C:\Users\kanan\OneDrive\Desktop\College Project\G+3.STD
     2. START JOB INFORMATION
     3. ENGINEER DATE 17-SEP-21
     4. JOB NAME G+3 RCC BUILDING
     5. ENGINEER NAME TEAM 7
     6. END JOB INFORMATION
     7. INPUT WIDTH 79
     8. UNIT METER KN
     9. JOINT COORDINATES
    10. 1 0 0 0; 2 6 0 0; 3 12 0 0; 4 18 0 0; 5 0 0 6; 6 6 0 6; 7 12 0 6; 8 18 0 6
    11. 9 0 0 10; 10 6 0 10; 11 12 0 10; 12 18 0 10; 13 0 0 16; 14 6 0 16; 15 12 0 16
    12. 16 18 0 16; 17 3 0 0; 18 9 0 0; 19 15 0 0; 21 3 0 6; 22 9 0 6; 23 15 0 6
    13. 25 3 0 10; 26 9 0 10; 27 15 0 10; 29 3 0 16; 30 9 0 16; 31 15 0 16; 32 0 -3 0
    14. 33 6 -3 0; 34 12 -3 0; 35 18 -3 0; 36 0 -3 6; 37 6 -3 6; 38 12 -3 6
    15. 39 18 -3 6; 40 0 -3 10; 41 6 -3 10; 42 12 -3 10; 43 18 -3 10; 44 0 -3 16
    16. 45 6 -3 16; 46 12 -3 16; 47 18 -3 16; 48 0 3.35 0; 49 6 3.35 0; 50 12 3.35 0
    17. 51 18 3.35 0; 52 0 3.35 6; 53 6 3.35 6; 54 12 3.35 6; 55 18 3.35 6
    18. 56 0 3.35 10; 57 6 3.35 10; 58 12 3.35 10; 59 18 3.35 10; 60 0 3.35 16
    19. 61 6 3.35 16; 62 12 3.35 16; 63 18 3.35 16; 64 0 6.7 0; 65 6 6.7 0
    20. 66 12 6.7 0; 67 18 6.7 0; 68 0 6.7 6; 69 6 6.7 6; 70 12 6.7 6; 71 18 6.7 6
    21. 72 0 6.7 10; 73 6 6.7 10; 74 12 6.7 10; 75 18 6.7 10; 76 0 6.7 16; 77 6 6.7 16
    22. 78 12 6.7 16; 79 18 6.7 16; 80 0 10.05 0; 81 6 10.05 0; 82 12 10.05 0
    23. 83 18 10.05 0; 84 0 10.05 6; 85 6 10.05 6; 86 12 10.05 6; 87 18 10.05 6
    24. 88 0 10.05 10; 89 6 10.05 10; 90 12 10.05 10; 91 18 10.05 10; 92 0 10.05 16
    25. 93 6 10.05 16; 94 12 10.05 16; 95 18 10.05 16; 96 0 13.4 0; 97 6 13.4 0
    26. 98 12 13.4 0; 99 18 13.4 0; 100 0 13.4 6; 101 6 13.4 6; 102 12 13.4 6
    27. 103 18 13.4 6; 104 0 13.4 10; 105 6 13.4 10; 106 12 13.4 10; 107 18 13.4 10
    28. 108 0 13.4 16; 109 6 13.4 16; 110 12 13.4 16; 111 18 13.4 16; 112 3 3.35 0
    29. 113 9 3.35 0; 114 15 3.35 0; 115 3 3.35 6; 116 9 3.35 6; 117 15 3.35 6
    30. 118 3 3.35 10; 119 9 3.35 10; 120 15 3.35 10; 121 3 3.35 16; 122 9 3.35 16
    31. 123 15 3.35 16; 124 3 6.7 0; 125 9 6.7 0; 126 15 6.7 0; 127 3 6.7 6
    32. 128 9 6.7 6; 129 15 6.7 6; 130 3 6.7 10; 131 9 6.7 10; 132 15 6.7 10
    33. 133 3 6.7 16; 134 9 6.7 16; 135 15 6.7 16; 136 3 10.05 0; 137 9 10.05 0
    34. 138 15 10.05 0; 139 3 10.05 6; 140 9 10.05 6; 141 15 10.05 6; 142 3 10.05 10
    35. 143 9 10.05 10; 144 15 10.05 10; 145 3 10.05 16; 146 9 10.05 16
    36. 147 15 10.05 16; 148 3 13.4 0; 149 9 13.4 0; 150 15 13.4 0; 151 3 13.4 6
    37. 152 9 13.4 6; 153 15 13.4 6; 154 3 13.4 10; 155 9 13.4 10; 156 15 13.4 10
    38. 157 3 13.4 16; 158 9 13.4 16; 159 15 13.4 16; 160 -4 0 6; 161 -4 0 10
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39. 162 -4 3.35 6; 163 -4 3.35 10; 164 -4 6.7 6; 165 -4 6.7 10; 166 -4 10.05 6
40. 167 -4 10.05 10; 168 -4 13.4 6; 169 -4 13.4 10; 173 -4 -3 6; 174 -4 -3 10
41. MEMBER INCIDENCES
42. 1 1 17; 2 2 18; 3 3 19; 4 1 5; 5 2 6; 6 3 7; 7 4 8; 8 5 21; 9 6 22; 10 7 23
43. 11 5 9; 12 6 10; 13 7 11; 14 8 12; 15 9 25; 16 10 26; 17 11 27; 18 9 13
44. 19 10 14; 20 11 15; 21 12 16; 22 13 29; 23 14 30; 24 15 31; 25 17 2; 26 18 3
45. 27 19 4; 28 21 6; 29 22 7; 30 23 8; 31 25 10; 32 26 11; 33 27 12; 34 29 14
46. 35 30 15; 36 31 16; 37 17 21; 38 18 22; 39 19 23; 41 25 29; 42 26 30; 43 27 31
47. 44 1 32; 45 2 33; 46 3 34; 47 4 35; 48 5 36; 49 6 37; 50 7 38; 51 8 39
48. 52 9 40; 53 10 41; 54 11 42; 55 12 43; 56 13 44; 57 14 45; 58 15 46; 59 16 47
49. 60 1 48; 61 2 49; 62 3 50; 63 4 51; 64 5 52; 65 6 53; 66 7 54; 67 8 55
50. 68 9 56; 69 10 57; 70 11 58; 71 12 59; 72 13 60; 73 14 61; 74 15 62; 75 16 63
51. 76 48 64; 77 49 65; 78 50 66; 79 51 67; 80 52 68; 81 53 69; 82 54 70; 83 55 71
52. 84 56 72; 85 57 73; 86 58 74; 87 59 75; 88 60 76; 89 61 77; 90 62 78; 91 63 79
53. 92 64 80; 93 65 81; 94 66 82; 95 67 83; 96 68 84; 97 69 85; 98 70 86; 99 71 87
54. 100 72 88; 101 73 89; 102 74 90; 103 75 91; 104 76 92; 105 77 93; 106 78 94
55. 107 79 95; 108 80 96; 109 81 97; 110 82 98; 111 83 99; 112 84 100; 113 85 101
56. 114 86 102; 115 87 103; 116 88 104; 117 89 105; 118 90 106; 119 91 107
57. 120 92 108; 121 93 109; 122 94 110; 123 95 111; 124 48 112; 125 49 113
58. 126 50 114; 127 48 52; 128 49 53; 129 50 54; 130 51 55; 131 52 115; 132 53 116
59. 133 54 117; 134 52 56; 135 53 57; 136 54 58; 137 55 59; 138 56 118; 139 57 119
60. 140 58 120; 141 56 60; 142 57 61; 143 58 62; 144 59 63; 145 60 121; 146 61 122
61. 147 62 123; 148 112 49; 149 113 50; 150 114 51; 151 115 53; 152 116 54
62. 153 117 55; 154 118 57; 155 119 58; 156 120 59; 157 121 61; 158 122 62
63. 159 123 63; 160 112 115; 161 113 116; 162 114 117; 163 118 121; 164 119 122
64. 165 120 123; 166 64 124; 167 65 125; 168 66 126; 169 64 68; 170 65 69
65. 171 66 70; 172 67 71; 173 68 127; 174 69 128; 175 70 129; 176 68 72; 177 69 73
66. 178 70 74; 179 71 75; 180 72 130; 181 73 131; 182 74 132; 183 72 76; 184 73 77
67. 185 74 78; 186 75 79; 187 76 133; 188 77 134; 189 78 135; 190 124 65
68. 191 125 66; 192 126 67; 193 127 69; 194 128 70; 195 129 71; 196 130 73
69. 197 131 74; 198 132 75; 199 133 77; 200 134 78; 201 135 79; 202 124 127
70. 203 125 128; 204 126 129; 205 130 133; 206 131 134; 207 132 135; 208 80 136
71. 209 81 137; 210 82 138; 211 80 84; 212 81 85; 213 82 86; 214 83 87; 215 84 139
72. 216 85 140; 217 86 141; 218 84 88; 219 85 89; 220 86 90; 221 87 91; 222 88 142
73. 223 89 143; 224 90 144; 225 88 92; 226 89 93; 227 90 94; 228 91 95; 229 92 145
74. 230 93 146; 231 94 147; 232 136 81; 233 137 82; 234 138 83; 235 139 85
75. 236 140 86; 237 141 87; 238 142 89; 239 143 90; 240 144 91; 241 145 93
76. 242 146 94; 243 147 95; 244 136 139; 245 137 140; 246 138 141; 247 142 145
77. 248 143 146; 249 144 147; 250 96 148; 251 97 149; 252 98 150; 253 96 100
78. 254 97 101; 255 98 102; 256 99 103; 257 100 151; 258 101 152; 259 102 153
79. 260 100 104; 261 101 105; 262 102 106; 263 103 107; 264 104 154; 265 105 155
80. 266 106 156; 267 104 108; 268 105 109; 269 106 110; 270 107 111; 271 108 157
81. 272 109 158; 273 110 159; 274 148 97; 275 149 98; 276 150 99; 277 151 101
82. 278 152 102; 279 153 103; 280 154 105; 281 155 106; 282 156 107; 283 157 109
83. 284 158 110; 285 159 111; 286 148 151; 287 149 152; 288 150 153; 289 154 157
84. 290 155 158; 291 156 159; 292 161 9; 293 161 160; 294 160 5; 295 160 162
85. 296 161 163; 297 163 56; 298 163 162; 299 162 52; 300 162 164; 301 163 165
86. 302 165 72; 303 165 164; 304 164 68; 305 164 166; 306 165 167; 307 167 88
87. 308 167 166; 309 166 84; 310 166 168; 311 167 169; 312 169 104; 313 169 168
88. 314 168 100; 316 160 173; 317 161 174
89. ELEMENT INCIDENCES SHELL
90. 318 1 4 8 5; 319 160 5 9 161; 320 9 12 16 13; 321 48 51 55 52
91. 322 162 52 56 163; 323 56 59 63 60; 324 64 67 71 68; 325 164 68 72 165
92. 326 72 75 79 76; 327 80 83 87 84; 328 166 84 88 167; 329 88 91 95 92
93. 330 96 99 103 100; 331 168 100 104 169; 332 104 107 111 108
94. START GROUP DEFINITION

```
    95. FLOOR
    96. _ONEWAYFLOOR 1 TO 10 15 TO 39 41 TO 43 60 TO 107 124 TO 133 138 TO 175 180 -
    97. 181 TO 217 222 TO 249
    98. _TWOWAYFLOOR 8 TO 17 28 TO 33 64 TO 71 80 TO 87 96 TO 103 131 TO 140 -
    99. 151 TO 156 173 TO 182 193 TO 198 215 TO 224 235 TO 240
   100. _ONEWAYTERRACE 250 TO 259 264 TO 291
   101. _TWOWAYTERRACE 257 TO 266 277 TO 282
   102. END GROUP DEFINITION
   103. ELEMENT PROPERTY
   104. 318 TO 332 THICKNESS 0.15
   105. DEFINE MATERIAL START
   106. ISOTROPIC CONCRETE
   107. E 2.17185E+007
   108. POISSON 0.17
   109. DENSITY 23.5616
   110. ALPHA 1E-005
   111. DAMP 0.05
   112. TYPE CONCRETE
   113. STRENGTH FCU 27579
   114. END DEFINE MATERIAL
   115. MEMBER PROPERTY AMERICAN
   116. 1 TO 39 41 TO 43 124 TO 294 297 TO 299 302 TO 304 307 TO 309 312 TO 313 -
   117. 314 PRIS YD 0.45 ZD 0.23
   118. 44 TO 123 295 296 300 301 305 306 310 311 316 317 PRIS YD 0.6 ZD 0.3
   119. CONSTANTS
   120. MATERIAL CONCRETE ALL
   121. MEMBER RELEASE
   122. 37 TO 39 41 TO 43 160 TO 165 202 TO 207 244 TO 249 286 TO 291 START MY MZ
   123. 37 TO 39 41 TO 43 160 TO 165 202 TO 207 244 TO 249 286 TO 291 END MY MZ
   124. SUPPORTS
   125. 32 TO 47 173 174 FIXED
   126. LOAD 1 LOADTYPE DEAD  TITLE DL
   127. SELFWEIGHT Y -1
   128. MEMBER LOAD
   129. 8 TO 10 15 TO 17 28 TO 33 37 TO 39 41 TO 43 131 TO 133 138 TO 140 151 TO 156 -
   130. 160 TO 165 173 TO 175 180 TO 182 193 TO 198 202 TO 207 215 TO 217 -
   131. 222 TO 224 235 TO 240 244 TO 249 257 TO 259 264 TO 266 277 TO 282 -
   132. 286 TO 291 UNI GY -9.15
   133. 1 TO 4 7 14 18 21 TO 27 34 TO 36 124 TO 127 130 137 141 144 TO 150 -
   134. 157 TO 159 166 TO 169 172 179 183 186 TO 192 199 TO 201 208 TO 211 214 221 -
   135. 225 228 TO 234 241 TO 243 250 TO 253 256 263 267 270 TO 276 283 TO 285 292 -
   136. 293 TO 294 297 TO 299 302 TO 304 307 TO 309 312 TO 314 UNI GY -14.03
   137. LOAD 2 LOADTYPE LIVE REDUCIBLE TITLE LL
   138. ONEWAY LOAD
   139. _ONEWAYFLOOR ONE -5 GY
**NOTE** about Floor/OneWay Loads/Weights.
  Please note that depending on the shape of the floor you may
  have to break up the FLOOR/ONEWAY LOAD into multiple commands.
  For details please refer to Technical Reference Manual
  Section 5.32.4.2 Note d and/or "5.32.4.3 Note f.

   140. FLOOR LOAD
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141. _TWOWAYFLOOR FLOAD -5 GY
142. ONEWAY LOAD
143. _ONEWAYTERRACE ONE -3 GY
144. FLOOR LOAD
145. _TWOWAYTERRACE FLOAD -3 GY
146. LOAD COMB 3 1.5 X COMBINATION LOAD
147. 1 1.5 2 1.5
148. PERFORM ANALYSIS
```

