Table A1 Details of the database.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample number | Specimen ID | *fc*  (MPa) | *bc*  (mm) | *h*0  (mm) | *ρt*  (%) | *fyt*  (MPa) | *ρc*  (%) | *Ef*  (GPa) | *ρf*  (%) | *ff*  (MPa) | Prestress level | *Na*  (kN) | *n* | *M*u, Exp  (kN•m) | Reference |
| 1 | 1P-20%PRE-15-2 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.022 | 4255 | 20 | 15.000 | 3 | 26.36 | Present study |
| 2 | 2P-0%PRE-15-2 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.022 | 4255 | 0 | 15.000 | 3 | 29.22 |
| 3 | 2P-20%PRE-0-0 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.045 | 4255 | 20 | 0 | 1 | 30.01 |
| 4 | 2P-20%PRE-15-1 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.045 | 4255 | 20 | 15.000 | 2 | 27.28 |
| 5 | 2P-20%PRE-15-2 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.045 | 4255 | 20 | 15.000 | 3 | 31.34 |
| 6 | 2P-20%PRE-9-2 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.045 | 4255 | 20 | 9.000 | 3 | 27.89 |
| 7 | 2P-20%PRE-12-2 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.045 | 4255 | 20 | 12.000 | 3 | 30.82 |
| 8 | 2P-40%PRE-15-2 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.045 | 4255 | 40 | 15.000 | 3 | 30.17 |
| 9 | 3P-20%PRE-15-2 | 14.52 | 150 | 210 | 0.718 | 597.85 | 0.718 | 240 | 0.067 | 4255 | 20 | 15.000 | 3 | 30.19 |
| 10 | PS1 | 30.40 | 350 | 180 | 1.23 | 400.00 | 0 | 125 | 0.191 | 3400 | 25 | 0 | 1 | 106.25 | [1] |
| 11 | PS2 | 30.40 | 350 | 180 | 1.23 | 400.00 | 0 | 125 | 0.191 | 3400 | 25 | 0 | 1 | 103.75 |
| 12 | CS1 | 30.40 | 350 | 180 | 1.23 | 400.00 | 0 | 125 | 0.191 | 3400 | 25 | 0 | 1 | 111.25 |
| 13 | CS2 | 30.40 | 350 | 180 | 1.23 | 400.00 | 0 | 125 | 0.191 | 3400 | 32 | 0 | 1 | 116.25 |
| 14 | B2 | 32.15 | 200 | 285 | 1.058 | 459.20 | 0.276 | 240 | 0.028 | 3513 | 0 | 0 | 0 | 93.60 | [2] |
| 15 | B3 | 32.15 | 200 | 285 | 1.058 | 459.20 | 0.276 | 240 | 0.028 | 3513 | 25 | 0 | 1 | 97.52 |
| 16 | B4 | 32.15 | 200 | 285 | 1.058 | 459.20 | 0.276 | 240 | 0.028 | 3513 | 25 | 0 | 1 | 105.53 |
| 17 | B5 | 32.15 | 200 | 285 | 1.058 | 459.20 | 0.276 | 240 | 0.028 | 3513 | 25 | 0 | 1 | 107.10 |
| 18 | CF-100 | 30.10 | 160 | 260 | 0.967 | 472.00 | 0.544 | 209.4 | 0.075 | 2804 | 22 | 0 | 1 | 62.40 | [3] |
| 19 | CF-200 | 30.10 | 160 | 260 | 0.967 | 472.00 | 0.544 | 209.4 | 0.075 | 2804 | 44 | 0 | 1 | 64.20 |
| 20 | B1 | 52.00 | 250 | 355 | 0.573 | 466.00 | 0.241 | 160 | 0.070 | 3064 | 26 | 0 | 1 | 125.93 | [4] |
| 21 | B2 | 52.00 | 250 | 355 | 0.573 | 466.00 | 0.241 | 160 | 0.070 | 3064 | 26 | 0 | 1 | 122.18 |
| 22 | BMT-1 | 21.50 | 360 | 270 | 0.621 | 435.00 | 0.315 | 175 | 0.130 | 2758 | 42 | 0 | 1 | 140.16 | [5] |
| 23 | BMT-2 | 21.50 | 360 | 270 | 0.621 | 435.00 | 0.315 | 175 | 0.130 | 2758 | 0 | 0 | 1 | 125.28 |
| 24 | EBLA-1 | 32.69 | 200 | 175 | 1.2 | 500.00 | 0.45 | 165 | 0.175 | 2800 | 0 | 0 | 0 | 39.20 | [6] |
| 25 | EBLA-2 | 32.69 | 200 | 175 | 1.2 | 500.00 | 0.45 | 165 | 0.175 | 2800 | 0 | 0 | 0 | 40.60 |
| 26 | EBPLA-1 | 36.18 | 200 | 175 | 1.2 | 500.00 | 0.449 | 165 | 0.175 | 2800 | 0 | 0 | 1 | 48.30 |
| 27 | EBPLA-2 | 36.18 | 200 | 175 | 1.2 | 500.00 | 0.449 | 165 | 0.175 | 2800 | 0 | 0 | 1 | 45.50 |
| 28 | B2 | 34.39 | 200 | 175 | 1.2 | 500.00 | 0.449 | 165 | 0.175 | 2800 | 40 | 0 | 1 | 54.60 | [7] |
| 29 | B3 | 34.39 | 200 | 175 | 1.2 | 500.00 | 0.449 | 165 | 0.175 | 2800 | 40 | 0 | 1 | 57.40 |
| 30 | LA-1 | 47.12 | 500 | 395 | 0.746 | 522.00 | 0.746 | 160 | 0.080 | 3200 | 30 | 0 | 1 | 424.00 | [8] |
| 31 | LA-2 | 47.12 | 500 | 395 | 0.746 | 522.00 | 0.746 | 160 | 0.080 | 3200 | 50 | 0 | 1 | 428.00 |
| 32 | LA-3 | 15.57 | 250 | 460 | 0.35 | 437.49 | 0.137 | 230 | 0.080 | 3300 | 24 | 0 | 1 | 277.50 |
| 33 | LA-4 | 15.57 | 250 | 460 | 0.35 | 437.49 | 0.137 | 230 | 0.080 | 3300 | 26 | 0 | 1 | 345.00 |
| 34 | LB-1 | 15.57 | 250 | 460 | 0.35 | 437.49 | 0.137 | 230 | 0.080 | 3300 | 27 | 0 | 1 | 320.00 |
| 35 | LB-2 | 15.57 | 250 | 460 | 0.35 | 437.49 | 0.137 | 160 | 0.120 | 2400 | 31 | 0 | 1 | 142.00 |
| 36 | LC-1 | 23.59 | 250 | 460 | 0.661 | 440.97 | 0.137 | 230 | 0.080 | 3300 | 25 | 0 | 1 | 338.50 |
| 37 | LC-2 | 23.59 | 250 | 460 | 0.661 | 440.97 | 0.137 | 230 | 0.080 | 3300 | 26 | 0 | 1 | 364.50 |
| 38 | SB-00P | 40.32 | 250 | 460 | 0.992 | 440.97 | 0.137 | 230 | 0.053 | 3300 | 25 | 0 | 1 | 315.00 | [9] |
| 39 | SB-20P | 40.32 | 250 | 460 | 0.992 | 440.97 | 0.137 | 230 | 0.080 | 3300 | 23 | 0 | 1 | 383.00 |
| 40 | SB-40P | 30.10 | 160 | 250 | 1.571 | 425.00 | 1.571 | 171 | 0.313 | 2450 | 0 | 0 | 1 | 105.49 |
| 41 | SB-40P | 30.10 | 160 | 250 | 1.571 | 425.00 | 1.571 | 171 | 0.313 | 2450 | 20 | 0 | 1 | 124.11 |
| 42 | SB-40P | 30.10 | 160 | 250 | 1.571 | 425.00 | 1.571 | 171 | 0.313 | 2450 | 40 | 0 | 1 | 149.88 |
| 43 | G-NP | 30.10 | 160 | 250 | 1.571 | 425.00 | 1.571 | 171 | 0.313 | 2450 | 42.07 | 0 | 1 | 150.43 | [10] |
| 44 | E-P20-A | 30.10 | 160 | 250 | 1.571 | 425.00 | 1.571 | 171 | 0.313 | 2450 | 40.94 | 0 | 1 | 150.98 |
| 45 | BM2 | 30.10 | 200 | 270 | 0.855 | 437.00 | 0.419 | 210 | 0.117 | 3200 | 0 | 0 | 0 | 81.98 | [11] |
| 46 | BM3 | 33.30 | 200 | 270 | 0.855 | 437.00 | 0.419 | 210 | 0.117 | 3200 | 20 | 0 | 1 | 81.57 |
| 47 | BM4 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.014 | 4192 | 25 | 0 | 1 | 87.00 |
| 48 | BM5 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.014 | 4192 | 50 | 20.000 | 7 | 93.00 |
| 49 | BM6 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.014 | 4192 | 75 | 20.000 | 7 | 94.50 |
| 50 | BM7 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.028 | 4192 | 25 | 20.000 | 7 | 124.50 |
| 51 | BM8 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.028 | 4192 | 50 | 0 | 1 | 126.00 |
| 52 | BM9 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.028 | 4192 | 75 | 20.000 | 7 | 126.80 |
| 53 | BM2-1 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.042 | 4192 | 50 | 20.000 | 7 | 135.00 | [12] |
| 54 | BM3 | 27.36 | 300 | 375 | 0.452 | 427.26 | 0.201 | 240 | 0.042 | 4192 | 75 | 20.000 | 7 | 138.00 |
| 55 | BM4 | 31.39 | 300 | 375 | 0.452 | 427.26 | 0.201 | 243 | 0.028 | 4192 | 0 | 20.000 | 7 | 154.00 |
| 56 | BM5-1 | 31.39 | 300 | 375 | 0.452 | 427.26 | 0.201 | 243 | 0.028 | 4192 | 16.6 | 0 | 1 | 140.00 |
| 57 | BM6-1 | 31.39 | 300 | 375 | 0.452 | 427.26 | 0.201 | 243 | 0.028 | 4192 | 23.2 | 0 | 1 | 145.60 |
| 58 | B | 31.39 | 300 | 375 | 0.452 | 427.26 | 0.201 | 243 | 0.028 | 4192 | 29.8 | 0 | 1 | 154.00 | [13] |
