|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Measurement of roundness by Dial gauge deflections of 6-mm Diameter Aluminium (Al) Round Bar After Straightening** | | | | | | | | | | | | | | | | | | | | | | | |  |
|  | Mean values of Dial Gauge Deflection Readings after straightening of 6 mm Aluminium (Al) round bar x 0.01 mm | | | | | | | | | | | | | | | | | | | | | | | |  |
|  | Angles in Degrees | | | | | | | | | | | | | | | | | | | | | | | |  |
| Length in cm | 0o | 15o | 30o | 45o | 60o | 75o | 90o | 105o | 120o | 135o | 150o | 165o | 180o | 195o | 210o | 225o | 240o | 255o | 270o | 285o | 300o | 315o | 330o | 345o | STD  DEV (mm) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16.5 | 241.0 | 244.0 | 244.5 | 243.0 | 242.5 | 240.0 | 242.0 | 244.0 | 241.0 | 238.0 | 236.0 | 234.0 | 231.0 | 230.0 | 232.0 | 231.0 | 233.0 | 235.0 | 234.0 | 231.0 | 229.0 | 233.0 | 237.0 | 237.5 | 0.0506 |
| 20.0 | 236.0 | 237.0 | 233.5 | 232.0 | 230.0 | 236.0 | 237.0 | 235.0 | 234.0 | 236.0 | 230.0 | 232.0 | 233.0 | 234.0 | 233.0 | 232.0 | 231.0 | 234.0 | 231.0 | 233.0 | 234.0 | 235.0 | 229.5 | 235.0 | 0.0220 |
| 25.0 | 237.0 | 235.5 | 237.5 | 236.5 | 233.5 | 231.0 | 235.0 | 234.0 | 234.0 | 232.0 | 230.0 | 231.0 | 231.0 | 233.0 | 231.0 | 230.0 | 232.0 | 233.0 | 232.0 | 234.0 | 235.0 | 231.0 | 227.5 | 230.0 | 0.0251 |
| 30.0 | 235.5 | 236.5 | 237.0 | 236.0 | 235.0 | 233.0 | 233.0 | 232.0 | 229.0 | 231.0 | 228.0 | 230.0 | 229.0 | 234.0 | 232.0 | 231.0 | 230.0 | 231.0 | 234.0 | 235.0 | 233.5 | 232.5 | 235.5 | 234.0 | 0.0255 |
| 35.0 | 236.0 | 239.0 | 242.0 | 243.5 | 245.0 | 247.0 | 245.5 | 243.0 | 240.0 | 236.0 | 233.0 | 232.0 | 234.5 | 234.0 | 234.5 | 233.5 | 233.0 | 234.0 | 233.0 | 232.0 | 235.0 | 233.0 | 236.0 | 235.0 | 0.0476 |
| 40.0 | 237.0 | 240.0 | 241.0 | 238.0 | 233.0 | 231.5 | 242.0 | 241.0 | 242.0 | 241.0 | 237.0 | 234.0 | 233.0 | 235.0 | 235.0 | 234.0 | 235.0 | 235.0 | 233.5 | 234.0 | 234.0 | 235.0 | 235.0 | 236.0 | 0.0318 |
| 45.0 | 238.0 | 243.0 | 242.0 | 241.0 | 239.0 | 236.0 | 236.0 | 238.0 | 240.0 | 242.0 | 235.0 | 233.0 | 231.0 | 233.0 | 234.0 | 233.0 | 234.0 | 233.0 | 230.0 | 234.0 | 236.5 | 236.0 | 238.5 | 238.0 | 0.0358 |
| 50.0 | 237.0 | 238.0 | 238.0 | 238.0 | 238.0 | 239.0 | 238.0 | 236.0 | 236.0 | 234.0 | 237.0 | 234.0 | 232.0 | 232.0 | 232.0 | 235.0 | 236.0 | 235.0 | 233.0 | 233.5 | 237.0 | 238.0 | 239.0 | 237.0 | 0.0228 |
| 55.0 | 236.0 | 241.5 | 243.0 | 245.5 | 243.5 | 242.0 | 240.0 | 237.0 | 235.5 | 238.0 | 233.5 | 237.0 | 234.0 | 233.0 | 231.0 | 232.0 | 230.0 | 233.5 | 236.5 | 235.0 | 236.0 | 238.0 | 239.0 | 241.0 | 0.0414 |