P R O B L E M S T A T I S T I C S

NUMBER OF JOINTS	**168**	**NUMBER OF MEMBERS**	**315**
NUMBER OF PLATES	**15**	**NUMBER OF SOLIDS**	**0**
NUMBER OF SURFACES	**0**	**NUMBER OF SUPPORTS**	**18**

SOLVER USED IS THE OUT-OF-CORE BASIC SOLVER

ORIGINAL/FINAL BAND-WIDTH= 153/ 34/ 204 DOF
TOTAL PRIMARY LOAD CASES = 2, TOTAL DEGREES OF FREEDOM = 900
TOTAL LOAD COMBINATION CASES = 1 SO FAR.
SIZE OF STIFFNESS MATRIX = 184 DOUBLE KILO-WORDS
REQRD/AVAIL. DISK SPACE = 14.5/ 178912.6 MB

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149. START CONCRETE DESIGN
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150. CODE INDIAN
151. FC 20000 ALL
152. FYMAIN 415000 MEMB 1 TO 39 41 TO 314 316 317
153. DESIGN BEAM 1 TO 39 41 TO 43 124 TO 294 297 TO 299 302 TO 304 307 TO 309 312 -
154. 313 TO 314
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B E A M N O. 1 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1217.41 (Sq. mm)	455.63 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	195.61 (Sq. mm)
BOTTOM REINF.	311.09 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	624.61 (Sq. mm)	1082.73 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 113.09 MX = 0.21 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 2 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1319.79 (Sq. mm)	525.09 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	167.67 (Sq. mm)
BOTTOM REINF.	431.46 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	572.85 (Sq. mm)	1055.50 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 116.02 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 3 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1363.48 (Sq. mm)	566.53 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	193.28 (Sq. mm)
BOTTOM REINF.	475.96 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	583.54 (Sq. mm)	1080.62 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 118.93 MX = -0.17 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 4 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	782.70 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	841.20 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	476.39 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	7-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 561.3 mm AWAY FROM START SUPPORT
VY = 86.74 MX = -0.09 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -88.35 MX = -0.09 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 5 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	491.74 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	575.44 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	333.59 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 62.08 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -65.31 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 6 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	491.77 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	575.90 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	333.54 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 62.07 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -65.31 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 7 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	768.11 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	881.99 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	464.09 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	7-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 561.3 mm AWAY FROM START SUPPORT
VY = 85.88 MX = -0.14 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -89.21 MX = -0.14 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 8 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1348.74 (Sq. mm)	510.33 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	240.24 (Sq. mm)
BOTTOM REINF.	461.37 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	690.66 (Sq. mm)	1140.27 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 124.44 MX = -0.37 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 9 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1413.98 (Sq. mm)	596.47 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	245.53 (Sq. mm)
BOTTOM REINF.	516.94 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	642.68 (Sq. mm)	1131.36 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 127.39 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 10 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1469.55 (Sq. mm)	643.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	246.28 (Sq. mm)
BOTTOM REINF.	574.06 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	647.96 (Sq. mm)	1145.71 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.98 MX = 0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 11 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	202.67 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	202.67 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 18.64 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -19.85 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 12 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	267.48 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	267.48 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 13 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	267.19 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	267.19 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 14 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	397.63 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	397.63 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 48.84 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -50.05 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 15 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1348.74 (Sq. mm)	510.33 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	240.24 (Sq. mm)
BOTTOM REINF.	461.37 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	690.66 (Sq. mm)	1140.27 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 124.44 MX = 0.37 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 16 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1413.98 (Sq. mm)	596.46 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	245.53 (Sq. mm)
BOTTOM REINF.	516.94 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	642.68 (Sq. mm)	1131.36 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 127.39 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 17 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1469.55 (Sq. mm)	643.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	246.28 (Sq. mm)
BOTTOM REINF.	574.06 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	647.96 (Sq. mm)	1145.71 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.98 MX = -0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 18 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	841.20 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	782.69 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	476.39 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	7-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 88.35 MX = 0.09 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 561.3 mm AWAY FROM END SUPPORT
VY = -86.74 MX = 0.09 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 19 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	575.44 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	491.74 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 65.31 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -62.08 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 20 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	575.90 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	491.77 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	333.54 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 65.31 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -62.07 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 21 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	881.99 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	768.11 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	464.09 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	7-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 89.21 MX = 0.14 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 561.3 mm AWAY FROM END SUPPORT
VY = -85.88 MX = 0.14 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 22 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1217.41 (Sq. mm)	455.63 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	195.61 (Sq. mm)
BOTTOM REINF.	311.09 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	624.61 (Sq. mm)	1082.73 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 113.09 MX = -0.21 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 23 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1319.79 (Sq. mm)	525.09 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	167.67 (Sq. mm)
BOTTOM REINF.	431.46 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	572.85 (Sq. mm)	1055.50 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 116.02 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 24 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1363.48 (Sq. mm)	566.53 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	193.28 (Sq. mm)
BOTTOM REINF.	475.96 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	583.54 (Sq. mm)	1080.62 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 118.93 MX = 0.17 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 25 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	194.02 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	568.57 (Sq. mm)	1375.36 (Sq. mm)
BOTTOM REINF.	1081.34 (Sq. mm)	580.92 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	488.06 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -119.45 MX = 0.21 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 26 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	167.66 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	535.03 (Sq. mm)	1331.07 (Sq. mm)
BOTTOM REINF.	1055.49 (Sq. mm)	569.42 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	442.95 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -116.53 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 27 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	195.06 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	457.99 (Sq. mm)	1228.05 (Sq. mm)
BOTTOM REINF.	1082.19 (Sq. mm)	620.37 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	321.93 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	4-20í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM END SUPPORT
VY = -113.61 MX = -0.17 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 28 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	243.99 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	648.26 (Sq. mm)	1476.70 (Sq. mm)
BOTTOM REINF.	1143.46 (Sq. mm)	645.76 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	581.34 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -131.23 MX = -0.37 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 29 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	245.54 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	607.78 (Sq. mm)	1425.97 (Sq. mm)
BOTTOM REINF.	1131.37 (Sq. mm)	638.85 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	529.15 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -128.28 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 30 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	242.32 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	498.32 (Sq. mm)	1337.84 (Sq. mm)
BOTTOM REINF.	1142.31 (Sq. mm)	210.52 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	450.25 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -124.69 MX = 0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 31 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	243.99 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	648.26 (Sq. mm)	1476.70 (Sq. mm)
BOTTOM REINF.	1143.46 (Sq. mm)	645.76 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	581.34 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -131.23 MX = 0.37 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 32 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	245.54 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	607.78 (Sq. mm)	1425.97 (Sq. mm)
BOTTOM REINF.	1131.37 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	529.15 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -128.28 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 33 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	242.32 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	498.32 (Sq. mm)	1337.84 (Sq. mm)
BOTTOM REINF.	1142.31 (Sq. mm)	210.52 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	450.25 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -124.69 MX = -0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 34 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	194.02 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	568.57 (Sq. mm)	1375.36 (Sq. mm)
BOTTOM REINF.	1081.34 (Sq. mm)	580.92 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	488.06 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -119.45 MX = -0.21 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 35 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	167.66 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	535.03 (Sq. mm)	1331.07 (Sq. mm)
BOTTOM REINF.	1055.49 (Sq. mm)	228.63 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	442.95 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -116.53 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 36 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	195.06 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	457.99 (Sq. mm)	1228.05 (Sq. mm)
BOTTOM REINF.	1082.19 (Sq. mm)	620.37 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	321.93 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	4-20í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM END SUPPORT
VY = -113.61 MX = 0.17 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 37 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	196.05 (Sq. mm)	538.58 (Sq. mm)	196.05 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1099.03 (Sq. mm)	1433.77 (Sq. mm)	1099.03 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