| 59 | C | 31.39 | 300 | 375 | 0.452 | 427.26 | 0.201 | 243 | 0.028 | 4192 | 29.8 | 20.000 | 7 | 168.00 |
| 60 | NS | 31.39 | 200 | 280 | 0.718 | 450.00 | 0.28 | 223.5 | 0.055 | 3232.3 | 13.2 | 0 | 1 | 59.29 | [14] |
| 61 | PS1 | 31.39 | 200 | 280 | 0.718 | 450.00 | 0.28 | 223.5 | 0.055 | 3232.3 | 25 | 0 | 1 | 69.23 |
| 62 | PS2 | 33.00 | 150 | 280 | 0.733 | 365.00 | 0.733 | 256 | 0.037 | 4286 | 0 | 0 | 1 | 94.40 |
| 63 | PS3 | 19.80 | 150 | 280 | 0.733 | 365.00 | 0.733 | 256 | 0.037 | 4286 | 12.73 | 0 | 1 | 109.60 |
| 64 | PS4 | 15.90 | 150 | 280 | 0.733 | 365.00 | 0.733 | 256 | 0.037 | 4286 | 16.88 | 0 | 1 | 88.80 |
| 65 | WPS1 | 19.80 | 150 | 280 | 0.733 | 365.00 | 0.733 | 256 | 0.037 | 4286 | 20.2 | 0 | 1 | 95.20 |
| 66 | WPS2 | 19.80 | 150 | 280 | 0.733 | 365.00 | 0.733 | 256 | 0.037 | 4286 | 26.68 | 0 | 1 | 106.40 |
| 67 | 102 | 21.90 | 150 | 280 | 0.733 | 365.00 | 0.733 | 256 | 0.020 | 4286 | 27.31 | 0 | 1 | 82.40 | [15] |
| 68 | 103 | 33.00 | 150 | 280 | 0.733 | 365.00 | 0.733 | 256 | 0.030 | 4286 | 25.34 | 0 | 1 | 88.00 |
| 69 | 122 | 33.00 | 150 | 230 | 0.455 | 300.00 | 0.455 | 230 | 0.068 | 3900 | 0 | 0 | 0 | 26.02 |
| 70 | 123 | 33.00 | 150 | 230 | 0.455 | 300.00 | 0.455 | 230 | 0.136 | 3900 | 0 | 0 | 0 | 31.18 |
| 71 | 162 | 33.00 | 150 | 230 | 0.656 | 300.00 | 0.455 | 230 | 0.068 | 3900 | 0 | 0 | 0 | 31.24 |
| 72 | 163 | 33.00 | 150 | 230 | 0.656 | 300.00 | 0.455 | 230 | 0.136 | 3900 | 0 | 0 | 0 | 36.46 |
| 73 | BC | 33.00 | 150 | 230 | 1.166 | 300.00 | 0.455 | 230 | 0.068 | 3900 | 0 | 0 | 0 | 44.09 | [16] |
| 74 | BPC-30-1 | 33.00 | 150 | 230 | 1.166 | 300.00 | 0.455 | 230 | 0.136 | 3900 | 0 | 0 | 0 | 44.80 |
| 75 | BPC-40-1 | 40.13 | 150 | 265 | 0.799 | 335.00 | 0.799 | 258.9 | 0.052 | 3522 | 0 | 0 | 1 | 23.37 |
| 76 | BPC-50-1 | 40.13 | 150 | 265 | 0.799 | 335.00 | 0.799 | 258.9 | 0.052 | 3522 | 36 | 0 | 1 | 24.21 |
| 77 | BPC-60-1 | 40.13 | 150 | 265 | 0.799 | 335.00 | 0.799 | 258.9 | 0.052 | 3522 | 40 | 0 | 1 | 24.57 |
| 78 | BPC-30-2 | 40.13 | 150 | 265 | 0.799 | 335.00 | 0.799 | 258.9 | 0.052 | 3522 | 50 | 0 | 1 | 25.38 |
| 79 | BPC-30-2a | 40.13 | 150 | 265 | 0.799 | 335.00 | 0.799 | 258.9 | 0.052 | 3522 | 60 | 0 | 1 | 25.59 |
| 80 | BP20 | 40.13 | 150 | 265 | 0.799 | 335.00 | 0.799 | 258.9 | 0.104 | 3522 | 28 | 0 | 1 | 34.50 | [17] |
| 81 | BP40 | 40.13 | 150 | 265 | 0.799 | 335.00 | 0.799 | 258.9 | 0.104 | 3522 | 30 | 0 | 1 | 34.80 |
| 82 | BP60 | 16.40 | 200 | 270 | 0.436 | 475.00 | 0.737 | 173 | 0.108 | 2350 | 20 | 0 | 1 | 73.80 |
| 83 | BP70 | 16.40 | 200 | 270 | 0.436 | 475.00 | 0.737 | 173 | 0.108 | 2350 | 40 | 0 | 1 | 75.12 |
| 84 | PFCB1-2R | 16.40 | 200 | 270 | 0.436 | 475.00 | 0.737 | 173 | 0.108 | 2350 | 70 | 0 | 1 | 75.90 | [18] |
| 85 | PFCB1-4R | 16.40 | 200 | 270 | 0.436 | 420.00 | 0.737 | 165 | 0.117 | 2161 | 20 | 0 | 1 | 72.90 |
| 86 | PFCB1-6R | 16.40 | 200 | 270 | 0.436 | 420.00 | 0.737 | 165 | 0.117 | 2161 | 20 | 0 | 1 | 73.80 |
| 87 | PFCB1-7R | 16.40 | 200 | 270 | 0.436 | 420.00 | 0.737 | 165 | 0.117 | 2161 | 40 | 0 | 1 | 75.12 |
| 88 | PC-1 | 16.40 | 200 | 270 | 0.436 | 420.00 | 0.737 | 165 | 0.117 | 2161 | 60 | 0 | 1 | 73.68 | [10] |
| 89 | PC-2 | 16.40 | 200 | 270 | 0.436 | 420.00 | 0.737 | 165 | 0.117 | 2161 | 70 | 0 | 1 | 75.90 |
| 90 | PC-3 | 39.75 | 150 | 225 | 1.247 | 288.81 | 0.168 | 150 | 0.187 | 2500 | 42.1 | 0 | 1 | 62.61 |
| 91 | PC-4 | 39.75 | 150 | 225 | 1.247 | 288.81 | 0.168 | 150 | 0.075 | 2500 | 44.1 | 0 | 1 | 48.76 |
| 92 | PC-5 | 39.75 | 150 | 225 | 1.005 | 339.29 | 0.168 | 150 | 0.075 | 2500 | 50.6 | 0 | 1 | 43.06 |
| 93 | PC-6 | 39.75 | 150 | 225 | 1.508 | 281.85 | 0.168 | 150 | 0.075 | 2500 | 31.5 | 0 | 1 | 52.44 |
| 94 | PC-7 | 39.75 | 150 | 225 | 1.508 | 281.85 | 0.168 | 150 | 0.075 | 2500 | 43.5 | 0 | 1 | 54.63 |
| 95 | PC-8 | 47.50 | 150 | 225 | 1.247 | 288.81 | 0.168 | 150 | 0.075 | 2500 | 50 | 0 | 1 | 44.20 |
| 96 | PC-9 | 47.50 | 150 | 225 | 1.247 | 288.81 | 0.168 | 150 | 0.075 | 2500 | 40 | 0 | 1 | 43.52 |
| 97 | PC-10 | 47.50 | 150 | 225 | 1.247 | 288.81 | 0.168 | 150 | 0.037 | 2500 | 60 | 0 | 1 | 39.63 |
| 98 | PC-11 | 47.50 | 150 | 225 | 3.379 | 300.00 | 0.168 | 150 | 0.075 | 2500 | 60 | 0 | 1 | 90.49 |
| 99 | PC-12 | 47.50 | 150 | 225 | 4.505 | 300.00 | 0.168 | 150 | 0.075 | 2500 | 60 | 0 | 1 | 112.29 |
| 100 | PC-13 | 47.50 | 150 | 225 | 1.247 | 288.81 | 0.168 | 150 | 0.075 | 2500 | 60 | 0 | 1 | 45.68 |
| 101 | B | 47.50 | 150 | 225 | 1.247 | 288.81 | 0.168 | 150 | 0.075 | 2500 | 60 | 0 | 1 | 45.24 | [20] |
| 102 | C | 47.50 | 150 | 225 | 1.508 | 281.85 | 0.168 | 150 | 0.075 | 2500 | 40 | 0 | 1 | 49.12 |
| 103 | PFCU1-0R | 31.16 | 200 | 280 | 0.83 | 450.00 | 0.28 | 223.5 | 0.055 | 3232.3 | 13.2 | 0 | 1 | 60.31 | [21] |
| 104 | PFCU1 4R | 31.16 | 200 | 280 | 0.83 | 450.00 | 0.28 | 223.5 | 0.055 | 3232.3 | 25 | 0 | 1 | 69.83 |
| 105 | PFCU1 6R | 15.58 | 200 | 270 | 0.436 | 466.20 | 0.737 | 173 | 0.108 | 2350 | 60 | 0 | 1 | 73.50 |
| 106 | D2 | 15.58 | 200 | 270 | 0.436 | 466.20 | 0.737 | 173 | 0.108 | 2350 | 0 | 0 | 1 | 69.00 | [22] |
| 107 | Z1 | 15.58 | 200 | 270 | 0.436 | 466.20 | 0.737 | 173 | 0.108 | 2350 | 40 | 0 | 1 | 72.42 |
| 108 | Z2 | 33.00 | 150 | 270 | 0.76 | 365.00 | 0.76 | 256 | 0.037 | 4286 | 0 | 0 | 0 | 47.20 |
| 109 | Z3 | 19.80 | 150 | 270 | 0.76 | 365.00 | 0.76 | 256 | 0.037 | 4286 | 12.5 | 0 | 1 | 54.80 |
| 110 | Z4 | 15.90 | 150 | 270 | 0.76 | 365.00 | 0.76 | 256 | 0.037 | 4286 | 16.5 | 0 | 1 | 44.40 |
| 111 | J1 | 19.80 | 150 | 270 | 0.76 | 365.00 | 0.76 | 256 | 0.037 | 4286 | 19.8 | 0 | 1 | 47.60 |
| 112 | J2 | 19.80 | 150 | 270 | 0.76 | 365.00 | 0.76 | 256 | 0.037 | 4286 | 26.1 | 0 | 1 | 53.20 |
| 113 | L1-1-0 | 21.90 | 150 | 270 | 0.76 | 365.00 | 0.76 | 256 | 0.020 | 4286 | 26.8 | 0 | 1 | 41.20 | [23] |
| 114 | L1-2-0 | 33.00 | 150 | 270 | 0.76 | 365.00 | 0.76 | 256 | 0.030 | 4286 | 24.8 | 0 | 1 | 44.00 |
| 115 | L1-2-0-B | 26.14 | 150 | 225 | 0.67 | 355.40 | 0.298 | 226 | 0.045 | 2199 | 0 | 0 | 0 | 22.92 |
| 116 | L2-2-0 | 26.14 | 150 | 225 | 0.67 | 355.40 | 0.298 | 226 | 0.089 | 2199 | 0 | 0 | 0 | 26.08 |
| 117 | L2-2-0-B | 26.14 | 150 | 225 | 0.67 | 355.40 | 0.298 | 226 | 0.089 | 2199 | 0 | 0 | 0 | 30.80 |
| 118 | L2-3-0 | 26.14 | 150 | 225 | 1.191 | 344.10 | 0.298 | 226 | 0.089 | 2199 | 0 | 0 | 0 | 40.40 |
| 119 | YL1-0 | 26.14 | 150 | 225 | 1.191 | 344.10 | 0.298 | 226 | 0.089 | 2199 | 0 | 0 | 0 | 44.68 |