| 60.0 | 239.0 | 243.0 | 245.0 | 248.0 | 249.0 | 243.0 | 245.0 | 246.0 | 243.0 | 241.0 | 243.0 | 239.0 | 236.0 | 235.0 | 234.0 | 233.0 | 234.0 | 235.0 | 235.0 | 236.0 | 235.0 | 237.0 | 240.0 | 240.0 | 0.0480 |
| 65.0 | 237.0 | 241.0 | 242.0 | 243.0 | 245.0 | 244.0 | 246.0 | 247.5 | 246.5 | 244.0 | 241.5 | 237.0 | 235.0 | 232.5 | 233.0 | 234.0 | 232.0 | 234.0 | 234.0 | 233.0 | 234.0 | 235.0 | 239.0 | 241.0 | 0.0513 |
| 70.0 | 238.5 | 242.5 | 243.0 | 244.5 | 246.0 | 245.0 | 244.0 | 245.0 | 245.0 | 243.0 | 239.0 | 235.0 | 237.0 | 236.0 | 234.0 | 235.0 | 234.0 | 235.0 | 234.0 | 232.0 | 233.5 | 235.0 | 236.5 | 239.0 | 0.0463 |
| 75.0 | 237.0 | 238.0 | 239.0 | 241.0 | 242.0 | 240.0 | 238.0 | 237.5 | 237.0 | 236.0 | 232.5 | 233.0 | 235.0 | 234.0 | 232.0 | 234.0 | 235.0 | 234.0 | 231.0 | 231.0 | 233.5 | 233.0 | 234.0 | 236.5 | 0.0306 |
| 80.0 | 238.0 | 235.5 | 233.5 | 232.0 | 236.0 | 237.0 | 235.0 | 236.0 | 233.0 | 234.0 | 233.0 | 231.0 | 234.0 | 235.0 | 234.0 | 233.0 | 231.0 | 233.0 | 234.5 | 234.0 | 235.0 | 236.0 | 240.0 | 239.5 | 0.0231 |
| 85.0 | 237.0 | 247.0 | 248.0 | 246.0 | 244.0 | 243.0 | 240.5 | 239.0 | 239.0 | 238.0 | 236.0 | 235.0 | 236.0 | 237.0 | 235.0 | 235.0 | 233.0 | 236.0 | 235.0 | 235.0 | 237.0 | 238.0 | 242.0 | 238.0 | 0.0418 |
| 90.0 | 235.0 | 246.5 | 242.5 | 242.0 | 243.0 | 244.0 | 242.0 | 241.0 | 238.0 | 235.0 | 231.0 | 233.0 | 234.0 | 236.0 | 234.0 | 236.5 | 234.0 | 235.0 | 236.0 | 236.0 | 236.0 | 239.0 | 238.0 | 237.0 | 0.0396 |
| 95.0 | 238.5 | 242.0 | 244.0 | 245.0 | 244.0 | 243.0 | 241.5 | 243.0 | 241.0 | 238.0 | 234.0 | 235.0 | 235.0 | 237.0 | 235.0 | 237.0 | 235.0 | 234.0 | 234.0 | 233.0 | 234.0 | 236.0 | 236.0 | 235.0 | 0.0391 |
| 100.0 | 239.0 | 241.5 | 240.5 | 238.0 | 236.0 | 238.0 | 233.0 | 236.0 | 237.0 | 236.0 | 235.0 | 236.0 | 236.0 | 235.0 | 234.0 | 236.0 | 237.5 | 238.5 | 236.0 | 235.0 | 233.0 | 234.0 | 237.0 | 236.0 | 0.0211 |
| 105.0 | 239.0 | 240.0 | 238.5 | 240.0 | 239.0 | 238.0 | 239.5 | 237.5 | 235.5 | 235.0 | 234.0 | 235.0 | 233.0 | 236.0 | 235.0 | 234.0 | 235.0 | 237.0 | 238.0 | 236.0 | 234.0 | 235.0 | 236.0 | 236.0 | 0.0209 |
| 109.0 | 242.5 | 241.0 | 243.0 | 244.0 | 244.0 | 243.5 | 241.0 | 242.0 | 241.0 | 238.0 | 239.0 | 237.0 | 234.0 | 234.0 | 236.0 | 235.0 | 233.0 | 235.0 | 236.0 | 234.0 | 235.0 | 236.0 | 238.0 | 235.0 | 0.0369 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Measurement of roundness by Dial gauge deflections of 8-mm Diameter Aluminium (Al) Round Bar After Straightening** | | | | | | | | | | | | | | | | | | | | | | | |  |