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B E A M N O. 38 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	195.45 (Sq. mm)	537.97 (Sq. mm)	195.45 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1098.44 (Sq. mm)	1433.17 (Sq. mm)	1098.44 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 39 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	196.36 (Sq. mm)	538.89 (Sq. mm)	196.36 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1099.33 (Sq. mm)	1434.08 (Sq. mm)	1099.33 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 41 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	199.70 (Sq. mm)	0.00 (Sq. mm)	199.70 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1100.78 (Sq. mm)	504.14 (Sq. mm)	1100.78 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 42 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	199.10 (Sq. mm)	0.00 (Sq. mm)	199.10 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1100.19 (Sq. mm)	503.75 (Sq. mm)	1100.19 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 43 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	196.36 (Sq. mm)	538.89 (Sq. mm)	196.36 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1099.33 (Sq. mm)	1434.08 (Sq. mm)	1099.33 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 124 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1215.49 (Sq. mm)	448.42 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	193.01 (Sq. mm)
BOTTOM REINF.	309.14 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	623.33 (Sq. mm)	1080.18 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 112.83 MX = 0.27 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 125 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1309.86 (Sq. mm)	516.24 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	168.16 (Sq. mm)
BOTTOM REINF.	421.34 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	576.30 (Sq. mm)	1055.98 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 115.59 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 126 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1355.44 (Sq. mm)	551.92 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	190.43 (Sq. mm)
BOTTOM REINF.	467.77 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	583.98 (Sq. mm)	1077.82 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 118.36 MX = -0.24 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 127 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	816.72 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	832.23 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	462.77 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 87.30 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -87.79 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 128 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	515.18 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	571.28 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	324.97 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 62.62 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -64.77 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 129 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	515.04 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	571.59 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	324.82 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 62.61 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -64.78 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 130 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	790.29 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	877.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	7-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 561.3 mm AWAY FROM START SUPPORT
VY = 86.31 MX = -0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -88.78 MX = -0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 131 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1330.63 (Sq. mm)	495.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	238.81 (Sq. mm)
BOTTOM REINF.	442.90 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	695.01 (Sq. mm)	1138.87 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 123.57 MX = -0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 132 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1418.66 (Sq. mm)	579.36 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	242.43 (Sq. mm)
BOTTOM REINF.	532.17 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	645.91 (Sq. mm)	1128.82 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 126.99 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 133 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1461.77 (Sq. mm)	632.49 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	240.97 (Sq. mm)
BOTTOM REINF.	566.12 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	645.40 (Sq. mm)	1140.51 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.41 MX = 0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 134 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 18.64 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -19.85 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 135 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	257.13 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	257.13 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 136 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	256.88 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	256.88 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 137 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	381.61 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	381.61 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	5-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	5-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 48.84 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -50.05 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 138 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1330.63 (Sq. mm)	495.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	238.81 (Sq. mm)
BOTTOM REINF.	442.90 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	695.01 (Sq. mm)	1138.87 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 123.57 MX = 0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 139 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1418.66 (Sq. mm)	579.36 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	242.43 (Sq. mm)
BOTTOM REINF.	532.17 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	645.91 (Sq. mm)	1128.82 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 126.99 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 140 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1461.77 (Sq. mm)	632.49 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	240.97 (Sq. mm)
BOTTOM REINF.	566.12 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	645.40 (Sq. mm)	1140.51 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.41 MX = -0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 141 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	832.23 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	816.72 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	199.92 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 87.79 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -87.30 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 142 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	571.28 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	515.18 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	324.97 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 64.77 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -62.62 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 143 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	571.59 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	515.03 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	324.82 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 64.78 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -62.61 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 144 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	877.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	790.29 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	455.12 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	7-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 88.78 MX = 0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 561.3 mm AWAY FROM END SUPPORT
VY = -86.31 MX = 0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 145 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1215.49 (Sq. mm)	456.64 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	193.01 (Sq. mm)
BOTTOM REINF.	309.14 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	623.33 (Sq. mm)	1080.18 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 112.83 MX = -0.27 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 146 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1309.86 (Sq. mm)	516.24 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	168.16 (Sq. mm)
BOTTOM REINF.	421.34 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	576.30 (Sq. mm)	1055.98 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 115.59 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 147 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1355.44 (Sq. mm)	560.17 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	190.43 (Sq. mm)
BOTTOM REINF.	467.77 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	583.98 (Sq. mm)	1077.82 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 118.36 MX = 0.24 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 148 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	190.84 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	579.40 (Sq. mm)	1385.82 (Sq. mm)
BOTTOM REINF.	1078.23 (Sq. mm)	575.36 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	498.72 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -119.72 MX = 0.27 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 149 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	168.16 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	542.80 (Sq. mm)	1340.01 (Sq. mm)
BOTTOM REINF.	1055.99 (Sq. mm)	567.16 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	452.06 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -116.95 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 150 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	192.37 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	473.59 (Sq. mm)	1244.53 (Sq. mm)
BOTTOM REINF.	1079.56 (Sq. mm)	613.25 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	338.72 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	4-20í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM END SUPPORT
VY = -114.18 MX = -0.24 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 151 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	241.24 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	661.59 (Sq. mm)	1513.89 (Sq. mm)
BOTTOM REINF.	1141.04 (Sq. mm)	638.74 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	631.70 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -132.09 MX = -0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 152 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	245.90 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	615.58 (Sq. mm)	1434.30 (Sq. mm)
BOTTOM REINF.	1131.72 (Sq. mm)	636.51 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	537.63 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -128.68 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 153 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	265.15 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	514.76 (Sq. mm)	1352.78 (Sq. mm)
BOTTOM REINF.	1151.10 (Sq. mm)	696.65 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	465.07 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -125.25 MX = 0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 154 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	241.24 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	661.59 (Sq. mm)	1513.89 (Sq. mm)
BOTTOM REINF.	1141.04 (Sq. mm)	638.74 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	631.70 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -132.09 MX = 0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 155 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	245.90 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	615.58 (Sq. mm)	1434.30 (Sq. mm)
BOTTOM REINF.	1131.72 (Sq. mm)	636.51 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	537.63 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -128.68 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 156 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	265.15 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	514.76 (Sq. mm)	1352.78 (Sq. mm)
BOTTOM REINF.	1151.10 (Sq. mm)	201.09 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	465.07 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -125.25 MX = -0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 157 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	190.84 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	579.40 (Sq. mm)	1385.82 (Sq. mm)
BOTTOM REINF.	1078.23 (Sq. mm)	575.36 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	498.72 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -119.72 MX = -0.27 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 158 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	168.16 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	542.80 (Sq. mm)	1340.01 (Sq. mm)
BOTTOM REINF.	1055.99 (Sq. mm)	567.16 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	452.06 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -116.95 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 159 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	192.37 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	473.59 (Sq. mm)	1244.53 (Sq. mm)
BOTTOM REINF.	1079.56 (Sq. mm)	613.25 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	338.72 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	4-20í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM END SUPPORT
VY = -114.18 MX = 0.24 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 160 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	197.04 (Sq. mm)	539.60 (Sq. mm)	197.04 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1100.01 (Sq. mm)	1434.76 (Sq. mm)	1100.01 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 161 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	195.44 (Sq. mm)	537.96 (Sq. mm)	195.44 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1098.43 (Sq. mm)	1433.16 (Sq. mm)	1098.43 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 162 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	196.68 (Sq. mm)	539.22 (Sq. mm)	196.68 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1099.65 (Sq. mm)	1434.40 (Sq. mm)	1099.65 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 163 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	200.70 (Sq. mm)	0.00 (Sq. mm)	200.70 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1101.76 (Sq. mm)	504.78 (Sq. mm)	1101.76 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 164 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	199.10 (Sq. mm)	0.00 (Sq. mm)	199.10 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1100.18 (Sq. mm)	503.75 (Sq. mm)	1100.18 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 165 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	196.68 (Sq. mm)	539.22 (Sq. mm)	196.68 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1099.65 (Sq. mm)	1434.40 (Sq. mm)	1099.65 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 166 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1205.23 (Sq. mm)	429.75 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	194.14 (Sq. mm)
BOTTOM REINF.	306.18 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	631.44 (Sq. mm)	1081.46 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM START SUPPORT
VY = 112.07 MX = 0.29 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 167 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1301.27 (Sq. mm)	508.99 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	167.30 (Sq. mm)
BOTTOM REINF.	412.59 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	578.15 (Sq. mm)	1055.14 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 115.16 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 168 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1351.89 (Sq. mm)	548.33 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	192.37 (Sq. mm)
BOTTOM REINF.	464.15 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	586.94 (Sq. mm)	1079.73 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 118.26 MX = -0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 169 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	796.62 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	796.77 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	465.47 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 87.54 MX = 0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -87.55 MX = 0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 170 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	516.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	565.64 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	326.94 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 62.75 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -64.64 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 171 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	516.29 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	566.02 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 62.74 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -64.65 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 172 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	792.64 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	868.87 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	457.36 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 86.48 MX = -0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -88.61 MX = -0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 173 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1306.36 (Sq. mm)	480.60 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	240.75 (Sq. mm)
BOTTOM REINF.	418.16 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	704.68 (Sq. mm)	1140.78 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 122.57 MX = -0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 174 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1410.00 (Sq. mm)	571.83 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	241.40 (Sq. mm)
BOTTOM REINF.	523.36 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	647.71 (Sq. mm)	1127.81 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 126.55 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 175 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1460.49 (Sq. mm)	630.59 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	242.83 (Sq. mm)
BOTTOM REINF.	564.82 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	647.41 (Sq. mm)	1142.33 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.45 MX = 0.06 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 176 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 18.64 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -19.85 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 177 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	258.73 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	258.73 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 178 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	258.44 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	258.44 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 179 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	382.31 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	382.31 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	5-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	5-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 48.84 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -50.05 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 180 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1306.36 (Sq. mm)	480.60 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	240.75 (Sq. mm)
BOTTOM REINF.	418.16 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	704.68 (Sq. mm)	1140.78 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 122.57 MX = 0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 181 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1410.00 (Sq. mm)	571.83 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	241.40 (Sq. mm)
BOTTOM REINF.	523.36 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	647.71 (Sq. mm)	1127.81 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 126.55 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 182 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1460.49 (Sq. mm)	630.59 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	242.83 (Sq. mm)
BOTTOM REINF.	564.82 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	647.41 (Sq. mm)	1142.33 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.45 MX = -0.06 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 183 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	796.77 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	796.62 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	465.47 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 87.55 MX = -0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -87.54 MX = -0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 184 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	565.64 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	516.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	326.94 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 64.64 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -62.75 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 185 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	566.02 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	516.29 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM START SUPPORT
VY = 64.65 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 567.0 mm AWAY FROM END SUPPORT
VY = -62.74 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 186 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	868.87 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	792.64 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	457.36 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 88.61 MX = 0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -86.48 MX = 0.08 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 187 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1205.23 (Sq. mm)	429.75 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	194.14 (Sq. mm)
BOTTOM REINF.	306.18 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	631.44 (Sq. mm)	1081.46 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM START SUPPORT
VY = 112.07 MX = -0.29 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 188 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1301.27 (Sq. mm)	508.99 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	167.30 (Sq. mm)
BOTTOM REINF.	412.59 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	578.15 (Sq. mm)	1055.14 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 115.16 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 189 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1351.89 (Sq. mm)	556.97 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	192.37 (Sq. mm)
BOTTOM REINF.	464.15 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	586.94 (Sq. mm)	1079.73 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 118.26 MX = 0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 190 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	192.85 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	592.94 (Sq. mm)	1401.17 (Sq. mm)
BOTTOM REINF.	1080.20 (Sq. mm)	572.64 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	514.36 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -120.48 MX = 0.29 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 191 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	167.30 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	552.21 (Sq. mm)	1350.29 (Sq. mm)
BOTTOM REINF.	1055.14 (Sq. mm)	555.31 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	462.53 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -117.38 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 192 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	194.55 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	473.57 (Sq. mm)	1245.04 (Sq. mm)
BOTTOM REINF.	1081.69 (Sq. mm)	615.20 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	339.24 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	4-20í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM END SUPPORT
VY = -114.28 MX = -0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 193 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	243.53 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	679.86 (Sq. mm)	1533.78 (Sq. mm)
BOTTOM REINF.	1143.28 (Sq. mm)	634.63 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	651.98 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -133.10 MX = -0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 194 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	244.85 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	625.95 (Sq. mm)	1444.84 (Sq. mm)
BOTTOM REINF.	1130.70 (Sq. mm)	632.21 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	548.37 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -129.11 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 195 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	238.52 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	511.80 (Sq. mm)	1352.45 (Sq. mm)
BOTTOM REINF.	1138.59 (Sq. mm)	200.62 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	465.15 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -125.22 MX = 0.06 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 196 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	243.53 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	679.86 (Sq. mm)	1533.78 (Sq. mm)
BOTTOM REINF.	1143.28 (Sq. mm)	204.94 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	651.98 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -133.10 MX = 0.35 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 197 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	244.85 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	625.95 (Sq. mm)	1444.84 (Sq. mm)
BOTTOM REINF.	1130.70 (Sq. mm)	632.21 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	548.37 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -129.11 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 198 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	238.52 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	511.80 (Sq. mm)	1352.45 (Sq. mm)
BOTTOM REINF.	1138.59 (Sq. mm)	200.62 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	465.15 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -125.22 MX = -0.06 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 199 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	192.85 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	592.94 (Sq. mm)	1401.17 (Sq. mm)
BOTTOM REINF.	1080.20 (Sq. mm)	572.64 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	514.36 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -120.48 MX = -0.29 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 200 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	167.30 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	552.21 (Sq. mm)	1350.29 (Sq. mm)
BOTTOM REINF.	1055.14 (Sq. mm)	555.31 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	462.53 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -117.38 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 201 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	194.55 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	473.57 (Sq. mm)	1245.04 (Sq. mm)
BOTTOM REINF.	1081.69 (Sq. mm)	615.20 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	339.24 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	4-20í 1 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM END SUPPORT
VY = -114.28 MX = 0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 202 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	197.61 (Sq. mm)	540.18 (Sq. mm)	197.61 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1100.56 (Sq. mm)	1435.33 (Sq. mm)	1100.56 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 203 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	195.43 (Sq. mm)	537.95 (Sq. mm)	195.43 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1098.42 (Sq. mm)	1433.15 (Sq. mm)	1098.42 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 204 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	197.05 (Sq. mm)	539.60 (Sq. mm)	197.05 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1100.01 (Sq. mm)	1434.77 (Sq. mm)	1100.01 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 205 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	201.27 (Sq. mm)	0.00 (Sq. mm)	201.27 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1102.32 (Sq. mm)	505.25 (Sq. mm)	1102.32 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 206 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	199.09 (Sq. mm)	0.00 (Sq. mm)	199.09 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1100.18 (Sq. mm)	503.75 (Sq. mm)	1100.18 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 207 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	197.05 (Sq. mm)	539.60 (Sq. mm)	197.05 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1100.01 (Sq. mm)	1434.77 (Sq. mm)	1100.01 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 208 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1209.92 (Sq. mm)	434.82 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	188.93 (Sq. mm)
BOTTOM REINF.	310.96 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	624.87 (Sq. mm)	1076.35 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 112.10 MX = 0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 209 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1294.56 (Sq. mm)	502.65 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	169.07 (Sq. mm)
BOTTOM REINF.	405.76 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	581.77 (Sq. mm)	1056.88 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 114.93 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 210 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1345.94 (Sq. mm)	544.36 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	187.08 (Sq. mm)
BOTTOM REINF.	458.10 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	583.85 (Sq. mm)	1074.54 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 117.79 MX = -0.23 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 211 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	839.35 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	820.02 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	461.94 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 87.85 MX = 0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -87.25 MX = 0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 212 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	523.73 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	563.58 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	324.61 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 62.93 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -64.46 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 213 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	523.40 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	563.79 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 62.92 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -64.47 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 214 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	811.25 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	868.55 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	452.21 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 86.66 MX = -0.05 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -88.43 MX = -0.05 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 215 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1298.24 (Sq. mm)	470.70 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	237.70 (Sq. mm)
BOTTOM REINF.	409.87 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	703.98 (Sq. mm)	1137.79 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 122.12 MX = -0.30 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 216 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1403.87 (Sq. mm)	565.74 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	243.30 (Sq. mm)
BOTTOM REINF.	517.11 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	651.41 (Sq. mm)	1129.67 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 126.36 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 217 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1453.03 (Sq. mm)	631.60 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	265.08 (Sq. mm)
BOTTOM REINF.	556.71 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	647.94 (Sq. mm)	1150.50 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.03 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 218 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 18.64 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -19.85 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 219 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	255.81 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	255.81 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 220 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	255.59 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	255.59 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 32.03 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -34.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 221 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	374.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	374.86 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	5-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	5-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 48.84 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -50.05 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 222 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1298.24 (Sq. mm)	473.61 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	237.70 (Sq. mm)
BOTTOM REINF.	409.87 (Sq. mm)	196.44 (Sq. mm)	196.44 (Sq. mm)	703.98 (Sq. mm)	1137.79 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 122.12 MX = 0.30 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 223 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1403.87 (Sq. mm)	565.74 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	243.30 (Sq. mm)
BOTTOM REINF.	517.11 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	651.41 (Sq. mm)	1129.67 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 126.36 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 224 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1453.03 (Sq. mm)	631.60 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	265.08 (Sq. mm)
BOTTOM REINF.	556.71 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	647.94 (Sq. mm)	1150.50 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	3-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)	6-16í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 130.03 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 225 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	820.02 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	839.35 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	461.94 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 87.25 MX = -0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -87.85 MX = -0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 226 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	563.58 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	523.73 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	324.61 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 64.46 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -62.93 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 227 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	563.79 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	523.40 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 64.47 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -62.92 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 228 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	868.55 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	811.24 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	8-12í 2 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM START SUPPORT
VY = 88.43 MX = 0.05 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 558.9 mm AWAY FROM END SUPPORT
VY = -86.66 MX = 0.05 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 229 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1209.92 (Sq. mm)	442.85 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	188.93 (Sq. mm)
BOTTOM REINF.	310.96 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	624.87 (Sq. mm)	1076.35 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 112.10 MX = -0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 230 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1294.56 (Sq. mm)	502.65 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	169.07 (Sq. mm)
BOTTOM REINF.	405.76 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	581.77 (Sq. mm)	1056.88 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 114.93 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 231 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1345.94 (Sq. mm)	544.36 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	187.08 (Sq. mm)
BOTTOM REINF.	458.10 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	583.85 (Sq. mm)	1074.54 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	7-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)	10-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM START SUPPORT
VY = 117.79 MX = 0.23 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 232 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	187.24 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	597.59 (Sq. mm)	1404.79 (Sq. mm)
BOTTOM REINF.	1074.70 (Sq. mm)	558.24 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	518.05 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -120.44 MX = 0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 233 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	169.09 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	554.54 (Sq. mm)	1353.50 (Sq. mm)
BOTTOM REINF.	1056.90 (Sq. mm)	226.18 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	465.79 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -117.61 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 234 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	188.18 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	484.55 (Sq. mm)	1277.83 (Sq. mm)
BOTTOM REINF.	1075.62 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	388.71 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -114.75 MX = -0.23 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 235 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	240.85 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	691.33 (Sq. mm)	1545.18 (Sq. mm)
BOTTOM REINF.	1140.66 (Sq. mm)	628.28 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	663.61 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -133.54 MX = -0.30 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 236 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	246.77 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	627.65 (Sq. mm)	1447.23 (Sq. mm)
BOTTOM REINF.	1132.58 (Sq. mm)	633.18 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	550.80 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -129.31 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 237 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	260.25 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	525.73 (Sq. mm)	1364.31 (Sq. mm)
BOTTOM REINF.	1146.29 (Sq. mm)	207.31 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	476.81 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -125.64 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 238 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	240.85 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	691.33 (Sq. mm)	1545.18 (Sq. mm)
BOTTOM REINF.	1140.66 (Sq. mm)	628.28 (Sq. mm)	196.44 (Sq. mm)	0.00 (Sq. mm)	663.61 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)	5-20í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	4-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.0 mm AWAY FROM END SUPPORT
VY = -133.54 MX = 0.30 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 239 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	246.77 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	627.65 (Sq. mm)	1447.23 (Sq. mm)
BOTTOM REINF.	1132.58 (Sq. mm)	633.18 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	550.80 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	4-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM END SUPPORT
VY = -129.31 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 240 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	260.24 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	525.73 (Sq. mm)	1364.31 (Sq. mm)
BOTTOM REINF.	1146.29 (Sq. mm)	207.31 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	476.81 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	6-16í 2 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -125.64 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