| 120 | YL1-0-B | 26.14 | 150 | 225 | 1.191 | 344.10 | 0.298 | 226 | 0.134 | 2199 | 0 | 0 | 0 | 34.20 |
| 121 | YL2-0-A | 26.14 | 150 | 225 | 0.67 | 355.40 | 0.298 | 226 | 0.045 | 2199 | 30.3 | 0 | 1 | 25.72 |
| 122 | YL2-0-B | 26.14 | 150 | 225 | 0.67 | 355.40 | 0.298 | 226 | 0.045 | 2199 | 30.6 | 0 | 1 | 26.36 |
| 123 | FYL-1 | 26.14 | 150 | 225 | 0.67 | 355.40 | 0.298 | 226 | 0.089 | 2199 | 40.6 | 0 | 1 | 29.64 | [24] |
| 124 | FYL-2 | 26.14 | 150 | 225 | 0.67 | 355.40 | 0.298 | 226 | 0.089 | 2199 | 40.9 | 0 | 1 | 34.68 |
| 125 | YL-1 | 40.62 | 150 | 225 | 0.912 | 361.80 | 0.912 | 227 | 0.067 | 4330 | 0 | 0 | 0 | 26.47 |
| 126 | YRL-1 | 40.62 | 150 | 225 | 0.912 | 361.80 | 0.912 | 227 | 0.067 | 4330 | 0 | 0 | 1 | 32.82 |
| 127 | YRL-2 | 38.05 | 150 | 225 | 0.912 | 361.80 | 0.912 | 227 | 0.067 | 4330 | 24 | 0 | 1 | 30.72 |
| 128 | YRL-3 | 38.05 | 150 | 225 | 0.912 | 361.80 | 0.912 | 227 | 0.067 | 4330 | 27 | 0 | 1 | 29.51 |
| 129 | YRL-4 | 40.04 | 150 | 225 | 0.912 | 361.80 | 0.912 | 227 | 0.067 | 4330 | 26 | 0 | 1 | 35.16 |
| 130 | SHRS1 | 40.04 | 150 | 225 | 0.912 | 361.80 | 0.912 | 227 | 0.067 | 4330 | 2 | 0 | 1 | 30.12 | [25] |
| 131 | SHRS2 | 40.62 | 150 | 225 | 0.912 | 361.80 | 0.912 | 227 | 0.067 | 4330 | 35 | 0 | 1 | 39.31 |
| 132 | SHPRS1 | 19.00 | 100 | 130 | 0.773 | 309.90 | 0.193 | 230 | 0.100 | 4200 | 24.9 | 0 | 1 | 6.30 |
| 133 | SHPRS2 | 19.00 | 100 | 130 | 0.773 | 309.90 | 0.193 | 230 | 0.100 | 4200 | 24.9 | 0 | 1 | 9.80 |
| 134 | SHPRS3 | 19.00 | 100 | 130 | 0.773 | 309.90 | 0.193 | 230 | 0.100 | 4200 | 24.9 | 0 | 1 | 9.10 |
| 135 | SHPRS4 | 19.00 | 100 | 130 | 0.773 | 309.90 | 0.193 | 230 | 0.100 | 4200 | 14 | 0 | 1 | 7.53 |
| 136 | SHPRS5 | 19.00 | 100 | 130 | 0.773 | 309.90 | 0.193 | 230 | 0.100 | 4200 | 34.2 | 0 | 1 | 8.75 |
| 137 | RS1 | 26.90 | 160 | 280 | 1.402 | 352.00 | 0.056 | 163 | 0.146 | 2818 | 0 | 0 | 0 | 63.60 |
| 138 | RS2 | 29.41 | 160 | 280 | 1.402 | 352.00 | 0.056 | 163 | 0.146 | 2818 | 0 | 0 | 0 | 66.24 |
| 139 | RS3 | 29.64 | 160 | 280 | 1.402 | 352.00 | 0.056 | 163 | 0.292 | 2818 | 0 | 0 | 0 | 72.00 |
| 140 | PRS1 | 25.99 | 160 | 280 | 1.402 | 352.00 | 0.056 | 163 | 0.146 | 2818 | 23 | 0 | 1 | 83.76 |
| 141 | PRS2 | 30.63 | 160 | 280 | 1.402 | 352.00 | 0.056 | 163 | 0.146 | 2818 | 35 | 0 | 1 | 88.20 |
| 142 | PRS3 | 33.90 | 160 | 280 | 1.402 | 352.00 | 0.056 | 163 | 0.131 | 2818 | 43 | 0 | 1 | 95.40 |
| 143 | PRS4 | 33.52 | 160 | 280 | 1.402 | 352.00 | 0.056 | 163 | 0.146 | 2818 | 35 | 0 | 1 | 98.40 |
| 144 | US322 | 25.99 | 250 | 580 | 0.786 | 368.00 | 0.156 | 163 | 0.080 | 2818 | 0 | 0 | 0 | 237.50 |
| 145 | PRS322 | 24.40 | 250 | 580 | 0.786 | 368.00 | 0.156 | 163 | 0.080 | 2818 | 35 | 0 | 1 | 360.00 |
| 146 | RS422 | 30.25 | 250 | 580 | 1.049 | 368.00 | 0.156 | 163 | 0.080 | 2818 | 0 | 0 | 1 | 325.00 |
| 147 | RC-N | 53.96 | 300 | 460 | 0.514 | 536.00 | 0.223 | 166 | 0.080 | 2780 | 0 | 0 | 1 | 156.80 | [26] |
| 148 | RC-EA | 53.96 | 300 | 460 | 0.514 | 536.00 | 0.223 | 166 | 0.064 | 2780 | 0 | 0 | 1 | 118.69 |
| 149 | RC-PrEA | 53.96 | 300 | 460 | 0.514 | 536.00 | 0.223 | 166 | 0.064 | 2780 | 33 | 0 | 1 | 206.72 |
| 150 | M4-III | 26.40 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 40 | 0 | 1 | 67.64 | [27] |
| 151 | M6-III | 26.40 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 60 | 0 | 1 | 71.02 |
| 152 | M8-III | 26.40 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 80 | 0 | 1 | 75.04 |
| 153 | M4-I | 26.40 | 400 | 190 | 0.3 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 40 | 0 | 1 | 49.01 |
| 154 | M6-I | 26.40 | 400 | 190 | 0.3 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 60 | 0 | 1 | 52.40 |
| 155 | M8-I | 26.40 | 400 | 190 | 0.3 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 80 | 0 | 1 | 54.36 |
| 156 | M6-II | 26.40 | 400 | 190 | 0.55 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 60 | 0 | 1 | 65.50 |
| 157 | M8-1I | 26.40 | 400 | 190 | 0.55 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 80 | 0 | 1 | 69.77 |
| 158 | M6-1V | 26.40 | 400 | 190 | 1.26 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 60 | 0 | 1 | 87.60 |
| 159 | M8-1V | 26.40 | 400 | 190 | 1.26 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 80 | 0 | 1 | 91.16 |
| 160 | L6-III | 20.60 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 60 | 0 | 1 | 67.01 |
| 161 | L8-III | 20.60 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 80 | 0 | 1 | 73.16 |
| 162 | H6-III | 35.60 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 60 | 0 | 1 | 75.14 |
| 163 | H8-III | 35.60 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 80 | 0 | 1 | 76.10 |
| 164 | U7-I | 44.10 | 400 | 190 | 0.3 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 70 | 0 | 1 | 63.18 |
| 165 | U7-II | 44.10 | 400 | 190 | 0.55 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 70 | 0 | 1 | 75.21 |
| 166 | U7-III | 44.10 | 400 | 190 | 0.86 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 70 | 0 | 1 | 82.97 |
| 167 | U8-IV | 44.10 | 400 | 190 | 1.26 | 400.00 | 0.188 | 165 | 0.080 | 2850 | 70 | 0 | 1 | 102.30 |
| 168 | CFBF-2 | 31.24 | 195 | 398 | 0.656 | 372.50 | 0.13 | 263 | 0.027 | 2855.1 | 0 | 0 | 0 | 103.56 | [28] |
| 169 | CFBF-5 | 35.92 | 196 | 402 | 0.646 | 372.50 | 0.128 | 263 | 0.027 | 2855.1 | 30 | 0 | 1 | 125.40 |
| 170 | CFBF-6 | 35.50 | 196 | 398 | 0.652 | 372.50 | 0.129 | 263 | 0.027 | 2855.1 | 30 | 0 | 1 | 90.36 |
| 171 | 1 | 16.34 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 0 | 0 | 0 | 8.05 | [29] |
| 172 | 2 | 16.34 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 0 | 0 | 0 | 9.10 |
| 173 | 3 | 15.50 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 0 | 0 | 0 | 6.65 |
| 174 | 4 | 15.50 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 0 | 0 | 0 | 7.88 |
| 175 | 5 | 16.34 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 42.26 | 0 | 1 | 6.30 |
| 176 | 6 | 15.50 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 42.26 | 0 | 1 | 9.80 |
| 177 | 7 | 21.89 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 42.26 | 0 | 1 | 9.10 |
| 178 | 8 | 21.89 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 23.24 | 0 | 1 | 7.53 |
| 179 | 9 | 21.89 | 100 | 150 | 0.67 | 309.90 | 0.168 | 207.2 | 0.227 | 2941 | 59.16 | 0 | 1 | 8.75 |
| 180 | 1U,1.0m | 41.04 | 100 | 90 | 0.942 | 350.00 | 0.628 | 111 | 0.536 | 1414 | 0 | 0 | 0 | 6.20 | [30] |
| 181 | 2U,1.0m | 41.04 | 100 | 90 | 0.942 | 350.00 | 0.628 | 111 | 0.536 | 1414 | 0 | 0 | 1 | 9.05 |