|  | **Mean values of Dial Gauge Deflection Readings after straightening of 8 mm Aluminium (Al) round bar x 0.01 mm** | | | | | | | | | | | | | | | | | | | | | | | |  |
|  | **Angles in Degrees** | | | | | | | | | | | | | | | | | | | | | | | |  |
| **Length in cm** | **0o** | **15o** | **30o** | **45o** | **60o** | **75o** | **90o** | **105o** | **120o** | **135o** | **150o** | **165o** | **180o** | **195o** | **210o** | **225o** | **240o** | **255o** | **270o** | **285o** | **300o** | **315o** | **330o** | **345o** | **STD**  **DEV (mm)** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | 173 | 172 | 168 | 166 | 163 | 161 | 158 | 157 | 153 | 150 | 147 | 146 | 147 | 149 | 153 | 157 | 163 | 166 | 171 | 175 | 175 | 175 | 174 | 174 | 0.1018 |
| 15 | 172 | 170 | 168 | 165 | 164 | 160 | 158 | 156 | 152 | 148 | 151 | 153 | 152 | 150 | 153 | 157 | 161 | 166 | 169 | 173 | 173 | 173 | 174 | 174 | 0.0886 |
| 20 | 171 | 170 | 168 | 165 | 166 | 159 | 157 | 155 | 156 | 154 | 157 | 153 | 154 | 153 | 155 | 157 | 160 | 165 | 169 | 170 | 171 | 172 | 173 | 173 | 0.0729 |
| 24 | 169 | 167 | 166 | 167 | 168 | 162 | 160 | 158 | 158 | 156 | 156 | 156 | 159 | 157 | 156 | 157 | 159 | 162 | 166 | 168 | 169 | 170 | 170 | 169 | 0.0535 |
| 28 | 170 | 168 | 167 | 166 | 169 | 165 | 163 | 161 | 163 | 159 | 157 | 157 | 158 | 158 | 158 | 162 | 159 | 162 | 163 | 166 | 167 | 168 | 168 | 168 | 0.0428 |
| 32 | 167 | 166 | 168 | 168 | 171 | 168 | 165 | 163 | 160 | 162 | 160 | 158 | 162 | 159 | 162 | 165 | 158 | 160 | 157 | 159 | 161 | 162 | 163 | 163 | 0.0376 |
| 36 | 169 | 171 | 170 | 171 | 169 | 172 | 171 | 167 | 169 | 165 | 161 | 162 | 164 | 165 | 166 | 168 | 167 | 167 | 166 | 166 | 166 | 167 | 168 | 169 | 0.028 |
| 40 | 170 | 169 | 172 | 172 | 170 | 173 | 170 | 168 | 167 | 166 | 163 | 164 | 163 | 164 | 168 | 167 | 167 | 167 | 167 | 167 | 167 | 169 | 170 | 170 | 0.0275 |
| 44 | 171 | 170 | 171 | 172 | 171 | 171 | 172 | 169 | 166 | 164 | 164 | 163 | 162 | 165 | 167 | 167 | 167 | 168 | 167 | 167 | 168 | 169 | 169 | 169 | 0.0283 |
| 48 | 171 | 171 | 169 | 171 | 170 | 170 | 169 | 168 | 170 | 167 | 166 | 165 | 164 | 165 | 166 | 166 | 168 | 167 | 168 | 168 | 169 | 169 | 170 | 171 | 0.0211 |
| 52 | 167 | 170 | 171 | 171 | 169 | 166 | 168 | 167 | 169 | 168 | 165 | 167 | 165 | 166 | 167 | 168 | 168 | 169 | 170 | 170 | 170 | 171 | 168 | 171 | 0.0189 |