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B E A M N O. 241 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	187.24 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	597.59 (Sq. mm)	1404.79 (Sq. mm)
BOTTOM REINF.	1074.70 (Sq. mm)	558.24 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	518.05 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -120.44 MX = -0.25 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 242 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	169.09 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	554.54 (Sq. mm)	1353.50 (Sq. mm)
BOTTOM REINF.	1056.90 (Sq. mm)	555.90 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	465.79 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -117.61 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 243 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	188.18 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	484.55 (Sq. mm)	1277.83 (Sq. mm)
BOTTOM REINF.	1075.62 (Sq. mm)	605.77 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	388.71 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	10-12í 2 layer(s)	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -114.75 MX = 0.23 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 244 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	198.29 (Sq. mm)	540.87 (Sq. mm)	198.29 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1101.23 (Sq. mm)	1436.01 (Sq. mm)	1101.23 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 245 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	195.46 (Sq. mm)	537.98 (Sq. mm)	195.46 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1098.45 (Sq. mm)	1433.18 (Sq. mm)	1098.45 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 246 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	197.28 (Sq. mm)	539.84 (Sq. mm)	197.28 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1100.24 (Sq. mm)	1435.00 (Sq. mm)	1100.24 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 247 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	201.95 (Sq. mm)	0.00 (Sq. mm)	201.95 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1102.99 (Sq. mm)	505.52 (Sq. mm)	1102.99 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 248 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	199.11 (Sq. mm)	0.00 (Sq. mm)	199.11 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	196.44 (Sq. mm)	1100.20 (Sq. mm)	503.75 (Sq. mm)	1100.20 (Sq. mm)	196.44 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 249 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.86 (Sq. mm)	197.28 (Sq. mm)	539.84 (Sq. mm)	197.28 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	194.32 (Sq. mm)	1100.24 (Sq. mm)	1435.00 (Sq. mm)	1100.24 (Sq. mm)	194.32 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	3-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 250 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	992.55 (Sq. mm)	300.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	26.56 (Sq. mm)
BOTTOM REINF.	77.74 (Sq. mm)	0.00 (Sq. mm)	195.50 (Sq. mm)	580.99 (Sq. mm)	938.01 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	5-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 717.0 mm AWAY FROM START SUPPORT
VY = 96.57 MX = 0.70 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 251 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1150.21 (Sq. mm)	431.17 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)
BOTTOM REINF.	250.15 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	477.66 (Sq. mm)	893.24 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)	8-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM START SUPPORT
VY = 101.75 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 252 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1222.42 (Sq. mm)	497.22 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	23.59 (Sq. mm)
BOTTOM REINF.	316.76 (Sq. mm)	195.50 (Sq. mm)	195.50 (Sq. mm)	509.52 (Sq. mm)	935.07 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 106.88 MX = -0.61 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 253 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	619.11 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	652.84 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	438.55 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 564.5 mm AWAY FROM START SUPPORT
VY = 75.98 MX = -0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 564.5 mm AWAY FROM END SUPPORT
VY = -77.19 MX = -0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 254 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	271.70 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	342.36 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	235.38 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	5-10í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 40.23 MX = -0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -43.33 MX = -0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 255 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	271.81 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	343.13 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	235.15 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	5-10í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 40.22 MX = 0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -43.34 MX = 0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 256 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	606.93 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	718.25 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	425.96 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	8-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	10-10í 2 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 560.6 mm AWAY FROM START SUPPORT
VY = 74.72 MX = -0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 557.5 mm AWAY FROM END SUPPORT
VY = -78.46 MX = -0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 257 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	981.27 (Sq. mm)	301.44 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	44.01 (Sq. mm)
BOTTOM REINF.	66.30 (Sq. mm)	194.32 (Sq. mm)	194.32 (Sq. mm)	595.36 (Sq. mm)	949.64 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 96.02 MX = -0.68 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 258 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1151.12 (Sq. mm)	442.50 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	6.56 (Sq. mm)
BOTTOM REINF.	251.07 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	485.40 (Sq. mm)	904.91 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM START SUPPORT
VY = 101.87 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 259 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1239.79 (Sq. mm)	511.66 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	45.80 (Sq. mm)
BOTTOM REINF.	334.86 (Sq. mm)	0.00 (Sq. mm)	194.32 (Sq. mm)	516.60 (Sq. mm)	951.35 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 108.10 MX = 0.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 260 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 13.28 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -14.01 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 261 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 21.32 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -22.77 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 262 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 21.32 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -22.77 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 263 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	368.81 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	368.81 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	5-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	5-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 43.48 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -44.21 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 264 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	981.27 (Sq. mm)	304.89 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	44.01 (Sq. mm)
BOTTOM REINF.	66.30 (Sq. mm)	194.32 (Sq. mm)	194.32 (Sq. mm)	595.36 (Sq. mm)	949.64 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.5 mm AWAY FROM START SUPPORT
VY = 96.02 MX = 0.68 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 265 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1151.12 (Sq. mm)	442.41 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	6.56 (Sq. mm)
BOTTOM REINF.	251.07 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	485.39 (Sq. mm)	904.91 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM START SUPPORT
VY = 101.87 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 266 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1239.79 (Sq. mm)	511.66 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	45.80 (Sq. mm)
BOTTOM REINF.	334.86 (Sq. mm)	0.00 (Sq. mm)	194.32 (Sq. mm)	516.60 (Sq. mm)	951.35 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 108.10 MX = -0.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 267 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	652.84 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	619.10 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	438.55 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	6-12í 2 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	6-12í 2 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 564.5 mm AWAY FROM START SUPPORT
VY = 77.19 MX = 0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 564.5 mm AWAY FROM END SUPPORT
VY = -75.98 MX = 0.10 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 268 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	342.36 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	271.70 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	235.38 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	5-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 43.33 MX = 0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -40.23 MX = 0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 269 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	343.13 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	271.81 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.86 (Sq. mm)	235.15 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	5-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM START SUPPORT
VY = 43.34 MX = -0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 570.0 mm AWAY FROM END SUPPORT
VY = -40.22 MX = -0.02 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 270 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	718.25 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	606.93 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	425.96 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	10-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	8-10í 2 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 557.5 mm AWAY FROM START SUPPORT
VY = 78.46 MX = 0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 560.6 mm AWAY FROM END SUPPORT
VY = -74.72 MX = 0.12 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 271 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	992.55 (Sq. mm)	306.83 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	26.56 (Sq. mm)
BOTTOM REINF.	77.74 (Sq. mm)	195.50 (Sq. mm)	195.50 (Sq. mm)	580.99 (Sq. mm)	938.01 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	5-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 717.0 mm AWAY FROM START SUPPORT
VY = 96.57 MX = -0.70 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 272 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1150.21 (Sq. mm)	431.17 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)
BOTTOM REINF.	250.15 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	477.66 (Sq. mm)	893.24 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6-16í 2 layer(s)	3-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	3-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	5-12í 1 layer(s)	8-12í 2 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM START SUPPORT
VY = 101.75 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 273 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	1222.42 (Sq. mm)	497.22 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	23.59 (Sq. mm)
BOTTOM REINF.	316.76 (Sq. mm)	195.50 (Sq. mm)	195.50 (Sq. mm)	509.52 (Sq. mm)	935.07 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	4-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
BOTTOM REINF.	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	3-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.0 mm AWAY FROM START SUPPORT
VY = 106.88 MX = 0.61 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 274 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	25.15 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	528.03 (Sq. mm)	1287.62 (Sq. mm)
BOTTOM REINF.	936.63 (Sq. mm)	195.50 (Sq. mm)	195.50 (Sq. mm)	0.00 (Sq. mm)	399.41 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	3-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -108.97 MX = 0.70 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 275 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	469.07 (Sq. mm)	1194.71 (Sq. mm)
BOTTOM REINF.	893.22 (Sq. mm)	464.95 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	295.47 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	6-16í 2 layer(s)
BOTTOM REINF.	8-12í 2 layer(s)	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM END SUPPORT
VY = -103.79 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 276 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	24.55 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	334.33 (Sq. mm)	1061.02 (Sq. mm)
BOTTOM REINF.	936.06 (Sq. mm)	564.77 (Sq. mm)	195.50 (Sq. mm)	0.00 (Sq. mm)	173.45 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	10-12í 2 layer(s)
BOTTOM REINF.	3-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 705.5 mm AWAY FROM END SUPPORT
VY = -98.66 MX = -0.61 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 277 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	45.44 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	553.37 (Sq. mm)	1306.82 (Sq. mm)
BOTTOM REINF.	951.03 (Sq. mm)	194.32 (Sq. mm)	194.32 (Sq. mm)	0.00 (Sq. mm)	419.49 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -110.02 MX = -0.68 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 278 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6.48 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	481.40 (Sq. mm)	1196.61 (Sq. mm)
BOTTOM REINF.	904.85 (Sq. mm)	472.36 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	297.41 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	6-16í 2 layer(s)
BOTTOM REINF.	3-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM END SUPPORT
VY = -104.16 MX = -0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 279 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	43.98 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	319.16 (Sq. mm)	1028.98 (Sq. mm)
BOTTOM REINF.	949.64 (Sq. mm)	583.93 (Sq. mm)	194.32 (Sq. mm)	0.00 (Sq. mm)	137.54 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	10-12í 2 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 705.5 mm AWAY FROM END SUPPORT
VY = -97.94 MX = 0.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 280 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	45.44 (Sq. mm)	0.00 (Sq. mm)	196.44 (Sq. mm)	553.37 (Sq. mm)	1306.82 (Sq. mm)
BOTTOM REINF.	951.03 (Sq. mm)	194.32 (Sq. mm)	194.32 (Sq. mm)	0.00 (Sq. mm)	419.49 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -110.02 MX = 0.68 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 281 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	6.48 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	481.40 (Sq. mm)	1196.61 (Sq. mm)
BOTTOM REINF.	904.85 (Sq. mm)	472.36 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	297.41 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	6-16í 2 layer(s)
BOTTOM REINF.	3-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM END SUPPORT
VY = -104.16 MX = 0.01 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 282 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	43.98 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	319.16 (Sq. mm)	1028.98 (Sq. mm)
BOTTOM REINF.	949.64 (Sq. mm)	583.93 (Sq. mm)	194.32 (Sq. mm)	0.00 (Sq. mm)	137.54 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	10-12í 2 layer(s)
BOTTOM REINF.	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)	2-25í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 705.5 mm AWAY FROM END SUPPORT
VY = -97.94 MX = -0.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 283 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	25.15 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	528.03 (Sq. mm)	1287.62 (Sq. mm)
BOTTOM REINF.	936.63 (Sq. mm)	498.07 (Sq. mm)	195.50 (Sq. mm)	0.00 (Sq. mm)	399.41 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	7-16í 2 layer(s)
BOTTOM REINF.	3-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 707.9 mm AWAY FROM END SUPPORT
VY = -108.97 MX = -0.70 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 284 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	469.07 (Sq. mm)	1194.71 (Sq. mm)
BOTTOM REINF.	893.22 (Sq. mm)	464.95 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	295.47 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	3-16í 1 layer(s)	6-16í 2 layer(s)
BOTTOM REINF.	8-12í 2 layer(s)	5-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 711.7 mm AWAY FROM END SUPPORT
VY = -103.79 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 285 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	24.55 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	334.33 (Sq. mm)	1061.02 (Sq. mm)
BOTTOM REINF.	936.06 (Sq. mm)	564.77 (Sq. mm)	195.50 (Sq. mm)	0.00 (Sq. mm)	173.45 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	750.0 mm	1500.0 mm	2250.0 mm	3000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	3-12í 1 layer(s)	10-12í 2 layer(s)
BOTTOM REINF.	3-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)	2-20í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 705.5 mm AWAY FROM END SUPPORT
VY = -98.66 MX = 0.61 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 286 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	262.57 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	211.99 (Sq. mm)	1148.81 (Sq. mm)	880.71 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	6-16í 2 layer(s)	5-16í 1 layer(s)	2-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 287 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	260.09 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	210.48 (Sq. mm)	1146.37 (Sq. mm)	877.05 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	6-16í 2 layer(s)	5-16í 1 layer(s)	2-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 288 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	262.30 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	880.31 (Sq. mm)	1148.54 (Sq. mm)	880.31 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-16í 1 layer(s)	5-16í 1 layer(s)	6-16í 2 layer(s)	5-16í 1 layer(s)	2-16í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 289 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	880.71 (Sq. mm)	378.79 (Sq. mm)	880.71 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	8-12í 2 layer(s)	4-12í 1 layer(s)	8-12í 2 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