| 182 | 3U,1.0m | 41.04 | 100 | 90 | 0.942 | 350.00 | 0.628 | 111 | 0.536 | 1414 | 0 | 0 | 1 | 8.29 |
| 183 | 4P,1.0m | 41.04 | 100 | 90 | 0.942 | 350.00 | 0.628 | 111 | 0.536 | 1414 | 23.5 | 0 | 1 | 9.04 |
| 184 | 5P,1.0m | 41.04 | 100 | 90 | 0.942 | 350.00 | 0.628 | 111 | 0.536 | 1414 | 23.7 | 0 | 1 | 7.96 |
| 185 | 6P,1.0m | 41.04 | 100 | 90 | 0.942 | 350.00 | 0.628 | 111 | 0.536 | 1414 | 47.2 | 0 | 1 | 9.20 |
| 186 | 1U,4.5m,2 bars | 35.72 | 145 | 217 | 1.767 | 556.00 | 0.32 | 115 | 0.351 | 1284 | 0 | 0 | 0 | 48.43 |
| 187 | 2P,4.5m,2 bars | 35.72 | 145 | 217 | 1.767 | 556.00 | 0.32 | 115 | 0.351 | 1284 | 26.5 | 0 | 1 | 51.50 |
| 188 | 3P,4.5m,3 bars | 35.72 | 145 | 217 | 1.767 | 556.00 | 0.32 | 115 | 0.351 | 1284 | 26.2 | 0 | 1 | 56.91 |
| 189 | 4P,4.5m,3 bars | 35.72 | 145 | 217 | 1.767 | 556.00 | 0.32 | 115 | 0.351 | 1284 | 33.6 | 0 | 1 | 58.77 |
| 190 | 5P,4.5m,3 bars | 35.72 | 145 | 217 | 1.767 | 556.00 | 0.32 | 115 | 0.351 | 1284 | 46.6 | 0 | 1 | 61.75 |
| 191 | S1 | 60.80 | 300 | 120 | 0.436 | 343.00 | 0 | 257 | 0.037 | 4519 | 0 | 0 | 0 | 9.54 | [31] |
| 192 | S2 | 61.71 | 300 | 120 | 0.436 | 349.00 | 0 | 257 | 0.037 | 4519 | 0 | 12.000 | 18 | 17.11 |
| 193 | S3 | 62.32 | 300 | 120 | 0.436 | 332.00 | 0 | 257 | 0.073 | 4519 | 0 | 12.000 | 18 | 27.18 |
| 194 | S4 | 62.32 | 300 | 120 | 0.436 | 346.00 | 0 | 257 | 0.110 | 4519 | 0 | 12.000 | 18 | 35.13 |
| 195 | EB1-a-T | 36.33 | 180 | 310 | 0.721 | 396.60 | 0.721 | 242 | 0.080 | 4356 | 0 | 0 | 0 | 64.70 | [32] |
| 196 | HB2-200a-T | 33.90 | 180 | 310 | 0.721 | 396.60 | 0.721 | 242 | 0.080 | 4356 | 0 | 12.000 | 11 | 69.70 |
| 197 | HB3-150a-T | 34.50 | 180 | 310 | 0.721 | 396.60 | 0.721 | 242 | 0.080 | 4356 | 0 | 12.000 | 15 | 93.80 |
| 198 | HB4-125a-T | 34.50 | 180 | 310 | 0.721 | 396.60 | 0.721 | 242 | 0.080 | 4356 | 0 | 12.000 | 17 | 90.90 |
| 199 | HB5-100a-T | 42.64 | 180 | 310 | 0.721 | 396.60 | 0.721 | 242 | 0.080 | 4356 | 0 | 12.000 | 21 | 98.90 |
| 200 | HB6-200b-F | 43.40 | 350 | 310 | 0.371 | 396.60 | 0.371 | 242 | 0.080 | 4356 | 0 | 12.000 | 11 | 40.80 |
| 201 | HB7-100b-F | 43.40 | 350 | 310 | 0.371 | 396.60 | 0.371 | 242 | 0.080 | 4356 | 0 | 12.000 | 17 | 48.60 |
| 202 | EB8-b-F | 43.40 | 350 | 310 | 0.371 | 396.60 | 0.371 | 242 | 0.080 | 4356 | 0 | 0 | 0 | 29.70 |
| 203 | HB9-100b-T | 43.17 | 350 | 310 | 0.371 | 479.90 | 0.371 | 242 | 0.080 | 4356 | 0 | 12.000 | 21 | 61.40 |
| 204 | HB1-250a-10 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 7.645 | 9 | 126.40 | [33] |
| 205 | HB2-250a-20 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 15.291 | 9 | 138.10 |
| 206 | HB3-250b-10 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 7.645 | 9 | 105.20 |
| 207 | HB4-250c-20 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 15.291 | 9 | 157.30 |
| 208 | HB5-500a-20 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 15.291 | 5 | 120.10 |
| 209 | HB6-500a-10/20 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 7.645 | 5 | 120.00 |
| 210 | HB7-200/350a-10/20 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 7.645 | 9 | 106.40 |
| 211 | HB8-EAa-20 | 39.12 | 250 | 320 | 0.385 | 420.03 | 0.196 | 160 | 0.114 | 2400 | 0 | 15.291 | 1 | 113.40 |
| 212 | EB-1-0 | 20.00 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 0 | 0 | 21.74 | [34] |
| 213 | HB-1-3 | 20.00 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 3.440 | 11 | 22.71 |
| 214 | HB-1-6 | 20.00 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 6.881 | 11 | 24.56 |
| 215 | HB-1-12 | 20.00 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 13.761 | 11 | 25.32 |
| 216 | EB-4-0 | 31.70 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.128 | 4103.5 | 0 | 0.000 | 0 | 25.36 |
| 217 | HB-4-10 | 31.70 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.128 | 4103.5 | 0 | 11.468 | 11 | 28.13 |
| 218 | HB-4-15 | 31.70 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.128 | 4103.5 | 0 | 17.202 | 11 | 35.08 |
| 219 | HB-4-20 | 31.70 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.128 | 4103.5 | 0 | 22.936 | 11 | 38.37 |
| 220 | EB-2-0 | 19.23 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 0 | 0 | 24.04 | [35] |
| 221 | EAB-2-10 | 19.23 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 0 | 1 | 26.76 |
| 222 | EAB-2-16 | 19.23 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 0 | 1 | 27.62 |
| 223 | EAB-2-20 | 19.23 | 150 | 210 | 0.718 | 454.11 | 0.319 | 270.5 | 0.032 | 4103.5 | 0 | 0 | 1 | 28.55 |
| 224 | A-2-R | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 0 | 0 | 6.56 | [36] |
| 225 | A-2-100-N | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 18 | 12.10 |
| 226 | A-2-150-Y | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 11 | 10.02 |
| 227 | A-3-150-Y | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.056 | 3719 | 0 | 17.202 | 11 | 15.97 |
| 228 | A-4-100-N | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 18 | 20.98 |
| 229 | A-4-100-Y | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 18 | 20.16 |
| 230 | A-4-150-Y | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 11 | 17.19 |
| 231 | A-4-200-N | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 8 | 14.91 |
| 232 | A-5-100-Y | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.093 | 3719 | 0 | 17.202 | 18 | 22.44 |
| 233 | A-6-100-N | 50.16 | 300 | 110 | 0.241 | 335.00 | 0.305 | 242 | 0.111 | 3719 | 0 | 17.202 | 18 | 27.86 |
| 234 | B-2-R | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 1 | 9.57 |
| 235 | B-2-100 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 18 | 13.32 |
| 236 | B-2-150 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 11 | 14.91 |
| 237 | B-3-100 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.056 | 3719 | 0 | 17.202 | 18 | 16.41 |
| 238 | B-3-150 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.056 | 3719 | 0 | 17.202 | 11 | 15.03 |
| 239 | B-3-200 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.056 | 3719 | 0 | 17.202 | 8 | 17.31 |
| 240 | B-4-100 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 18 | 19.63 |
| 241 | B-4-150 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 11 | 20.53 |
| 242 | B-4-200 | 50.16 | 300 | 110 | 0.482 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 8 | 21.38 |
| 243 | C-2-R | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 1 | 11.53 |
| 244 | C-2-100 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 18 | 15.23 |