| 56 | 171 | 171 | 170 | 169 | 167 | 167 | 164 | 165 | 167 | 166 | 164 | 163 | 163 | 164 | 166 | 167 | 167 | 168 | 168 | 168 | 168 | 169 | 170 | 171 | 0.0242 |
| 59 | 171 | 172 | 171 | 169 | 169 | 167 | 167 | 165 | 166 | 169 | 163 | 163 | 165 | 164 | 166 | 167 | 168 | 169 | 169 | 169 | 170 | 172 | 171 | 171 | 0.028 |
| 62 | 169 | 169 | 170 | 168 | 166 | 166 | 165 | 167 | 165 | 168 | 164 | 162 | 164 | 163 | 163 | 164 | 164 | 165 | 166 | 167 | 167 | 169 | 169 | 168 | 0.0232 |
| 65 | 168 | 167 | 167 | 169 | 168 | 167 | 164 | 165 | 164 | 167 | 163 | 165 | 163 | 164 | 162 | 163 | 164 | 165 | 165 | 166 | 166 | 167 | 168 | 167 | 0.019 |
| 69 | 168 | 167 | 166 | 168 | 167 | 165 | 165 | 164 | 165 | 168 | 167 | 166 | 164 | 165 | 164 | 162 | 163 | 163 | 164 | 163 | 164 | 166 | 166 | 166 | 0.0175 |
| 73 | 169 | 168 | 169 | 170 | 168 | 166 | 164 | 165 | 164 | 163 | 160 | 161 | 163 | 163 | 158 | 163 | 164 | 164 | 162 | 163 | 163 | 165 | 165 | 166 | 0.0298 |
| 77 | 170 | 169 | 168 | 166 | 169 | 165 | 164 | 162 | 163 | 160 | 159 | 158 | 159 | 160 | 160 | 161 | 162 | 163 | 164 | 166 | 167 | 168 | 168 | 168 | 0.0384 |
| 80 | 169 | 171 | 168 | 168 | 167 | 167 | 163 | 161 | 162 | 164 | 158 | 157 | 162 | 159 | 160 | 163 | 162 | 163 | 164 | 164 | 167 | 169 | 169 | 168 | 0.0398 |
| 83 | 169 | 169 | 168 | 165 | 164 | 166 | 166 | 163 | 160 | 163 | 157 | 163 | 157 | 161 | 159 | 161 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 0.0349 |
| 87 | 170 | 169 | 169 | 167 | 165 | 165 | 163 | 163 | 163 | 160 | 158 | 160 | 161 | 160 | 157 | 158 | 159 | 161 | 162 | 163 | 164 | 166 | 167 | 167 | 0.0373 |
| 90 | 170 | 169 | 169 | 168 | 165 | 164 | 165 | 161 | 159 | 158 | 159 | 161 | 162 | 157 | 158 | 158 | 162 | 161 | 162 | 164 | 165 | 165 | 167 | 168 | 0.0399 |
| 93 | 169 | 168 | 167 | 169 | 165 | 165 | 164 | 164 | 163 | 162 | 160 | 159 | 157 | 159 | 157 | 157 | 157 | 157 | 159 | 159 | 160 | 162 | 163 | 164 | 0.0402 |
| 96 | 168 | 167 | 168 | 166 | 164 | 164 | 167 | 163 | 162 | 160 | 161 | 159 | 158 | 160 | 159 | 158 | 163 | 157 | 158 | 159 | 160 | 161 | 163 | 164 | 0.0339 |
| 100 | 169 | 166 | 167 | 167 | 167 | 166 | 165 | 165 | 164 | 163 | 162 | 160 | 159 | 157 | 157 | 158 | 158 | 159 | 161 | 161 | 162 | 164 | 165 | 167 | 0.0368 |
| 104 | 170 | 168 | 169 | 167 | 167 | 166 | 165 | 164 | 163 | 162 | 161 | 159 | 158 | 160 | 157 | 159 | 157 | 158 | 160 | 161 | 162 | 164 | 166 | 167 | 0.0391 |
| 108 | 168 | 168 | 168 | 168 | 167 | 166 | 165 | 164 | 163 | 163 | 161 | 160 | 157 | 162 | 162 | 157 | 158 | 158 | 160 | 161 | 162 | 164 | 166 | 167 | 0.0374 |