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B E A M N O. 290 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	877.05 (Sq. mm)	375.41 (Sq. mm)	877.05 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	8-12í 2 layer(s)	4-12í 1 layer(s)	8-12í 2 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 291 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 6000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	880.31 (Sq. mm)	378.50 (Sq. mm)	880.31 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1500.0 mm	3000.0 mm	4500.0 mm	6000.0 mm
TOP REINF.	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	8-12í 2 layer(s)	4-12í 1 layer(s)	8-12í 2 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

B E A M N O. 292 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	304.02 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	261.98 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM START SUPPORT
VY = 33.14 MX = -2.57 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM END SUPPORT
VY = -30.34 MX = -2.57 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 293 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 35.45 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -35.45 MX = 0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 294 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	304.02 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)	261.98 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	4-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM START SUPPORT
VY = 33.14 MX = 2.57 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM END SUPPORT
VY = -30.34 MX = 2.57 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 297 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	393.45 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 717.0 mm AWAY FROM START SUPPORT
VY = 39.27 MX = -2.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 717.0 mm AWAY FROM END SUPPORT
VY = -24.21 MX = -2.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 298 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 299 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	393.45 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)	2-16í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 717.0 mm AWAY FROM START SUPPORT
VY = 39.27 MX = 2.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 717.0 mm AWAY FROM END SUPPORT
VY = -24.21 MX = 2.31 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 302 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	457.35 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.8 mm AWAY FROM START SUPPORT
VY = 42.99 MX = -2.40 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM END SUPPORT
VY = -20.49 MX = -2.40 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 303 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 304 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	457.35 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	6-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 715.8 mm AWAY FROM START SUPPORT
VY = 42.99 MX = 2.40 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM END SUPPORT
VY = -20.49 MX = 2.40 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 307 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	515.99 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.9 mm AWAY FROM START SUPPORT
VY = 46.51 MX = -2.20 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM END SUPPORT
VY = -16.98 MX = -2.20 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 308 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 309 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	515.99 (Sq. mm)	197.86 (Sq. mm)	197.86 (Sq. mm)	0.00 (Sq. mm)	197.86 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	7-10í 2 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)	3-10í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 712.9 mm AWAY FROM START SUPPORT
VY = 46.51 MX = 2.20 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 720.0 mm AWAY FROM END SUPPORT
VY = -16.98 MX = 2.20 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 312 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	443.89 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 719.0 mm AWAY FROM START SUPPORT
VY = 41.28 MX = -3.60 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 719.0 mm AWAY FROM END SUPPORT
VY = -22.21 MX = -3.60 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

B E A M N O. 313 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	197.38 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c	2 legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM START SUPPORT
VY = 35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

SHEAR DESIGN RESULTS AT 569.0 mm AWAY FROM END SUPPORT
VY = -35.45 MX = -0.00 LD= 3
Provide 2 Legged 8í @ 300 mm c/c

B E A M N O. 314 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 4000.0 mm SIZE: 230.0 mm X 450.0 mm COVER: 25.0 mm

SUMMARY OF REINF. AREA (Sq.mm)

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	443.89 (Sq. mm)	197.38 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)
BOTTOM REINF.	0.00 (Sq. mm)	0.00 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)	197.38 (Sq. mm)

SUMMARY OF PROVIDED REINF. AREA

SECTION	0.0 mm	1000.0 mm	2000.0 mm	3000.0 mm	4000.0 mm
TOP REINF.	4-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
BOTTOM REINF.	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)	2-12í 1 layer(s)
SHEAR REINF.	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c	2 legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT

SHEAR DESIGN RESULTS AT 719.0 mm AWAY FROM START SUPPORT
VY = 41.28 MX = 3.60 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

SHEAR DESIGN RESULTS AT 719.0 mm AWAY FROM END SUPPORT
VY = -22.21 MX = 3.60 LD= 3
Provide 2 Legged 8í @ 145 mm c/c

**********END OF BEAM DESIGN RESULTS**********

155. DESIGN COLUMN 44 TO 123 295 296 300 301 305 306 310 311 316 317

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        C O L U M N   N O.     44  D E S I G N   R E S U L T S

      M20                   Fe415 (Main)              Fe415 (Sec.)

LENGTH:  3000.0 mm   CROSS SECTION:  300.0 mm X  600.0 mm  COVER: 40.0 mm

** GUIDING LOAD CASE:    3 END JOINT:     1  SHORT COLUMN


REQD. STEEL AREA   :     2592.00 Sq.mm.
REQD. CONCRETE AREA:   177408.00 Sq.mm.
MAIN REINFORCEMENT : Provide  16 - 16 dia. (1.79%,   3216.99 Sq.mm.)
                     (Equally distributed)
TIE REINFORCEMENT  : Provide  8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)
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Puz :   2403.43   Muz1 :    116.65   Muy1 :     52.43

INTERACTION RATIO: 0.87 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)
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WORST LOAD CASE:     3
END JOINT:     1 Puz :   2592.34   Muz :    161.62   Muy :     70.91   IR: 0.49
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        C O L U M N   N O.     45  D E S I G N   R E S U L T S

      M20                   Fe415 (Main)              Fe415 (Sec.)

LENGTH:  3000.0 mm   CROSS SECTION:  300.0 mm X  600.0 mm  COVER: 40.0 mm

** GUIDING LOAD CASE:    3 END JOINT:    33  SHORT COLUMN
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REQD. STEEL AREA : 1872.00 Sq.mm.
REQD. CONCRETE AREA: 178128.00 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2185.81 Muz1 : 97.95 Muy1 : 44.95

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 33 Puz : 2303.67 Muz : 126.77 Muy : 57.28 IR: 0.54
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C O L U M N N O. 46 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 34 SHORT COLUMN

REQD. STEEL AREA : 1872.00 Sq.mm.
REQD. CONCRETE AREA: 178128.00 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2185.81 Muz1 : 97.96 Muy1 : 44.95

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 34 Puz : 2303.67 Muz : 126.78 Muy : 57.28 IR: 0.54

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C O L U M N N O. 47 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 4 SHORT COLUMN

REQD. STEEL AREA : 2592.00 Sq.mm.
REQD. CONCRETE AREA: 177408.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2403.43 Muz1 : 115.52 Muy1 : 52.09

INTERACTION RATIO: 0.87 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 4 Puz : 2592.34 Muz : 161.03 Muy : 70.65 IR: 0.49

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C O L U M N N O. 48 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 36 SHORT COLUMN

REQD. STEEL AREA : 4214.66 Sq.mm.
REQD. CONCRETE AREA: 175785.34 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 20 dia. (2.79%, 5026.55 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 300 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2893.88 Muz1 : 135.94 Muy1 : 58.93

INTERACTION RATIO: 0.89 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 36 Puz : 3139.27 Muz : 197.52 Muy : 83.58 IR: 0.45
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C O L U M N N O. 49 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 6 SHORT COLUMN

REQD. STEEL AREA : 2736.00 Sq.mm.
REQD. CONCRETE AREA: 177264.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2446.96 Muz1 : 112.64 Muy1 : 50.39

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 37 Puz : 2592.34 Muz : 145.88 Muy : 63.89 IR: 0.55

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C O L U M N N O. 50 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 7 SHORT COLUMN