| 245 | C-2-150 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.037 | 3719 | 0 | 17.202 | 11 | 16.70 |
| 246 | C-3-100 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.056 | 3719 | 0 | 17.202 | 18 | 18.69 |
| 247 | C-3-150 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.056 | 3719 | 0 | 17.202 | 11 | 19.47 |
| 248 | C-3-200 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.056 | 3719 | 0 | 17.202 | 8 | 20.32 |
| 249 | C-4-100 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 18 | 23.01 |
| 250 | C-4-150 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 11 | 26.27 |
| 251 | C-4-200 | 50.16 | 300 | 110 | 0.725 | 335.00 | 0.305 | 242 | 0.074 | 3719 | 0 | 17.202 | 8 | 24.36 |
| 252 | D-6-100 | 50.16 | 400 | 160 | 0.124 | 335.00 | 0.157 | 242 | 0.063 | 3719 | 0 | 17.202 | 18 | 35.42 |
| 253 | D-7-100 | 50.16 | 400 | 160 | 0.124 | 335.00 | 0.157 | 242 | 0.073 | 3719 | 0 | 17.202 | 18 | 42.57 |
| 254 | S1\_EBR\_L | 41.99 | 120 | 142 | 0.23 | 788.00 | 0.39 | 159 | 0.066 | 2740 | 0 | 0 | 0 | 5.79 | [37] |
| 255 | S2\_EBR\_L | 41.99 | 120 | 141 | 0.39 | 627.00 | 0.39 | 159 | 0.131 | 2740 | 0 | 0 | 0 | 12.53 |
| 256 | S3\_EBR\_L | 41.99 | 120 | 141 | 0.59 | 627.00 | 0.39 | 159 | 0.197 | 2740 | 0 | 0 | 0 | 12.98 |
| 257 | S1\_EBR\_M | 41.99 | 120 | 142 | 0.23 | 788.00 | 0.39 | 240 | 0.044 | 2740 | 0 | 0 | 0 | 6.54 |
| 258 | S2\_EBR\_M | 41.99 | 120 | 141 | 0.39 | 627.00 | 0.39 | 240 | 0.087 | 2740 | 0 | 0 | 0 | 11.93 |
| 259 | S3\_EBR\_M | 41.99 | 120 | 141 | 0.59 | 627.00 | 0.39 | 240 | 0.131 | 2740 | 0 | 0 | 0 | 13.10 |
| 260 | F01-SR-P | 28.61 | 120 | 170 | 0.493 | 445.00 | 0.493 | 205 | 0.039 | 3536 | 22.07 | 0 | 1 | 23.13 | [38] |
| 261 | F02-SR-P | 28.61 | 120 | 170 | 0.493 | 445.00 | 0.493 | 205 | 0.186 | 3536 | 5.39 | 0 | 1 | 29.28 |
| 262 | F03-SR-P | 28.61 | 120 | 170 | 0.493 | 445.00 | 0.493 | 205 | 0.278 | 3536 | 4.29 | 0 | 1 | 24.15 |
| 263 | A2 | 25.54 | 100 | 150 | 1.047 | 452.00 | 0.67 | 230 | 0.093 | 3450 | 0 | 0 | 0 | 16.46 | [39] |
| 264 | A3 | 25.54 | 100 | 150 | 1.047 | 452.00 | 0.67 | 230 | 0.186 | 3450 | 0 | 0 | 0 | 17.60 |
| 265 | A5 | 25.54 | 100 | 150 | 1.047 | 452.00 | 0.67 | 230 | 0.093 | 3450 | 0 | 0 | 0 | 19.67 |
| 266 | A7 | 25.54 | 100 | 150 | 1.047 | 452.00 | 0.67 | 230 | 0.093 | 3450 | 0 | 0 | 1 | 18.17 |
| 267 | A8 | 25.54 | 100 | 150 | 0.67 | 537.00 | 1.047 | 230 | 0.093 | 3450 | 0 | 0 | 1 | 12.23 |
| 268 | B2 | 25.54 | 100 | 150 | 1.508 | 441.00 | 0.67 | 230 | 0.093 | 3450 | 0 | 0 | 0 | 19.19 |
| 269 | B3 | 25.54 | 100 | 150 | 1.508 | 441.00 | 0.67 | 230 | 0.186 | 3450 | 0 | 0 | 0 | 18.80 |
| 270 | B5 | 25.54 | 100 | 150 | 1.508 | 441.00 | 0.67 | 230 | 0.093 | 3450 | 0 | 0 | 1 | 20.24 |
| 271 | B7 | 25.54 | 100 | 150 | 1.508 | 441.00 | 0.67 | 230 | 0.093 | 3450 | 0 | 0 | 1 | 21.10 |
| 272 | SH-BOND | 23.79 | 200 | 270 | 0.436 | 426.00 | 0.737 | 230.3 | 0.049 | 3479 | 0 | 0 | 0 | 43.25 | [40] |
| 273 | CPL-50-BOND | 23.79 | 200 | 270 | 0.436 | 426.00 | 0.737 | 165.49 | 0.130 | 2452.59 | 0 | 0 | 0 | 38.45 |
| 274 | CFRP-B1 | 21.57 | 200 | 261 | 0.77 | 535.00 | 0.43 | 165 | 0.100 | 2800 | 0 | 0 | 0 | 73.76 | [41] |
| 275 | CFRP-B2 | 21.57 | 200 | 261 | 0.77 | 535.00 | 0.43 | 165 | 0.100 | 2800 | 0 | 0 | 0 | 72.45 |
| 276 | CFRP-B3 | 21.57 | 200 | 261 | 0.77 | 535.00 | 0.43 | 165 | 0.100 | 2800 | 0 | 0 | 0 | 74.03 |
| 277 | A3 | 37.81 | 115 | 120 | 1.71 | 547.00 | 1.14 | 235 | 0.106 | 3550 | 0 | 0 | 0 | 19.38 | [42] |
| 278 | A4 | 37.81 | 115 | 120 | 1.71 | 547.00 | 1.14 | 235 | 0.106 | 3550 | 0 | 0 | 0 | 18.88 |
| 279 | A5 | 37.81 | 115 | 120 | 1.71 | 547.00 | 1.14 | 235 | 0.212 | 3550 | 0 | 0 | 0 | 21.85 |
| 280 | A6 | 37.81 | 115 | 120 | 1.71 | 547.00 | 1.14 | 235 | 0.212 | 3550 | 0 | 0 | 0 | 21.45 |
| 281 | B3 | 37.81 | 230 | 240 | 1.71 | 544.00 | 1.14 | 235 | 0.106 | 3550 | 0 | 0 | 0 | 131.75 |
| 282 | B4 | 37.81 | 230 | 240 | 1.71 | 544.00 | 1.14 | 235 | 0.106 | 3550 | 0 | 0 | 0 | 130.15 |
| 283 | B5 | 37.81 | 230 | 240 | 1.71 | 544.00 | 1.14 | 235 | 0.212 | 3550 | 0 | 0 | 0 | 147.35 |
| 284 | B6 | 37.81 | 230 | 240 | 1.71 | 544.00 | 1.14 | 235 | 0.212 | 3550 | 0 | 0 | 0 | 142.15 |
| 285 | C3 | 38.95 | 368 | 384 | 1.71 | 552.00 | 1.14 | 235 | 0.106 | 3550 | 0 | 0 | 0 | 522.32 |
| 286 | C4 | 38.95 | 368 | 384 | 1.71 | 552.00 | 1.14 | 235 | 0.106 | 3550 | 0 | 0 | 0 | 535.44 |
| 287 | C5 | 38.95 | 368 | 384 | 1.71 | 552.00 | 1.14 | 235 | 0.212 | 3550 | 0 | 0 | 0 | 520.08 |
| 288 | 2D22-NSC-E | 23.75 | 250 | 255 | 1.207 | 376.00 | 0.353 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 92.80 | [43] |
| 289 | 2D22-NSC-E | 47.50 | 250 | 255 | 1.207 | 376.00 | 0.353 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 99.20 |
| 290 | 2D22-NSC-E | 23.75 | 250 | 251 | 1.212 | 423.00 | 0.353 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 98.80 |
| 291 | 2D22-NSC-E | 47.50 | 250 | 251 | 1.212 | 423.00 | 0.353 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 112.80 |
| 292 | C-2 | 27.20 | 150 | 213 | 0.708 | 651.93 | 0.262 | 170.5 | 0.064 | 2874.25 | 0 | 0 | 0 | 33.90 | [44] |
| 293 | C | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 49.936 | 0.263 | 781.91 | 0 | 0 | 0 | 25.31 | [45] |
| 294 | B | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 17.794 | 0.300 | 411.27 | 0 | 0 | 0 | 20.66 |
| 295 | CC | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 46.053 | 0.513 | 706.5 | 0 | 0 | 0 | 27.73 |
| 296 | BB | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 24.981 | 0.429 | 489.04 | 0 | 0 | 0 | 26.21 |
| 297 | BC | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 45.673 | 0.429 | 770.01 | 0 | 0 | 0 | 26.97 |
| 298 | CB | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 45.673 | 0.429 | 770.01 | 0 | 0 | 0 | 26.83 |
| 299 | CCB | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 38.914 | 0.650 | 758.63 | 0 | 0 | 0 | 28.31 |
| 300 | BCC | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 38.914 | 0.650 | 758.63 | 0 | 0 | 0 | 27.26 |
| 301 | BCB | 29.47 | 120 | 202 | 0.648 | 540.14 | 0.415 | 37.812 | 0.638 | 704.02 | 0 | 0 | 0 | 28.26 |
| 302 | 2D16-F25-E | 23.45 | 250 | 264 | 0.609 | 453.00 | 0.343 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 59.20 | [46] |
| 303 | 5D10-F25-E | 23.45 | 250 | 267 | 0.588 | 462.00 | 0.339 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 71.60 |