| 112 | 169 | 169 | 169 | 168 | 168 | 166 | 165 | 164 | 163 | 163 | 160 | 158 | 157 | 158 | 160 | 157 | 157 | 158 | 160 | 161 | 163 | 165 | 167 | 168 | 0.0438 |
| 116 | 169 | 169 | 169 | 169 | 168 | 166 | 166 | 165 | 163 | 162 | 161 | 162 | 161 | 161 | 159 | 159 | 160 | 158 | 159 | 162 | 162 | 165 | 166 | 168 | 0.0368 |
| 120 | 169 | 169 | 170 | 169 | 168 | 167 | 166 | 164 | 163 | 162 | 160 | 158 | 160 | 158 | 156 | 157 | 157 | 159 | 160 | 162 | 164 | 165 | 168 | 169 | 0.0461 |
| 124 | 170 | 170 | 170 | 170 | 169 | 168 | 166 | 166 | 163 | 161 | 160 | 161 | 162 | 163 | 157 | 157 | 158 | 158 | 161 | 163 | 164 | 166 | 168 | 170 | 0.0458 |
| 128 | 170 | 170 | 170 | 171 | 170 | 169 | 168 | 166 | 164 | 162 | 161 | 160 | 164 | 161 | 157 | 157 | 157 | 158 | 159 | 161 | 162 | 166 | 167 | 169 | 0.0485 |
| 132 | 169 | 168 | 168 | 169 | 170 | 167 | 165 | 164 | 162 | 160 | 159 | 157 | 162 | 159 | 162 | 160 | 163 | 159 | 159 | 161 | 162 | 165 | 166 | 167 | 0.0386 |
| 136 | 168 | 169 | 170 | 169 | 168 | 168 | 168 | 164 | 162 | 161 | 159 | 161 | 159 | 158 | 159 | 159 | 158 | 157 | 159 | 160 | 163 | 165 | 167 | 169 | 0.0432 |
| 140 | 168 | 169 | 170 | 170 | 169 | 167 | 167 | 165 | 164 | 162 | 160 | 160 | 157 | 157 | 156 | 157 | 157 | 158 | 162 | 164 | 164 | 166 | 168 | 169 | 0.0475 |
| 143 | 169 | 169 | 169 | 168 | 167 | 167 | 165 | 164 | 164 | 162 | 161 | 159 | 159 | 158 | 158 | 159 | 161 | 162 | 163 | 164 | 166 | 168 | 169 | 169 | 0.0395 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Measurement of roundness by Dial gauge deflections of 10-mm Diameter Aluminium (Al) Round Bar After Straightening** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | |
|  | | **Mean values of Dial Gauge Deflection Readings after straightening of 10 mm Aluminium (Al) round bar x 0.01 mm** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | |
|  | | **Angles in Degrees** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | |
| **Length in cm** | | **0o** | | **15o** | | **30o** | | **45o** | | **60o** | | **75o** | | **90o** | | **105o** | | **120o** | | **135o** | | **150o** | | **165o** | | **180o** | | **195o** | | **210o** | | **225o** | | **240o** | | **255o** | | **270o** | | **285o** | | **300o** | | **315o** | | **330o** | | **345o** | | **STD**  **DEV (mm)** | |
|  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| 14 | | 152 | | 152 | | 153 | | 153 | | 154 | | 155 | | 156 | | 156 | | 157 | | 156 | | 155 | | 154 | | 153 | | 150 | | 147 | | 146 | | 146 | | 146 | | 146 | | 147 | | 149 | | 151 | | 152 | | 152 | | 0.036 | |