REQD. STEEL AREA : 2736.00 Sq.mm.
REQD. CONCRETE AREA: 177264.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2446.96 Muz1 : 112.55 Muy1 : 50.34

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 38 Puz : 2592.34 Muz : 145.79 Muy : 63.86 IR: 0.55

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C O L U M N N O. 51 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 39 SHORT COLUMN

REQD. STEEL AREA : 4073.58 Sq.mm.
REQD. CONCRETE AREA: 175926.42 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 20 dia. (2.79%, 5026.55 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 300 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2851.24 Muz1 : 141.31 Muy1 : 61.69

INTERACTION RATIO: 0.76 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 8 Puz : 3139.27 Muz : 214.38 Muy : 90.67 IR: 0.42
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C O L U M N N O. 52 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 40 SHORT COLUMN

REQD. STEEL AREA : 4214.66 Sq.mm.
REQD. CONCRETE AREA: 175785.34 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 20 dia. (2.79%, 5026.55 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 300 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2893.88 Muz1 : 135.94 Muy1 : 58.93

INTERACTION RATIO: 0.89 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 40 Puz : 3139.27 Muz : 197.52 Muy : 83.58 IR: 0.45

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C O L U M N N O. 53 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 10 SHORT COLUMN

REQD. STEEL AREA : 2736.00 Sq.mm.
REQD. CONCRETE AREA: 177264.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2446.96 Muz1 : 112.64 Muy1 : 50.39

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 41 Puz : 2592.34 Muz : 145.88 Muy : 63.89 IR: 0.55

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C O L U M N N O. 54 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 11 SHORT COLUMN

REQD. STEEL AREA : 2736.00 Sq.mm.
REQD. CONCRETE AREA: 177264.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2446.96 Muz1 : 112.55 Muy1 : 50.34

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 42 Puz : 2592.34 Muz : 145.79 Muy : 63.86 IR: 0.55
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C O L U M N N O. 55 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 43 SHORT COLUMN

REQD. STEEL AREA : 4073.58 Sq.mm.
REQD. CONCRETE AREA: 175926.42 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 20 dia. (2.79%, 5026.55 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 300 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2851.24 Muz1 : 141.31 Muy1 : 61.69

INTERACTION RATIO: 0.76 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 12 Puz : 3139.27 Muz : 214.38 Muy : 90.67 IR: 0.42

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C O L U M N N O. 56 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 13 SHORT COLUMN

REQD. STEEL AREA : 2592.00 Sq.mm.
REQD. CONCRETE AREA: 177408.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2403.43 Muz1 : 116.65 Muy1 : 52.43

INTERACTION RATIO: 0.87 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 13 Puz : 2592.34 Muz : 161.62 Muy : 70.91 IR: 0.49

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C O L U M N N O. 57 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 45 SHORT COLUMN

REQD. STEEL AREA : 1872.00 Sq.mm.
REQD. CONCRETE AREA: 178128.00 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2185.81 Muz1 : 97.95 Muy1 : 44.95

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 45 Puz : 2303.67 Muz : 126.77 Muy : 57.28 IR: 0.54
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C O L U M N N O. 58 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 46 SHORT COLUMN

REQD. STEEL AREA : 1872.00 Sq.mm.
REQD. CONCRETE AREA: 178128.00 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2185.81 Muz1 : 97.96 Muy1 : 44.95

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 46 Puz : 2303.67 Muz : 126.78 Muy : 57.28 IR: 0.54

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C O L U M N N O. 59 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 16 SHORT COLUMN

REQD. STEEL AREA : 2592.00 Sq.mm.
REQD. CONCRETE AREA: 177408.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2403.43 Muz1 : 115.52 Muy1 : 52.09

INTERACTION RATIO: 0.87 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 16 Puz : 2592.34 Muz : 161.03 Muy : 70.65 IR: 0.49

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C O L U M N N O. 60 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 1 SHORT COLUMN

REQD. STEEL AREA : 1696.12 Sq.mm.
REQD. CONCRETE AREA: 178303.88 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 12 dia. (1.01%, 1809.56 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2132.65 Muz1 : 128.96 Muy1 : 59.23

INTERACTION RATIO: 0.94 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 1 Puz : 2166.94 Muz : 136.46 Muy : 62.29 IR: 0.86
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C O L U M N N O. 61 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 2 SHORT COLUMN

REQD. STEEL AREA : 1279.05 Sq.mm.
REQD. CONCRETE AREA: 159881.77 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2006.59 Muz1 : 127.57 Muy1 : 59.41

INTERACTION RATIO: 0.52 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 2 Puz : 2030.20 Muz : 133.10 Muy : 61.61 IR: 0.49

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C O L U M N N O. 62 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 3 SHORT COLUMN

REQD. STEEL AREA : 1279.01 Sq.mm.
REQD. CONCRETE AREA: 159876.17 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2006.58 Muz1 : 127.58 Muy1 : 59.41

INTERACTION RATIO: 0.52 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 3 Puz : 2030.20 Muz : 133.10 Muy : 61.62 IR: 0.49

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C O L U M N N O. 63 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 4 SHORT COLUMN

REQD. STEEL AREA : 1700.34 Sq.mm.
REQD. CONCRETE AREA: 178299.66 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 12 dia. (1.01%, 1809.56 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2133.93 Muz1 : 128.54 Muy1 : 59.03

INTERACTION RATIO: 0.96 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 4 Puz : 2166.94 Muz : 135.79 Muy : 61.98 IR: 0.87
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C O L U M N N O. 64 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 5 SHORT COLUMN

REQD. STEEL AREA : 2448.00 Sq.mm.
REQD. CONCRETE AREA: 177552.00 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 20 dia. (1.40%, 2513.27 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 300 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2359.91 Muz1 : 115.27 Muy1 : 52.18

INTERACTION RATIO: 0.93 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 5 Puz : 2379.64 Muz : 124.17 Muy : 55.23 IR: 0.82

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C O L U M N N O. 65 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 6 SHORT COLUMN

REQD. STEEL AREA : 1440.00 Sq.mm.
REQD. CONCRETE AREA: 178560.00 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 16 dia. (0.89%, 1608.50 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2055.24 Muz1 : 103.89 Muy1 : 48.23

INTERACTION RATIO: 0.63 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 6 Puz : 2106.17 Muz : 118.21 Muy : 53.85 IR: 0.51

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C O L U M N N O. 66 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 7 SHORT COLUMN

REQD. STEEL AREA : 1440.00 Sq.mm.
REQD. CONCRETE AREA: 178560.00 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 16 dia. (0.89%, 1608.50 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2055.24 Muz1 : 103.89 Muy1 : 48.26

INTERACTION RATIO: 0.63 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 7 Puz : 2106.17 Muz : 118.26 Muy : 53.87 IR: 0.51
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C O L U M N N O. 67 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 8 SHORT COLUMN

REQD. STEEL AREA : 2592.00 Sq.mm.
REQD. CONCRETE AREA: 177408.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2403.43 Muz1 : 135.19 Muy1 : 60.54

INTERACTION RATIO: 0.88 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 8 Puz : 2592.34 Muz : 177.39 Muy : 77.76 IR: 0.56

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C O L U M N N O. 68 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 9 SHORT COLUMN

REQD. STEEL AREA : 2448.00 Sq.mm.
REQD. CONCRETE AREA: 177552.00 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 20 dia. (1.40%, 2513.27 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 300 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2359.91 Muz1 : 115.27 Muy1 : 52.18

INTERACTION RATIO: 0.93 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 9 Puz : 2379.64 Muz : 124.17 Muy : 55.23 IR: 0.82

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C O L U M N N O. 69 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 10 SHORT COLUMN

REQD. STEEL AREA : 1440.00 Sq.mm.
REQD. CONCRETE AREA: 178560.00 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 16 dia. (0.89%, 1608.50 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2055.24 Muz1 : 103.89 Muy1 : 48.23

INTERACTION RATIO: 0.63 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 10 Puz : 2106.17 Muz : 118.21 Muy : 53.85 IR: 0.51
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C O L U M N N O. 70 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 11 SHORT COLUMN

REQD. STEEL AREA : 1440.00 Sq.mm.
REQD. CONCRETE AREA: 178560.00 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 16 dia. (0.89%, 1608.50 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2055.24 Muz1 : 103.89 Muy1 : 48.26

INTERACTION RATIO: 0.63 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 11 Puz : 2106.17 Muz : 118.26 Muy : 53.87 IR: 0.51

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C O L U M N N O. 71 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 12 SHORT COLUMN

REQD. STEEL AREA : 2592.00 Sq.mm.
REQD. CONCRETE AREA: 177408.00 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 16 dia. (1.79%, 3216.99 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2403.43 Muz1 : 135.19 Muy1 : 60.54

INTERACTION RATIO: 0.88 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 12 Puz : 2592.34 Muz : 177.39 Muy : 77.76 IR: 0.56

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C O L U M N N O. 72 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 13 SHORT COLUMN

REQD. STEEL AREA : 1696.12 Sq.mm.
REQD. CONCRETE AREA: 178303.88 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 12 dia. (1.01%, 1809.56 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2132.65 Muz1 : 128.96 Muy1 : 59.23

INTERACTION RATIO: 0.94 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 13 Puz : 2166.94 Muz : 136.46 Muy : 62.29 IR: 0.86
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C O L U M N N O. 73 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 14 SHORT COLUMN

REQD. STEEL AREA : 1279.05 Sq.mm.
REQD. CONCRETE AREA: 159881.77 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2006.59 Muz1 : 127.57 Muy1 : 59.41

INTERACTION RATIO: 0.52 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 14 Puz : 2030.20 Muz : 133.10 Muy : 61.61 IR: 0.49

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C O L U M N N O. 74 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 15 SHORT COLUMN

REQD. STEEL AREA : 1279.01 Sq.mm.
REQD. CONCRETE AREA: 159876.17 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2006.58 Muz1 : 127.58 Muy1 : 59.41

INTERACTION RATIO: 0.52 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 15 Puz : 2030.20 Muz : 133.10 Muy : 61.62 IR: 0.49

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C O L U M N N O. 75 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 16 SHORT COLUMN

REQD. STEEL AREA : 1700.34 Sq.mm.
REQD. CONCRETE AREA: 178299.66 Sq.mm.
MAIN REINFORCEMENT : Provide 16 - 12 dia. (1.01%, 1809.56 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2133.93 Muz1 : 128.54 Muy1 : 59.03

INTERACTION RATIO: 0.96 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 16 Puz : 2166.94 Muz : 135.78 Muy : 61.98 IR: 0.87
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C O L U M N N O. 76 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 48 SHORT COLUMN

REQD. STEEL AREA : 1053.16 Sq.mm.
REQD. CONCRETE AREA: 131645.02 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1938.32 Muz1 : 148.72 Muy1 : 69.36

INTERACTION RATIO: 0.70 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 64 Puz : 2030.20 Muz : 169.96 Muy : 77.44 IR: 0.64

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C O L U M N N O. 77 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 49 SHORT COLUMN

REQD. STEEL AREA : 947.81 Sq.mm.
REQD. CONCRETE AREA: 118476.15 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1906.48 Muz1 : 155.10 Muy1 : 72.35

INTERACTION RATIO: 0.37 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 65 Puz : 2030.20 Muz : 182.07 Muy : 82.32 IR: 0.33

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C O L U M N N O. 78 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 50 SHORT COLUMN

REQD. STEEL AREA : 947.76 Sq.mm.
REQD. CONCRETE AREA: 118470.12 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1906.46 Muz1 : 155.10 Muy1 : 72.35

INTERACTION RATIO: 0.37 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 66 Puz : 2030.20 Muz : 182.08 Muy : 82.32 IR: 0.33
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C O L U M N N O. 79 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 51 SHORT COLUMN

REQD. STEEL AREA : 1056.45 Sq.mm.
REQD. CONCRETE AREA: 132056.84 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1939.31 Muz1 : 148.48 Muy1 : 69.24

INTERACTION RATIO: 0.74 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 67 Puz : 2030.20 Muz : 169.54 Muy : 77.27 IR: 0.64

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C O L U M N N O. 80 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 52 SHORT COLUMN

REQD. STEEL AREA : 1270.08 Sq.mm.
REQD. CONCRETE AREA: 158759.86 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2003.88 Muz1 : 128.39 Muy1 : 59.91

INTERACTION RATIO: 0.59 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 68 Puz : 2030.20 Muz : 137.84 Muy : 63.74 IR: 0.57

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C O L U M N N O. 81 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 53 SHORT COLUMN

REQD. STEEL AREA : 1067.69 Sq.mm.
REQD. CONCRETE AREA: 133461.33 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1942.71 Muz1 : 147.66 Muy1 : 68.86