| 304 | 2D22-F25-E | 23.45 | 250 | 251 | 1.212 | 376.00 | 0.36 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 94.00 |
| 305 | 5D14-F25-E | 23.45 | 250 | 255 | 1.207 | 423.00 | 0.355 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 98.80 |
| 306 | 2D28-F25-E | 23.45 | 250 | 246 | 2.002 | 379.00 | 0.368 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 123.60 |
| 307 | 5D18-F25-E | 23.45 | 250 | 251 | 2.028 | 367.00 | 0.36 | 240 | 0.036 | 4950 | 0 | 0 | 0 | 115.60 |
| 308 | EBR-U | 30.69 | 500 | 118 | 0.34 | 548.00 | 0.34 | 160 | 0.186 | 2800 | 0 | 0 | 0 | 30.70 | [47] |
| 309 | A3.1 | 27.06 | 140 | 266 | 1.08 | 435.00 | 1.08 | 152 | 0.228 | 2300 | 0 | 0 | 0 | 67.32 | [48] |
| 310 | R1 | 30.40 | 250 | 223 | 0.406 | 459.00 | 0.282 | 242 | 0.027 | 3800 | 0 | 0 | 0 | 29.32 | [49] |
| 311 | R1G | 30.40 | 250 | 223 | 0.406 | 459.00 | 0.282 | 242 | 0.027 | 3800 | 0 | 0 | 1 | 38.06 |
| 312 | R2G | 30.40 | 250 | 223 | 0.406 | 459.00 | 0.282 | 242 | 0.027 | 3800 | 0 | 0 | 1 | 42.97 |
| 313 | R1G-S2 | 30.40 | 250 | 223 | 0.406 | 459.00 | 0.282 | 242 | 0.027 | 3800 | 0 | 0 | 3 | 32.34 |
| 314 | R1G-S3 | 30.40 | 250 | 223 | 0.406 | 459.00 | 0.282 | 242 | 0.027 | 3800 | 0 | 0 | 4 | 34.00 |
| 315 | R1G-F2 | 30.40 | 250 | 223 | 0.406 | 459.00 | 0.282 | 242 | 0.027 | 3800 | 0 | 0 | 3 | 38.61 |
| 316 | BC1-1 | 26.60 | 100 | 175 | 0.58 | 562.00 | 0.33 | 232 | 0.083 | 3850 | 0 | 0 | 0 | 15.80 | [50] |
| 317 | BC1-2 | 26.60 | 100 | 175 | 0.58 | 562.00 | 0.33 | 232 | 0.083 | 3850 | 0 | 0 | 0 | 15.60 |
| 318 | BC2-1 | 26.60 | 100 | 175 | 0.58 | 562.00 | 0.33 | 232 | 0.083 | 3850 | 0 | 0 | 0 | 15.90 |
| 319 | BC3-1 | 18.24 | 100 | 175 | 0.58 | 562.00 | 0.33 | 232 | 0.083 | 3850 | 0 | 0 | 0 | 13.60 |
| 320 | BC4-1 | 25.08 | 100 | 175 | 0.33 | 358.00 | 0.33 | 231 | 0.083 | 3800 | 0 | 0 | 0 | 8.80 |
| 321 | BC4-2 | 25.08 | 100 | 175 | 0.33 | 358.00 | 0.33 | 231 | 0.083 | 3800 | 0 | 0 | 0 | 9.60 |
| 322 | BMI-2 | 19.38 | 100 | 170 | 0.59 | 368.30 | 0.15 | 220 | 0.060 | 1800 | 0 | 0 | 0 | 10.38 | [51] |
| 323 | BMI-3 | 13.30 | 100 | 169 | 0.59 | 242.20 | 0.15 | 220 | 0.060 | 1800 | 0 | 0 | 0 | 11.00 |
| 324 | BMI-4 | 19.38 | 100 | 170 | 0.59 | 368.30 | 0.15 | 220 | 0.121 | 1800 | 0 | 0 | 0 | 11.88 |
| 325 | BMI-5 | 19.38 | 100 | 170 | 0.59 | 368.30 | 0.15 | 220 | 0.181 | 1800 | 0 | 0 | 0 | 12.63 |
| 326 | BMI-6 | 19.38 | 100 | 170 | 0.59 | 368.30 | 0.15 | 220 | 0.302 | 1800 | 0 | 0 | 0 | 17.00 |
| 327 | BMII-3 | 13.30 | 100 | 169 | 0.59 | 342.20 | 0.15 | 220 | 0.121 | 1800 | 0 | 0 | 0 | 13.50 |
| 328 | S(AT1)C | 45.89 | 150 | 170 | 0.4 | 414.00 | 0.4 | 120 | 0.400 | 2260 | 0 | 0 | 0 | 21.60 | [52] |
| 329 | S(AT1)T | 45.89 | 150 | 170 | 0.4 | 414.00 | 2.58 | 120 | 0.400 | 2260 | 0 | 0 | 0 | 21.59 |
| 330 | B(AT1)C | 45.13 | 150 | 170 | 0.4 | 414.00 | 0.4 | 120 | 0.400 | 2260 | 0 | 0 | 0 | 21.74 |
| 331 | B(AT1)T | 45.13 | 150 | 170 | 0.4 | 414.00 | 2.58 | 120 | 0.400 | 2260 | 0 | 0 | 0 | 21.39 |
| 332 | EB2-0 | 15.20 | 150 | 213 | 0.708 | 454.00 | 0.315 | 270.5 | 0.045 | 4103.5 | 0 | 0 | 0 | 23.99 | [53] |
| 333 | EA-2-10 | 15.20 | 150 | 213 | 0.708 | 454.00 | 0.315 | 270.5 | 0.045 | 4103.5 | 0 | 0 | 1 | 26.72 |
| 334 | EA-2-16 | 15.20 | 150 | 213 | 0.708 | 454.00 | 0.315 | 270.5 | 0.045 | 4103.5 | 0 | 0 | 1 | 27.57 |
| 335 | EA-2-20 | 15.20 | 150 | 213 | 0.708 | 454.00 | 0.315 | 270.5 | 0.045 | 4103.5 | 0 | 0 | 1 | 28.50 |
| 336 | B-S-2 | 26.60 | 150 | 218 | 0.692 | 400.00 | 0.692 | 165 | 0.153 | 2800 | 0 | 0 | 0 | 34.32 | [54] |
| 337 | B-S-4 | 26.60 | 150 | 218 | 0.692 | 400.00 | 0.692 | 165 | 0.307 | 2800 | 0 | 0 | 0 | 44.92 |
| 338 | B2-12D-1L15 | 23.94 | 150 | 166 | 0.908 | 400.00 | 0.631 | 237 | 0.088 | 2845 | 0 | 0 | 0 | 18.44 | [55] |
| 339 | B3-12D-2L15 | 23.94 | 150 | 166 | 0.908 | 400.00 | 0.631 | 237 | 0.176 | 2845 | 0 | 0 | 0 | 21.28 |
| 340 | B4-12D-3L15 | 23.94 | 150 | 166 | 0.908 | 400.00 | 0.631 | 237 | 0.264 | 2845 | 0 | 0 | 0 | 22.33 |
| 341 | B6-16D-1L10 | 22.61 | 150 | 164 | 1.634 | 406.00 | 0.638 | 237 | 0.059 | 2845 | 0 | 0 | 0 | 25.48 |
| 342 | B7-16D-1L15 | 22.61 | 150 | 164 | 1.634 | 406.00 | 0.638 | 237 | 0.088 | 2845 | 0 | 0 | 0 | 29.08 |
| 343 | B8-16D-2L15 | 22.61 | 150 | 164 | 1.634 | 406.00 | 0.638 | 237 | 0.176 | 2845 | 0 | 0 | 0 | 31.77 |
| 344 | B10-20D-1L10 | 22.90 | 150 | 162 | 2.584 | 350.00 | 0.646 | 237 | 0.059 | 2845 | 0 | 0 | 0 | 31.90 |
| 345 | B11-20D-1L15 | 22.90 | 150 | 162 | 2.584 | 350.00 | 0.646 | 237 | 0.088 | 2845 | 0 | 0 | 0 | 32.67 |
| 346 | B12-20D-2L15 | 22.90 | 150 | 162 | 2.584 | 350.00 | 0.646 | 237 | 0.176 | 2845 | 0 | 0 | 0 | 34.02 |
| 347 | A2 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 0.485 | 525 | 0 | 0 | 0 | 81.40 | [56] |
| 348 | A3 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 0.969 | 525 | 0 | 0 | 0 | 87.70 |
| 349 | A4 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 1.454 | 525 | 0 | 0 | 0 | 95.40 |
| 350 | A6 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 0.485 | 525 | 0 | 0 | 0 | 81.90 |
| 351 | B2 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 0.485 | 525 | 0 | 0 | 0 | 80.40 |
| 352 | B3 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 0.969 | 525 | 0 | 0 | 0 | 83.60 |
| 353 | B4 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 1.454 | 525 | 0 | 0 | 0 | 97.30 |
| 354 | B5 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 0.485 | 525 | 0 | 0 | 0 | 79.20 |
| 355 | B6 | 31.46 | 200 | 317 | 0.63 | 516.00 | 0.25 | 27 | 0.485 | 525 | 0 | 0 | 0 | 80.10 |
| 356 | LC1 | 26.22 | 200 | 273 | 0.41 | 485.70 | 0.29 | 100 | 0.037 | 2810 | 0 | 0 | 0 | 68.88 | [57] |
| 357 | LC2 | 26.22 | 200 | 271 | 0.74 | 485.70 | 0.29 | 100 | 0.074 | 2810 | 0 | 0 | 0 | 104.98 |
| 358 | LC3 | 26.22 | 200 | 269 | 1.16 | 485.70 | 0.29 | 100 | 0.111 | 2810 | 0 | 0 | 0 | 60.80 |
| 359 | I-1 | 45.51 | 150 | 220 | 0.68 | 391.78 | 0.305 | 237 | 0.067 | 4330 | 0 | 0 | 0 | 34.72 | [58] |
| 360 | I-2 | 47.04 | 150 | 220 | 0.68 | 391.78 | 0.305 | 237 | 0.134 | 4330 | 0 | 0 | 0 | 39.61 |
| 361 | I-3 | 45.51 | 150 | 220 | 0.68 | 391.78 | 0.305 | 237 | 0.200 | 4330 | 0 | 0 | 0 | 46.21 |
| 362 | II-1 | 43.59 | 150 | 220 | 2.3 | 380.81 | 0.305 | 237 | 0.067 | 4330 | 0 | 0 | 0 | 71.40 |
| 363 | II-2 | 42.41 | 150 | 220 | 2.3 | 380.81 | 0.305 | 237 | 0.067 | 4330 | 0 | 0 | 0 | 69.37 |
| 364 | II-3 | 43.59 | 150 | 220 | 2.3 | 380.81 | 0.305 | 237 | 0.067 | 4330 | 0 | 0 | 0 | 64.82 |
| 365 | III-1 | 47.15 | 150 | 220 | 4.21 | 381.46 | 0.305 | 237 | 0.067 | 4330 | 0 | 0 | 0 | 102.54 |