| 17 | | 137 | | 138 | | 138 | | 139 | | 140 | | 141 | | 142 | | 142 | | 142 | | 141 | | 141 | | 140 | | 139 | | 138 | | 137 | | 136 | | 136 | | 135 | | 134 | | 136 | | 138 | | 139 | | 140 | | 139 | | 0.022 | |
| 20 | | 141 | | 141 | | 141 | | 142 | | 142 | | 144 | | 145 | | 145 | | 144 | | 143 | | 142 | | 140 | | 138 | | 136 | | 135 | | 134 | | 134 | | 134 | | 135 | | 137 | | 139 | | 140 | | 142 | | 142 | | 0.036 | |
| 23 | | 143 | | 143 | | 143 | | 143 | | 143 | | 143 | | 143 | | 143 | | 143 | | 142 | | 141 | | 140 | | 138 | | 137 | | 136 | | 136 | | 136 | | 136 | | 137 | | 139 | | 141 | | 142 | | 144 | | 144 | | 0.029 | |
| 26 | | 145 | | 145 | | 146 | | 145 | | 145 | | 145 | | 145 | | 144 | | 142 | | 141 | | 140 | | 139 | | 138 | | 136 | | 135 | | 135 | | 136 | | 136 | | 137 | | 140 | | 143 | | 144 | | 145 | | 145 | | 0.04 | |
| 29 | | 141 | | 140 | | 140 | | 140 | | 140 | | 139 | | 138 | | 137 | | 135 | | 135 | | 134 | | 133 | | 132 | | 131 | | 130 | | 130 | | 130 | | 131 | | 132 | | 135 | | 138 | | 140 | | 141 | | 141 | | 0.04 | |
| 32 | | 144 | | 143 | | 142 | | 141 | | 140 | | 139 | | 138 | | 136 | | 134 | | 134 | | 133 | | 133 | | 133 | | 132 | | 131 | | 132 | | 133 | | 134 | | 136 | | 139 | | 142 | | 143 | | 144 | | 144 | | 0.046 | |
| 35 | | 148 | | 147 | | 147 | | 145 | | 143 | | 140 | | 138 | | 136 | | 134 | | 133 | | 132 | | 131 | | 131 | | 131 | | 131 | | 132 | | 134 | | 136 | | 138 | | 141 | | 145 | | 147 | | 149 | | 148 | | 0.067 | |
| 38 | | 148 | | 146 | | 145 | | 142 | | 140 | | 137 | | 135 | | 132 | | 128 | | 127 | | 127 | | 126 | | 126 | | 126 | | 126 | | 129 | | 132 | | 134 | | 136 | | 140 | | 144 | | 146 | | 149 | | 148 | | 0.083 | |
| 41 | | 152 | | 150 | | 149 | | 146 | | 143 | | 139 | | 136 | | 132 | | 129 | | 127 | | 126 | | 125 | | 125 | | 126 | | 127 | | 129 | | 132 | | 135 | | 139 | | 143 | | 148 | | 150 | | 152 | | 152 | | 0.101 | |
| 44 | | 156 | | 154 | | 153 | | 150 | | 146 | | 143 | | 140 | | 135 | | 131 | | 129 | | 127 | | 126 | | 126 | | 126 | | 126 | | 128 | | 130 | | 134 | | 137 | | 142 | | 146 | | 151 | | 155 | | 155 | | 0.111 | |
| 47 | | 157 | | 156 | | 155 | | 152 | | 150 | | 146 | | 142 | | 137 | | 132 | | 129 | | 126 | | 125 | | 125 | | 126 | | 127 | | 129 | | 131 | | 135 | | 139 | | 144 | | 149 | | 153 | | 157 | | 157 | | 0.121 | |