INTERACTION RATIO: 0.24 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 53 Puz : 2030.20 Muz : 165.62 Muy : 75.69 IR: 0.22
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C O L U M N N O. 82 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 54 SHORT COLUMN

REQD. STEEL AREA : 1067.46 Sq.mm.
REQD. CONCRETE AREA: 133432.53 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1942.64 Muz1 : 147.68 Muy1 : 68.87

INTERACTION RATIO: 0.24 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 54 Puz : 2030.20 Muz : 165.65 Muy : 75.70 IR: 0.22

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C O L U M N N O. 83 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 55 SHORT COLUMN

REQD. STEEL AREA : 1245.65 Sq.mm.
REQD. CONCRETE AREA: 155706.83 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1996.50 Muz1 : 131.16 Muy1 : 61.24

INTERACTION RATIO: 0.70 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 55 Puz : 2030.20 Muz : 138.75 Muy : 64.14 IR: 0.64

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C O L U M N N O. 84 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 56 SHORT COLUMN

REQD. STEEL AREA : 1270.08 Sq.mm.
REQD. CONCRETE AREA: 158759.86 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2003.88 Muz1 : 128.39 Muy1 : 59.91

INTERACTION RATIO: 0.59 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 72 Puz : 2030.20 Muz : 137.84 Muy : 63.74 IR: 0.57
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C O L U M N N O. 85 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 57 SHORT COLUMN

REQD. STEEL AREA : 1067.69 Sq.mm.
REQD. CONCRETE AREA: 133461.33 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1942.71 Muz1 : 147.66 Muy1 : 68.86

INTERACTION RATIO: 0.24 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 57 Puz : 2030.20 Muz : 165.62 Muy : 75.69 IR: 0.22

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C O L U M N N O. 86 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 58 SHORT COLUMN

REQD. STEEL AREA : 1067.46 Sq.mm.
REQD. CONCRETE AREA: 133432.53 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1942.64 Muz1 : 147.68 Muy1 : 68.87

INTERACTION RATIO: 0.24 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 58 Puz : 2030.20 Muz : 165.65 Muy : 75.70 IR: 0.22

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C O L U M N N O. 87 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 59 SHORT COLUMN

REQD. STEEL AREA : 1245.65 Sq.mm.
REQD. CONCRETE AREA: 155706.83 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1996.50 Muz1 : 131.16 Muy1 : 61.24

INTERACTION RATIO: 0.70 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 59 Puz : 2030.20 Muz : 138.75 Muy : 64.14 IR: 0.64
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C O L U M N N O. 88 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 60 SHORT COLUMN

REQD. STEEL AREA : 1053.16 Sq.mm.
REQD. CONCRETE AREA: 131645.02 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1938.32 Muz1 : 148.72 Muy1 : 69.36

INTERACTION RATIO: 0.70 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 76 Puz : 2030.20 Muz : 169.96 Muy : 77.44 IR: 0.64

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C O L U M N N O. 89 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 61 SHORT COLUMN

REQD. STEEL AREA : 947.81 Sq.mm.
REQD. CONCRETE AREA: 118476.15 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1906.48 Muz1 : 155.10 Muy1 : 72.35

INTERACTION RATIO: 0.37 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 77 Puz : 2030.20 Muz : 182.07 Muy : 82.32 IR: 0.33

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C O L U M N N O. 90 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 62 SHORT COLUMN

REQD. STEEL AREA : 947.76 Sq.mm.
REQD. CONCRETE AREA: 118470.12 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1906.46 Muz1 : 155.10 Muy1 : 72.35

INTERACTION RATIO: 0.37 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 78 Puz : 2030.20 Muz : 182.08 Muy : 82.32 IR: 0.33
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C O L U M N N O. 91 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 63 SHORT COLUMN

REQD. STEEL AREA : 1056.45 Sq.mm.
REQD. CONCRETE AREA: 132056.84 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1939.31 Muz1 : 148.48 Muy1 : 69.24

INTERACTION RATIO: 0.74 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 79 Puz : 2030.20 Muz : 169.54 Muy : 77.27 IR: 0.64

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C O L U M N N O. 92 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 64 SHORT COLUMN

REQD. STEEL AREA : 693.14 Sq.mm.
REQD. CONCRETE AREA: 86642.10 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1829.50 Muz1 : 158.89 Muy1 : 74.70

INTERACTION RATIO: 0.77 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 64 Puz : 1893.47 Muz : 175.00 Muy : 80.62 IR: 0.70

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C O L U M N N O. 93 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 65 SHORT COLUMN

REQD. STEEL AREA : 616.15 Sq.mm.
REQD. CONCRETE AREA: 77018.66 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1806.23 Muz1 : 154.25 Muy1 : 72.96

INTERACTION RATIO: 0.44 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 2
END JOINT: 65 Puz : 1893.47 Muz : 119.32 Muy : 54.13 IR: 0.41
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C O L U M N N O. 94 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 66 SHORT COLUMN

REQD. STEEL AREA : 616.10 Sq.mm.
REQD. CONCRETE AREA: 77012.46 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1806.22 Muz1 : 154.24 Muy1 : 72.96

INTERACTION RATIO: 0.44 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 2
END JOINT: 66 Puz : 1893.47 Muz : 119.32 Muy : 54.13 IR: 0.41

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C O L U M N N O. 95 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 67 SHORT COLUMN

REQD. STEEL AREA : 695.32 Sq.mm.
REQD. CONCRETE AREA: 86914.90 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1830.16 Muz1 : 158.99 Muy1 : 74.72

INTERACTION RATIO: 0.82 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 67 Puz : 1893.47 Muz : 174.96 Muy : 80.57 IR: 0.74

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C O L U M N N O. 96 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 68 SHORT COLUMN

REQD. STEEL AREA : 832.40 Sq.mm.
REQD. CONCRETE AREA: 104049.80 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1871.59 Muz1 : 159.37 Muy1 : 74.34

INTERACTION RATIO: 0.55 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 68 Puz : 1893.47 Muz : 166.10 Muy : 76.59 IR: 0.52
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C O L U M N N O. 97 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 69 SHORT COLUMN

REQD. STEEL AREA : 685.65 Sq.mm.
REQD. CONCRETE AREA: 85706.46 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1827.24 Muz1 : 158.55 Muy1 : 74.66

INTERACTION RATIO: 0.21 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 2
END JOINT: 69 Puz : 1893.47 Muz : 137.87 Muy : 62.89 IR: 0.21

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        C O L U M N   N O.     98  D E S I G N   R E S U L T S

      M20                    Fe415 (Main)               Fe415 (Sec.)

LENGTH:  3350.0 mm   CROSS SECTION:  300.0 mm X  600.0 mm  COVER: 40.0 mm

** GUIDING LOAD CASE:    3 END JOINT:    70  SHORT COLUMN


REQD. STEEL AREA   :      685.49 Sq.mm.
REQD. CONCRETE AREA:    85685.95 Sq.mm.
MAIN REINFORCEMENT : Provide   8 - 12 dia. (0.50%,    904.78 Sq.mm.)
                     (Equally distributed)
TIE REINFORCEMENT  : Provide  8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)
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Puz :   1827.19   Muz1 :    158.54   Muy1 :     74.66

INTERACTION RATIO: 0.21 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)
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WORST LOAD CASE:     2
END JOINT:    70 Puz :   1893.47   Muz :    137.87   Muy :     62.89   IR: 0.21
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        C O L U M N   N O.     99  D E S I G N   R E S U L T S

      M20                    Fe415 (Main)               Fe415 (Sec.)

LENGTH:  3350.0 mm   CROSS SECTION:  300.0 mm X  600.0 mm  COVER: 40.0 mm

** GUIDING LOAD CASE:    3 END JOINT:    71  SHORT COLUMN
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REQD. STEEL AREA : 816.85 Sq.mm.
REQD. CONCRETE AREA: 102106.12 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1866.89 Muz1 : 159.72 Muy1 : 74.49

INTERACTION RATIO: 0.54 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 71 Puz : 1893.47 Muz : 167.46 Muy : 77.12 IR: 0.51
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C O L U M N N O. 100 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 72 SHORT COLUMN

REQD. STEEL AREA : 832.40 Sq.mm.
REQD. CONCRETE AREA: 104049.80 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1871.59 Muz1 : 159.37 Muy1 : 74.34

INTERACTION RATIO: 0.55 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 72 Puz : 1893.47 Muz : 166.10 Muy : 76.59 IR: 0.52

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C O L U M N N O. 101 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 73 SHORT COLUMN

REQD. STEEL AREA : 685.65 Sq.mm.
REQD. CONCRETE AREA: 85706.46 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1827.24 Muz1 : 158.55 Muy1 : 74.66

INTERACTION RATIO: 0.21 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 2
END JOINT: 73 Puz : 1893.47 Muz : 137.87 Muy : 62.89 IR: 0.21

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C O L U M N N O. 102 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 74 SHORT COLUMN

REQD. STEEL AREA : 685.49 Sq.mm.
REQD. CONCRETE AREA: 85685.95 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1827.19 Muz1 : 158.54 Muy1 : 74.66

INTERACTION RATIO: 0.21 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 2
END JOINT: 74 Puz : 1893.47 Muz : 137.87 Muy : 62.89 IR: 0.21
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C O L U M N N O. 103 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 75 SHORT COLUMN

REQD. STEEL AREA : 816.85 Sq.mm.
REQD. CONCRETE AREA: 102106.10 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1866.89 Muz1 : 159.72 Muy1 : 74.49

INTERACTION RATIO: 0.54 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 75 Puz : 1893.47 Muz : 167.46 Muy : 77.12 IR: 0.51

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C O L U M N N O. 104 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 76 SHORT COLUMN

REQD. STEEL AREA : 693.14 Sq.mm.
REQD. CONCRETE AREA: 86642.10 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1829.50 Muz1 : 158.89 Muy1 : 74.70

INTERACTION RATIO: 0.77 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 76 Puz : 1893.47 Muz : 175.00 Muy : 80.62 IR: 0.70

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C O L U M N N O. 105 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 77 SHORT COLUMN

REQD. STEEL AREA : 616.15 Sq.mm.
REQD. CONCRETE AREA: 77018.66 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1806.23 Muz1 : 154.25 Muy1 : 72.96

INTERACTION RATIO: 0.44 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 2
END JOINT: 77 Puz : 1893.47 Muz : 119.32 Muy : 54.13 IR: 0.41
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C O L U M N N O. 106 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 78 SHORT COLUMN

REQD. STEEL AREA : 616.10 Sq.mm.
REQD. CONCRETE AREA: 77012.46 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1806.22 Muz1 : 154.24 Muy1 : 72.96

INTERACTION RATIO: 0.44 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 2
END JOINT: 78 Puz : 1893.47 Muz : 119.32 Muy : 54.13 IR: 0.41

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C O L U M N N O. 107 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 79 SHORT COLUMN

REQD. STEEL AREA : 695.32 Sq.mm.
REQD. CONCRETE AREA: 86914.90 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1830.16 Muz1 : 158.99 Muy1 : 74.72

INTERACTION RATIO: 0.82 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 79 Puz : 1893.47 Muz : 174.96 Muy : 80.57 IR: 0.74

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C O L U M N N O. 108 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 96 SHORT COLUMN

REQD. STEEL AREA : 2098.71 Sq.mm.
REQD. CONCRETE AREA: 177901.30 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2254.33 Muz1 : 232.88 Muy1 : 103.03

INTERACTION RATIO: 1.00 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 96 Puz : 2303.67 Muz : 244.04 Muy : 107.35 IR: 0.96
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C O L U M N N O. 109 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 2 END JOINT: 97 SHORT COLUMN

REQD. STEEL AREA : 331.24 Sq.mm.
REQD. CONCRETE AREA: 41405.52 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1720.12 Muz1 : 46.90 Muy1 : 22.82

INTERACTION RATIO: 0.98 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 97 Puz : 1893.47 Muz : 146.84 Muy : 67.34 IR: 0.69

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C O L U M N N O. 110 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 2 END JOINT: 98 SHORT COLUMN

REQD. STEEL AREA : 331.22 Sq.mm.
REQD. CONCRETE AREA: 41402.68 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1720.11 Muz1 : 46.89 Muy1 : 22.82

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 98 Puz : 1893.47 Muz : 146.83 Muy : 67.33 IR: 0.64

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C O L U M N N O. 111 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 99 SHORT COLUMN

REQD. STEEL AREA : 2228.61 Sq.mm.
REQD. CONCRETE AREA: 177771.39 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2293.60 Muz1 : 241.82 Muy1 : 106.49

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 99 Puz : 2303.67 Muz : 244.10 Muy : 107.37 IR: 0.98
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C O L U M N N O. 112 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 100 SHORT COLUMN