| 366 | R2 | 35.20 | 152 | 271 | 0.97 | 488.00 | 0.38 | 66 | 0.957 | 966 | 0 | 0 | 0 | 95.89 | [59] |
| 367 | CC | 24.27 | 150 | 212 | 0.83 | 531.16 | 0.49 | 230 | 0.076 | 851 | 0 | 0 | 0 | 31.28 | [60] |
| 368 | GG | 24.27 | 150 | 212 | 0.83 | 531.16 | 0.49 | 70.6 | 0.236 | 649 | 0 | 0 | 0 | 32.10 |
| 369 | BL20-1A | 24.78 | 150 | 213 | 0.71 | 381.70 | 0.31 | 22 | 0.186 | 542 | 0 | 0 | 0 | 28.50 | [61] |
| 370 | BL30-1A | 30.63 | 150 | 213 | 0.71 | 381.70 | 0.31 | 22 | 0.186 | 542 | 0 | 0 | 0 | 29.00 |
| 371 | BL40-1 | 37.16 | 150 | 213 | 0.71 | 381.70 | 0.31 | 22 | 0.186 | 542 | 0 | 0 | 0 | 30.00 |
| 372 | PPL20 | 24.78 | 150 | 213 | 0.71 | 381.70 | 0.31 | 22 | 0.186 | 542 | 0 | 0 | 0 | 22.50 |
| 373 | PPL30 | 30.63 | 150 | 213 | 0.71 | 381.70 | 0.31 | 22 | 0.186 | 542 | 0 | 0 | 0 | 23.00 |
| 374 | PPL40 | 37.16 | 150 | 213 | 0.71 | 381.70 | 0.31 | 22 | 0.186 | 542 | 0 | 0 | 0 | 23.00 |
| 375 | BL20-2 | 24.78 | 150 | 212 | 1.45 | 365.90 | 0.31 | 22 | 0.373 | 542 | 0 | 0 | 0 | 48.00 |
| 376 | BL40-3A | 37.16 | 150 | 207 | 2.44 | 366.50 | 0.31 | 22 | 0.559 | 542 | 0 | 0 | 0 | 63.90 |

Note: The *f*c listed in this appendix represents the concrete cylinder *f*c; *bc* is the beam width;*h*0is ffective depth; *ρt* is the tensile reinforcement ratio; *fyt* is the reinforcement yield strength; *ρc* is the compressive reinforcement ratio; *Ef,* is the FRP elastic modulus; *ρf* is the FRP plate/sheet ratio; *ff* is the FRP tensile stress; *PL* is the FRP prestress level; *Na* is the bolt anchor load; *n* is the anchorage intervals.

**Reference**

1. Yu L, Wang Z-P, Ren C-M, et al. Bending Test of Concrete Beams Strengthened with Prestressed CFRP Sheets[J]. J. Shenyang Jianzhu Univ. (Natural science), 2024,40(2):241-249. (In Chinese). <https://doi.org/10.11717/j.issn:2095-1922.2024.02.06>.
2. Wang H-T, Wu Q, Zhu C-Y, et al. An innovative prestressing system of prestressed carbon fiber sheets for strengthening RC beams under flexure[J]. Constr Build Mater, 2024,411:134409. <https://doi.org/10.1016/j.conbuildmat.2023.134409>
3. Zhang Z-J, Wang W-W, Zhen J-S, et al. Entire mechanical analysis of prestressed CFRP strengthened RC beams under different prestressed introduced methods[J]. Adv in Bri ineering, 2024,5(1):13. <https://doi.org/10.1186/s43251-024-00121-9>.
4. Yang J-Q, Feng P, Liu B, et al. Strengthening RC beams with mid-span supporting prestressed CFRP plates: An experimental investigation[J]. Eng Struct, 2022,272:115022. <https://doi.org/10.1016/j.engstruct.2022.115022>.
5. Min X-Z. Study on Fatigue Performance of Concrete Flexural Members Strengthened with Prestressed CFRP Plates [D]. Southeast University, 2021. (In Chinese).
6. Jeevan N, Reddy H-N, Prabhakara R. Flexural strengthening of RC beams with externally bonded (EB) techniques using prestressed and non-prestressed CFRP laminate[J]. Asian J Civ Eng, 2018,19(7):893-912. <https://doi.org/10.1007/s42107-018-0071-y>.
7. Piatek B, Siwowski T, Michalowski J, et al. Flexural Strengthening of RC Beams with Prestressed CFRP Strips: Development of Novel Anchor and Tensioning System[J]. J Compos Constr, 2020,24(3):4020015. <https://doi.org/10.1061/(ASCE)CC.1943-5614.0001020>.
8. Chen J R. Study on Performance of Reinforced Concrete Beams Based on Ductile Prestressed[D]. Shenzhen University, 2019. (In Chinese).
9. Rashid K, Li X, Deng J, et al. Experimental and analytical study on the flexural performance of CFRP-strengthened RC beams at various pre-stressing levels[J]. Compos Struct, 2019,227:111323. <https://doi.org/10.1016/j.compstruct.2019.111323>.
10. Nader T-B, Mostofinejad D, Hosseini S-M. Experimental and analytical study on flexural strengthening of RC beams via prestressed EBROG CFRP plates[J]. Eng Struct, 2019,197:109395. <https://doi.org/10.1016/j.engstruct.2019.109395>.
11. Qian Y-S. The study of mechanical shape on RC beams strengthened with the pre-stressed CFRP and pre-screwed bolts[D]. Shandong University, 2017. (In Chinese).
12. Guan Y-H, Qian Y-S, Yue H-Y, et al. Experimental analysis on RC beams strengthened with the pre-stressed carbon fiber sheets and pre-screwed bolts[J]. Arch & Env Eng, 2016,38(2):1-10. <https://doi.org/10.11835/j.issn.1674-4764.2016.02.001>.
13. Abdulhameed S-S, Wu E, Ji B. Mechanical Prestressing System for Strengthening Reinforced Concrete Members with Prestressed Carbon-Fiber-Reinforced Polymer Sheets[J]. J Perform Constr Fac, 2015,29(3). <https://doi.org/10.1061/(ASCE)CF.1943-5509.0000478>.
14. Gao P, Gu X-L, Mosallam A-S. Flexural behavior of preloaded reinforced concrete beams strengthened by prestressed CFRP laminates[J]. Compos Struct, 2016,157:33-50. <https://doi.org/10.1016/j.compstruct.2016.08.013>.
15. Tahsiri H, Sedehi O, Khaloo A, et al. Experimental study of RC jacketed and CFRP strengthened RC beams[J]. Constr Build Mater, 2015,95:476-485. <https://doi.org/10.1016/j.conbuildmat.2015.07.161>.
16. Gao Z-X, Wang W-W, Huang H. Calculation of flexural capacity of RC beams strengthened with prestressed CFRP sheets[J]. J Southeast Univ (Nature Science Edition), 2013,43(1):195-202. <https://doi.org/10.3969/j.issn.1001-0505.2013.01.036>.
17. Hong S, Park S-K. Effect of prestress levels on flexural and debonding behavior of reinforced concrete beams strengthened with prestressed carbon fiber reinforced polymer plates[J]. J Compos Mater, 2013,47(17):2097-2111. <https://doi.org/10.1177/0021998312454318>.
18. You Y-C, Choi K-S, Kim J-H. An experimental investigation on flexural behavior of RC beams strengthened with prestressed CFRP strips using a durable anchorage system[J]. Compos Pt B-Eng, 2012,43(8):3026-3036. <https://doi.org/10.1016/j.compositesb.2012.05.030>.
19. Xue W-C, Tan Y, Zeng L. Flexural response predictions of reinforced concrete beams strengthened with prestressed CFRP plates[J]. Compos Struct, 2010,92(3):612-622. <https://doi.org/10.1016/j.compstruct.2009.09.036>.
20. Abdulhameed S-S, Wu E-J, Ji B-H. Mechanical Prestressing System for Strengthening Reinforced Concrete Members with Prestressed Carbon-Fiber-Reinforced Polymer Sheets[J]. J Perform Constr Fac, 2015,29(3):4014081. <https://doi.org/10.1061/(ASCE)CF.1943-5509.0000478>.
21. Yang D-S, Park S-K, Neale K-W. Flexural behaviour of reinforced concrete beams strengthened with prestressed carbon composites[J]. Compos Struct, 2009,88(4):497-508. <https://doi.org/10.1016/j.compstruct.2008.05.016>.