| 50 | | 153 | | 152 | | 151 | | 149 | | 146 | | 143 | | 140 | | 135 | | 130 | | 128 | | 126 | | 124 | | 123 | | 123 | | 124 | | 125 | | 127 | | 131 | | 134 | | 140 | | 146 | | 148 | | 151 | | 152 | | 0.111 | |
| 53 | | 153 | | 152 | | 152 | | 150 | | 148 | | 144 | | 141 | | 137 | | 134 | | 131 | | 128 | | 127 | | 126 | | 126 | | 126 | | 127 | | 129 | | 132 | | 135 | | 140 | | 145 | | 147 | | 149 | | 151 | | 0.1 | |
| 56 | | 150 | | 149 | | 148 | | 147 | | 146 | | 143 | | 141 | | 138 | | 135 | | 133 | | 131 | | 131 | | 132 | | 130 | | 129 | | 129 | | 130 | | 132 | | 134 | | 139 | | 144 | | 146 | | 148 | | 148 | | 0.076 | |
| 59 | | 149 | | 148 | | 148 | | 146 | | 145 | | 144 | | 143 | | 140 | | 138 | | 137 | | 136 | | 135 | | 134 | | 133 | | 132 | | 132 | | 133 | | 135 | | 137 | | 140 | | 143 | | 145 | | 147 | | 148 | | 0.058 | |
| 62 | | 145 | | 145 | | 145 | | 143 | | 142 | | 140 | | 139 | | 136 | | 134 | | 133 | | 132 | | 131 | | 130 | | 129 | | 129 | | 129 | | 130 | | 132 | | 135 | | 138 | | 141 | | 143 | | 145 | | 145 | | 0.061 | |
| 65 | | 148 | | 147 | | 146 | | 145 | | 144 | | 142 | | 141 | | 138 | | 136 | | 134 | | 133 | | 132 | | 131 | | 130 | | 130 | | 130 | | 130 | | 132 | | 135 | | 139 | | 143 | | 144 | | 146 | | 146 | | 0.065 | |
| 68 | | 151 | | 150 | | 150 | | 148 | | 147 | | 144 | | 142 | | 138 | | 135 | | 133 | | 131 | | 131 | | 130 | | 130 | | 129 | | 130 | | 131 | | 134 | | 138 | | 141 | | 144 | | 147 | | 150 | | 151 | | 0.082 | |
| 71 | | 151 | | 150 | | 150 | | 148 | | 146 | | 143 | | 140 | | 136 | | 133 | | 130 | | 128 | | 127 | | 126 | | 126 | | 126 | | 127 | | 128 | | 131 | | 134 | | 139 | | 143 | | 146 | | 148 | | 149 | | 0.092 | |
|  | | **Measurement of roundness by Dial gauge deflections of 12-mm Diameter Aluminium (Al) Round Bar After Straightening** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | |
|  | | **Mean values of Dial Gauge Deflection Readings after straightening of 12 mm Aluminium (AL) round bar x 0.01 mm** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | |
|  | | **Angles in Degrees** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | |
| **Length in cm** | | **0o** | | **15o** | | **30o** | | **45o** | | **60o** | | **75o** | | **90o** | | **105o** | | **120o** | | **135o** | | **150o** | | **165o** | | **180o** | | **195o** | | **210o** | | **225o** | | **240o** | | **255o** | | **270o** | | **285o** | | **300o** | | **315o** | | **330o** | | **345o** | | **STD**  **DEV (mm)** | |