REQD. STEEL AREA : 1221.81 Sq.mm.
REQD. CONCRETE AREA: 152725.98 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1989.29 Muz1 : 179.68 Muy1 : 82.25

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 100 Puz : 2030.20 Muz : 190.28 Muy : 86.45 IR: 0.94

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C O L U M N N O. 113 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 85 SHORT COLUMN

REQD. STEEL AREA : 303.55 Sq.mm.
REQD. CONCRETE AREA: 37943.32 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1711.75 Muz1 : 103.04 Muy1 : 49.93

INTERACTION RATIO: 0.50 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 101 Puz : 1893.47 Muz : 149.65 Muy : 68.79 IR: 0.42

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C O L U M N N O. 114 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 86 SHORT COLUMN

REQD. STEEL AREA : 303.88 Sq.mm.
REQD. CONCRETE AREA: 37985.52 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1711.85 Muz1 : 103.12 Muy1 : 49.97

INTERACTION RATIO: 0.48 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 102 Puz : 1893.47 Muz : 149.70 Muy : 68.81 IR: 0.36
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C O L U M N N O. 115 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 103 SHORT COLUMN

REQD. STEEL AREA : 1328.76 Sq.mm.
REQD. CONCRETE AREA: 166094.84 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2021.62 Muz1 : 185.77 Muy1 : 84.61

INTERACTION RATIO: 1.00 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 103 Puz : 2030.20 Muz : 188.99 Muy : 85.83 IR: 0.98

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C O L U M N N O. 116 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 104 SHORT COLUMN

REQD. STEEL AREA : 1221.81 Sq.mm.
REQD. CONCRETE AREA: 152725.98 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1989.29 Muz1 : 179.68 Muy1 : 82.25

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 104 Puz : 2030.20 Muz : 190.28 Muy : 86.45 IR: 0.94

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C O L U M N N O. 117 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 89 SHORT COLUMN

REQD. STEEL AREA : 303.55 Sq.mm.
REQD. CONCRETE AREA: 37943.32 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1711.75 Muz1 : 103.04 Muy1 : 49.93

INTERACTION RATIO: 0.50 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 105 Puz : 1893.47 Muz : 149.65 Muy : 68.79 IR: 0.42
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C O L U M N N O. 118 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 90 SHORT COLUMN

REQD. STEEL AREA : 303.88 Sq.mm.
REQD. CONCRETE AREA: 37985.52 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1711.85 Muz1 : 103.12 Muy1 : 49.97

INTERACTION RATIO: 0.48 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 106 Puz : 1893.47 Muz : 149.70 Muy : 68.81 IR: 0.36

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C O L U M N N O. 119 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 107 SHORT COLUMN

REQD. STEEL AREA : 1328.76 Sq.mm.
REQD. CONCRETE AREA: 166094.77 Sq.mm.
MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.75%, 1357.17 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2021.62 Muz1 : 185.77 Muy1 : 84.61

INTERACTION RATIO: 1.00 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 107 Puz : 2030.20 Muz : 188.99 Muy : 85.83 IR: 0.98

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C O L U M N N O. 120 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 108 SHORT COLUMN

REQD. STEEL AREA : 2098.71 Sq.mm.
REQD. CONCRETE AREA: 177901.30 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2254.33 Muz1 : 232.88 Muy1 : 103.03

INTERACTION RATIO: 1.00 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 108 Puz : 2303.67 Muz : 244.04 Muy : 107.35 IR: 0.96
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C O L U M N N O. 121 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 2 END JOINT: 109 SHORT COLUMN

REQD. STEEL AREA : 331.24 Sq.mm.
REQD. CONCRETE AREA: 41405.52 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1720.12 Muz1 : 46.90 Muy1 : 22.82

INTERACTION RATIO: 0.98 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 109 Puz : 1893.47 Muz : 146.84 Muy : 67.34 IR: 0.69

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C O L U M N N O. 122 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 2 END JOINT: 110 SHORT COLUMN

REQD. STEEL AREA : 331.22 Sq.mm.
REQD. CONCRETE AREA: 41402.68 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1720.11 Muz1 : 46.89 Muy1 : 22.82

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 110 Puz : 1893.47 Muz : 146.83 Muy : 67.33 IR: 0.64

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C O L U M N N O. 123 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 111 SHORT COLUMN

REQD. STEEL AREA : 2228.61 Sq.mm.
REQD. CONCRETE AREA: 177771.39 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (1.26%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2293.60 Muz1 : 241.82 Muy1 : 106.49

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 111 Puz : 2303.67 Muz : 244.10 Muy : 107.37 IR: 0.98
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C O L U M N N O. 295 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 160 SHORT COLUMN

REQD. STEEL AREA : 554.05 Sq.mm.
REQD. CONCRETE AREA: 69256.54 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1787.46 Muz1 : 148.16 Muy1 : 70.53

INTERACTION RATIO: 0.21 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 162 Puz : 1893.47 Muz : 171.94 Muy : 79.95 IR: 0.22

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C O L U M N N O. 296 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 161 SHORT COLUMN

REQD. STEEL AREA : 554.05 Sq.mm.
REQD. CONCRETE AREA: 69256.55 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1787.46 Muz1 : 148.16 Muy1 : 70.53

INTERACTION RATIO: 0.21 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 163 Puz : 1893.47 Muz : 171.94 Muy : 79.95 IR: 0.22

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C O L U M N N O. 300 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 162 SHORT COLUMN

REQD. STEEL AREA : 419.54 Sq.mm.
REQD. CONCRETE AREA: 52442.45 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1746.81 Muz1 : 128.08 Muy1 : 61.60

INTERACTION RATIO: 0.37 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 164 Puz : 1893.47 Muz : 162.05 Muy : 75.05 IR: 0.35
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C O L U M N N O. 301 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 163 SHORT COLUMN

REQD. STEEL AREA : 419.54 Sq.mm.
REQD. CONCRETE AREA: 52442.45 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1746.81 Muz1 : 128.08 Muy1 : 61.60

INTERACTION RATIO: 0.37 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 165 Puz : 1893.47 Muz : 162.05 Muy : 75.05 IR: 0.35

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C O L U M N N O. 305 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 164 SHORT COLUMN

REQD. STEEL AREA : 280.17 Sq.mm.
REQD. CONCRETE AREA: 35020.80 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1704.68 Muz1 : 97.12 Muy1 : 47.10

INTERACTION RATIO: 0.63 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 166 Puz : 1893.47 Muz : 146.11 Muy : 66.98 IR: 0.43

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C O L U M N N O. 306 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 165 SHORT COLUMN

REQD. STEEL AREA : 280.17 Sq.mm.
REQD. CONCRETE AREA: 35020.80 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1704.68 Muz1 : 97.12 Muy1 : 47.10

INTERACTION RATIO: 0.63 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 167 Puz : 1893.47 Muz : 146.11 Muy : 66.98 IR: 0.43
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C O L U M N N O. 310 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3350.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 168 SHORT COLUMN

REQD. STEEL AREA : 771.94 Sq.mm.
REQD. CONCRETE AREA: 96492.60 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1853.32 Muz1 : 103.01 Muy1 : 47.79

INTERACTION RATIO: 0.98 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 3
END JOINT: 168 Puz : 1893.47 Muz : 116.51 Muy : 52.85 IR: 0.88

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        C O L U M N   N O.    311  D E S I G N   R E S U L T S

     M20                   Fe415 (Main)              Fe415 (Sec.)

LENGTH:  3350.0 mm   CROSS SECTION:  300.0 mm X  600.0 mm  COVER: 40.0 mm

** GUIDING LOAD CASE:    3 END JOINT:   169  SHORT COLUMN


REQD. STEEL AREA   :      771.94 Sq.mm.
REQD. CONCRETE AREA:    96492.60 Sq.mm.
MAIN REINFORCEMENT : Provide   8 - 12 dia. (0.50%,    904.78 Sq.mm.)
                     (Equally distributed)
TIE REINFORCEMENT  : Provide  8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)
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Puz :   1853.32   Muz1 :    103.01   Muy1 :     47.79

INTERACTION RATIO: 0.98 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)
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WORST LOAD CASE:     3
END JOINT:   169 Puz :   1893.47   Muz :    116.51   Muy :     52.85   IR: 0.88
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        C O L U M N   N O.    316  D E S I G N   R E S U L T S

     M20                   Fe415 (Main)              Fe415 (Sec.)

LENGTH:  3000.0 mm   CROSS SECTION:  300.0 mm X  600.0 mm  COVER: 40.0 mm

** GUIDING LOAD CASE:    3 END JOINT:   173  SHORT COLUMN
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REQD. STEEL AREA : 678.16 Sq.mm.
REQD. CONCRETE AREA: 84770.46 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1824.98 Muz1 : 158.18 Muy1 : 74.53

INTERACTION RATIO: 0.17 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 1
END JOINT: 160 Puz : 1893.47 Muz : 164.97 Muy : 76.57 IR: 0.16
==========

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C O L U M N N O. 317 D E S I G N R E S U L T S

M20 Fe415 (Main) Fe415 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 300.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 3 END JOINT: 174 SHORT COLUMN

REQD. STEEL AREA : 678.16 Sq.mm.
REQD. CONCRETE AREA: 84770.46 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 12 dia. (0.50%, 904.78 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 1824.98 Muz1 : 158.18 Muy1 : 74.53

INTERACTION RATIO: 0.17 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 1
END JOINT: 161 Puz : 1893.47 Muz : 164.97 Muy : 76.57 IR: 0.16

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**********END OF COLUMN DESIGN RESULTS**********

156. CONCRETE TAKE
157. DESIGN ELEMENT 318 TO 332

ELEMENT DESIGN SUMMARY

ELEMENT	LONG. REINF (SQ.MM/ME)	MOM-X /LOAD (KN-M/M)	TRANS. REINF (SQ.MM/ME)	MOM-Y /LOAD (KN-M/M)
318 TOP :	156.	0.57 / 3	156.	1.54 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
319 TOP :	156.	0.00 / 0	156.	0.00 / 0
BOTT:	156.	-0.57 / 3	156.	-0.65 / 3
320 TOP :	156.	0.57 / 3	156.	1.54 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
321 TOP :	156.	0.49 / 3	156.	1.37 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
322 TOP :	156.	0.00 / 0	156.	0.00 / 0
BOTT:	156.	-0.43 / 3	156.	-0.52 / 3
323 TOP :	156.	0.49 / 3	156.	1.37 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
324 TOP :	156.	0.52 / 3	156.	1.42 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
325 TOP :	156.	0.00 / 0	156.	0.00 / 0
BOTT:	156.	-0.43 / 3	156.	-0.50 / 3
326 TOP :	156.	0.52 / 3	156.	1.42 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
327 TOP :	156.	0.45 / 3	156.	1.31 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
328 TOP :	156.	0.00 / 0	156.	0.00 / 0
BOTT:	156.	-0.38 / 3	156.	-0.45 / 3
329 TOP :	156.	0.45 / 3	156.	1.31 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
330 TOP :	156.	0.85 / 3	156.	2.06 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0
331 TOP :	156.	0.00 / 0	156.	0.00 / 0
BOTT:	156.	-0.48 / 3	156.	-0.55 / 3
332 TOP :	156.	0.85 / 3	156.	2.06 / 3
BOTT:	156.	0.00 / 0	156.	0.00 / 0

**********END OF ELEMENT DESIGN**********

158. END CONCRETE DESIGN

********** CONCRETE TAKE OFF **********

(FOR BEAMS, COLUMNS AND PLATES DESIGNED ABOVE)

NOTE: CONCRETE QUANTITY REPRESENTS VOLUME OF CONCRETE IN BEAMS, COLUMNS, AND PLATES DESIGNED ABOVE.
REINFORCING STEEL QUANTITY REPRESENTS REINFORCING STEEL IN BEAMS AND COLUMNS DESIGNED ABOVE.
REINFORCING STEEL IN PLATES IS NOT INCLUDED IN THE REPORTED QUANTITY.

TOTAL VOLUME OF CONCRETE = 148.4 CU.METER

BAR DIA (in mm)	WEIGHT (in New)
8	35236
10	8646
12	39353
16	28824
20	12236
25	20600
*** TOTAL=	144894

159. PERFORM ANALYSIS

160. FINISH

********** END OF THE STAAD.Pro RUN **********

**** DATE= DEC 20,2021 TIME= 19: 3:58 ****

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*   For technical assistance on STAAD.Pro, please visit    *
*   http://selectservices.bentley.com/en-US/               *
*                                                          *
*   Details about additional assistance from               *
*   Bentley and Partners can be found at program menu      *
*   Help->Technical Support                                *
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