22. Gu X, Gao P, Zhang W-P, et al. Study on Bending Behavior of Reinforced Concrete Beams Strengthened by Pre-tensioned Carbon Fiber Composite Sheets[J]. Journal of Building Materials, 2009,12(2):141-147. (In Chinese). <https://doi.org/10.3969/j.issn.1007-9629.2009.02.004>.
23. Qian W. An Experimental Study of Damaged Reinforced Concrete Beams Strengthened with Pre-stressed CFRP sheet[D]. Zhenzhou University, 2007. (In Chinese).
24. Tian A-G. Experimental Research and Design Theory of RC Beams Strengthened by Pre-tressed FRP Sheet[D]. Southeast University, 2006. (In Chinese).
25. Peng H. Study of Flexural RC Member Strengthened with Prestressed Carbon Fiber Reinforced Polymer Composites[D]. Hunan University, 2006. (In Chinese).
26. Carlo P-A-. Flexural Strengthening of Real-Scale RC and PRC Beams with End-Anchored Pretensioned FRP Laminates[J]. ACI Struct J, 2009,106(3). <https://doi.org/10.14359/56496>.
27. Woo S-K, Nam J-W, Kim J-J, et al. Suggestion of flexural capacity evaluation and prediction of prestressed CFRP strengthened design[J]. Eng Struct, 2008,30(12):3751-3763. <https://doi.org/10.1016/j.engstruct.2008.06.013>
28. Kong Q. Experimental study on the flexural performance of reinforced concrete beams strengthened by prestressed FRP[D]. Zhengzhou University, 2005. (In Chinese).
29. Peng H. Study of Strengthening Reinforced Concrete Beam Using Prestressed carbon fiber Sheet[D]. Hunan University, 2002. (In Chinese).
30. Garden H-N, Hollaway L-C. An experimental study of the failure modes of reinforced concrete beams strengthened with prestressed carbon composite plates[J]. Compos Pt B-Eng, 1998,29(4):411-424. <https://doi.org/10.1016/S1359-8368(97)00043-7>.
31. Wu Y-F, Huang Y. Hybrid Bonding of FRP to Reinforced Concrete Structures[J]. J Compos Constr, 2008,12(3):266-273. <https://doi.org/10.1061/(ASCE)1090-0268(2008)12:3(266)>.
32. Wu Y-F, Yan J-H, Zhou Y-W. Ultimate Strength of Reinforced Concrete Beams Retrofitted with Hybrid Bonded Fiber-Reinforced Polymer[J]. ACI Struct J, 2010,107(4). <https://doi.org/10.14359/51663818>.
33. Gao L, Wei Q-A, Huang Y, et al. Influence of anchor design parameters on flexural performance of hybrid bonded-fiber reinforced polymer strengthened reinforced concrete beams[J]. Structures, 2023,48:1029-1045. <https://doi.org/10.1016/j.istruc.2023.01.025>.
34. Chen C, Wang X-W, Sui L-L, et al. Influence of FRP thickness and confining effect on flexural performance of HB-strengthened RC beams[J]. Compos Pt B-Eng, 2019,161:55-67. <https://doi.org/10.1016/j.compositesb.2018.10.059>.
35. Chen X-L. Study on flexural and shear performance of FRP composite strengthened RC beams[D]. Shenzhen University, 2017. (In Chinese).
36. Hu C-H. Experimental Study on Improved Hybrid Bonded FRP Technique[D]. Dalian University of Technology, 2011. (In Chinese).
37. Barros J-A O, Dias S-J E, Lima J-L T. Efficacy of CFRP-based techniques for the flexural and shear strengthening of concrete beams[J]. Cement and Concr Comp, 2007,29(3):203-217. <https://doi.org/10.1016/j.cemconcomp.2006.09.001>.
38. Cao Q, Zhou J-P, Wu Z-M, et al. Flexural behavior of prestressed CFRP reinforced concrete beams by two different tensioning methods[J]. Eng Struct, 2019,189:411-422. <https://doi.org/10.1016/j.engstruct.2019.03.051>.
39. Ceroni F. Experimental performances of RC beams strengthened with FRP materials[J]. Constr Build Mater, 2010,24(9):1547-1559. <https://doi.org/10.1016/j.conbuildmat.2010.03.008>.
40. Jung W, Park Y-H, Park J-S, et al. Experimental Investigation on Flexural Behavior of RC Beams Strengthened by NSM CFRP Reinforcements[J]. SP-230: 7th International Symposium on Fiber-Reinforced (FRP) Polymer Reinforcement for Concrete Structures, 2005.
41. El-Zeadani M, Saifulnaz M R R, Mugahed Amran Y H, et al. Flexural strength of FRP plated RC beams using a partial-interaction displacement-based approach[J]. Structures, 2019,22:405-420. <https://doi.org/10.1016/j.istruc.2019.09.008>.
42. Maalej M, Leong K-S. Effect of beam size and FRP thickness on interfacial shear stress concentration and failure mode of FRP-strengthened beams[J]. Compos Sci Technol, 2005,65(7):1148-1158. <https://doi.org/10.1016/j.compscitech.2004.11.010>.
43. Sabzi J, Esfahani M R, Ozbakkaloglu T, et al. Effect of concrete strength and longitudinal reinforcement arrangement on the performance of reinforced concrete beams strengthened using EBR and EBROG methods[J]. Eng Struct, 2020,205:110072. <https://doi.org/10.1016/j.engstruct.2019.110072>.
44. Chen C, Yang Y-C, Yu J-B, et al. Eco-friendly and mechanically reliable alternative to synthetic FRP in externally bonded strengthening of RC beams: Natural FRP[J]. Compos Struct, 2020,241:112081. <https://doi.org/10.1016/j.compstruct.2020.112081>.
45. Choobbor S-S, Hawileh R-A, Abu-Obeidah A, et al. Performance of hybrid carbon and basalt FRP sheets in strengthening concrete beams in flexure[J]. Compos Struct, 2019,227:111337. <https://doi.org/10.1016/j.compstruct.2019.111337>.
46. Sabzi J, Esfahani M-R. Effects of tensile steel bars arrangement on concrete cover separation of RC beams strengthened by CFRP sheets[J]. Constr Build Mater, 2018,162:470-479. <https://doi.org/10.1016/j.conbuildmat.2017.12.053>.
47. Moshiri N, Czaderski C, Mostofinejad D, et al. Flexural strengthening of RC slabs with nonprestressed and prestressed CFRP strips using EBROG method[J]. Compos Pt B-Eng, 2020,201:108359. <https://doi.org/10.1016/j.compositesb.2020.108359>.
48. Spadea G, Bencardino F, Swamy R-N. Structural Behavior of Composite RC Beams with Externally Bonded CFRP[J]. J Compos Constr, 1998,2(3):132-137. <https://doi.org/10.1061/(ASCE)1090-0268(1998)2:3(132)>.
49. Eslami A, Shayegh H-R, Moghavem A, et al. Experimental and analytical investigations of a novel end anchorage for CFRP flexural retrofits[J]. Compos Pt B-Eng, 2019,176:107309. <https://doi.org/10.1016/j.compositesb.2019.107309>.
50. Skuturna T, Valivonis J. Experimental study on the effect of anchorage systems on RC beams strengthened using FRP[J]. Compos Pt B-Eng, 2016,91:283-290. <https://doi.org/10.1016/j.compositesb.2016.02.001>.
51. Zhao T, Xie J, Dai Z Q. Experimental study on the flexural capacity of reinforced concrete beams reinforced with CFRP[J]. Building Structure, 2000(07):11-15. (In Chinese). <https://doi.org/10.19701/j.jzjg.2000.07.003>.
52. Hasnat A, Islam M-M, Amin A-F. Enhancing the Debonding Strain Limit for CFRP-Strengthened RC Beams Using U-Clamps: Identification of Design Parameters[J]. J Compos Constr, 2016,20(1):4015039. <https://doi.org/10.1061/(ASCE)CC.1943-5614.0000599>.
53. Zhou Y-W, Wang X-W, Sui L-L, et al. Flexural performance of FRP-plated RC beams using H-type end anchorage[J]. Compos Struct, 2018,206:11-21. <https://doi.org/10.1016/j.compstruct.2018.08.015>.
54. Khalifa A M. Flexural performance of RC beams strengthened with near surface mounted CFRP strips[J]. Alex Ena J, 2016,55(2):1497-1505. <https://www.sciencedirect.com/science/article/pii/S1110016816000399>.
55. Esfahani M-R, Kianoush M-R, Tajari A-R. Flexural behaviour of reinforced concrete beams strengthened by CFRP sheets[J]. Eng Struct, 2007,29(10):2428-2444. <https://doi.org/10.1016/j.engstruct.2006.12.008>.
56. Chiew S-P, Sun Q, Yu Y. Flexural Strength of RC Beams with GFRP Laminates[J]. J Compos Constr, 2007,11(5):497-506. <https://doi.org/10.1061/(ASCE)1090-0268(2007)11:5(497)>.
57. Sun Y. Experimental study on flexural behavior of RC beams strengthened with BFRP[D]. Hefei University of Technology, 2015. (In Chinese).
58. Wang S-Y, Yang M. Experimental Study of Flexural Behavior of High strength RC Beams Strengthened with CFRP Sheets[J]. Building Science, 2006(05):34-38. (In Chinese).
59. Zaki M-A, Rasheed H-A. Impact of efficiency and practicality of CFRP anchor installation techniques on the performance of RC beams strengthened with CFRP sheets[J]. Can J Civil Eng, 2019,46(9):796-809. <https://doi.org/10.1139/cjce-2018-0560>
60. Kim H-S, Shin Y-S. Flexural behavior of reinforced concrete (RC) beams retrofitted with hybrid fiber reinforced polymers (FRPs) under sustaining loads[J]. Compos Struct, 2011,93(2):802-811. <https://doi.org/10.1016/j.compstruct.2010.07.013>.
61. Wang W-W. Study on Flexural Behavior of Reinforced Concrete Beams Strengthened Fiber Reinforced Plastics (FRP)[D]. Dalian University of Technology, 2003. (In Chinese).