|  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| 13 | | 126 | | 127 | | 128 | | 128 | | 128 | | 129 | | 130 | | 129 | | 128 | | 126 | | 124 | | 122 | | 120 | | 120 | | 119 | | 120 | | 121 | | 121 | | 122 | | 122 | | 122 | | 123 | | 125 | | 125 | | 0.036 | |
| 20 | | 121 | | 122 | | 123 | | 123 | | 123 | | 125 | | 126 | | 125 | | 124 | | 123 | | 121 | | 119 | | 118 | | 117 | | 117 | | 118 | | 119 | | 119 | | 120 | | 119 | | 119 | | 120 | | 121 | | 121 | | 0.026 | |
| 30 | | 117 | | 117 | | 118 | | 118 | | 119 | | 120 | | 121 | | 120 | | 119 | | 117 | | 115 | | 114 | | 113 | | 113 | | 112 | | 113 | | 115 | | 115 | | 116 | | 116 | | 116 | | 116 | | 117 | | 117 | | 0.023 | |
| 40 | | 120 | | 120 | | 121 | | 121 | | 121 | | 122 | | 122 | | 121 | | 120 | | 118 | | 117 | | 115 | | 113 | | 112 | | 112 | | 113 | | 115 | | 116 | | 117 | | 117 | | 117 | | 118 | | 119 | | 120 | | 0.032 | |
| 45 | | 120 | | 120 | | 120 | | 120 | | 120 | | 121 | | 122 | | 120 | | 119 | | 117 | | 115 | | 114 | | 113 | | 112 | | 112 | | 114 | | 115 | | 116 | | 117 | | 117 | | 118 | | 118 | | 118 | | 118 | | 0.028 | |
| 50 | | 114 | | 114 | | 115 | | 115 | | 116 | | 116 | | 117 | | 116 | | 116 | | 114 | | 113 | | 112 | | 111 | | 110 | | 110 | | 111 | | 112 | | 113 | | 114 | | 113 | | 113 | | 113 | | 114 | | 114 | | 0.019 | |
| 60 | | 113 | | 113 | | 114 | | 114 | | 115 | | 115 | | 116 | | 115 | | 114 | | 113 | | 112 | | 111 | | 109 | | 109 | | 110 | | 111 | | 113 | | 113 | | 114 | | 113 | | 113 | | 113 | | 114 | | 113 | | 0.018 | |
| 70 | | 114 | | 114 | | 114 | | 114 | | 115 | | 115 | | 116 | | 115 | | 115 | | 112 | | 110 | | 109 | | 108 | | 108 | | 108 | | 109 | | 110 | | 111 | | 112 | | 112 | | 112 | | 112 | | 113 | | 113 | | 0.025 | |
| 80 | | 117 | | 117 | | 117 | | 116 | | 116 | | 116 | | 117 | | 116 | | 115 | | 113 | | 111 | | 110 | | 110 | | 110 | | 110 | | 112 | | 114 | | 114 | | 115 | | 113 | | 112 | | 114 | | 116 | | 116 | | 0.025 | |
| 90 | | 143 | | 142 | | 141 | | 141 | | 141 | | 141 | | 141 | | 141 | | 141 | | 139 | | 138 | | 137 | | 135 | | 135 | | 135 | | 136 | | 138 | | 140 | | 142 | | 141 | | 141 | | 141 | | 142 | | 142 | | 0.025 | |
| 100 | | 108 | | 107 | | 106 | | 106 | | 105 | | 105 | | 105 | | 105 | | 105 | | 104 | | 103 | | 102 | | 101 | | 101 | | 101 | | 103 | | 104 | | 106 | | 108 | | 108 | | 108 | | 108 | | 108 | | 108 | | 0.023 | |
| 110 | | 106 | | 105 | | 105 | | 105 | | 105 | | 105 | | 106 | | 106 | | 106 | | 105 | | 105 | | 103 | | 102 | | 102 | | 101 | | 102 | | 103 | | 105 | | 106 | | 106 | | 105 | | 105 | | 105 | | 105 | | 0.015 | |