

| Standard   | Grade               | Mechanical Properties |      |           |      |         |                            |              |                              | Chemical Composition (wt%) |      |      |       |       |       |       |      |      |
|------------|---------------------|-----------------------|------|-----------|------|---------|----------------------------|--------------|------------------------------|----------------------------|------|------|-------|-------|-------|-------|------|------|
|            |                     | Y.S (MPa)             |      | T.S (MPa) |      | Y.S/T.S | Elongation at Fracture (%) |              | Elongation at Max. Force (%) | C                          | Si   | Mn   | P     | S     | N     | Cu    | C.E. |      |
|            |                     | Min.                  | Max. | Min.      | Max. | Min.    | Min.                       | Gauge Length | Min.                         | Max.                       | Max. | Max. | Max.  | Max.  | Max.  | Max.  | Max. |      |
| Egyptian   | ES 262:2000         | 240 Plain Bar         | 240  | -         | 350  | -       | 1.10                       | 20           | 10d                          | -                          | 0.30 | -    | -     | 0.060 | 0.060 | -     | -    | -    |
|            |                     | 280 Plain Bar         | 280  | -         | 450  | -       | 1.10                       | 18           | 10d                          | -                          | 0.30 | -    | -     | 0.060 | 0.600 | -     | -    | -    |
|            |                     | 360/520 Ribbed Bar    | 360  | -         | 520  | -       | 1.05                       | 12           | 10d                          | -                          | 0.45 | -    | -     | 0.060 | 0.060 | 0.013 | -    | 0.51 |
|            |                     | 400/600 Ribbed Bar    | 400  | -         | 600  | -       | 1.05                       | 10           | 10d                          | -                          | 0.45 | -    | -     | 0.060 | 0.060 | 0.013 | -    | 0.51 |
|            | ES 262:2009         | B240D P Plain Bar     | 240  | -         | -    | 520     | 1.25                       | 22           | 5d                           | 8                          | -    | -    | -     | 0.058 | 0.058 | -     | -    | -    |
|            |                     | B300D P Plain Bar     | 300  | -         | -    | 600     | 1.25                       | 19           | 5d                           | 8                          | -    | -    | -     | 0.058 | 0.058 | -     | -    | -    |
|            |                     | B420D P Plain Bar     | 420  | 540       | -    | -       | 1.25                       | 16           | 5d                           | 8                          | -    | -    | -     | 0.058 | 0.058 | -     | -    | -    |
|            |                     | B420DWP Plain Bar     | 420  | 540       | -    | -       | 1.25                       | 16           | 5d                           | 8                          | 0.33 | 0.60 | 1.56  | 0.048 | 0.048 | 0.012 | -    | 0.56 |
|            |                     | B300D R Ribbed Bar    | 300  | -         | -    | -       | 1.25                       | 17           | 5d                           | 8                          | -    | -    | -     | 0.058 | 0.058 | -     | -    | -    |
|            |                     | B300DWR Ribbed Bar    | 300  | 390       | -    | -       | 1.25                       | 17           | 5d                           | 8                          | 0.30 | 0.60 | 1.56  | 0.048 | 0.048 | 0.014 | -    | 0.49 |
|            |                     | B400DWR Ribbed Bar    | 400  | 520       | -    | -       | 1.25                       | 17           | 5d                           | 8                          | 0.32 | 0.60 | 1.88  | 0.048 | 0.048 | 0.014 | -    | 0.56 |
|            |                     | B500DWR Ribbed Bar    | 500  | 650       | -    | -       | 1.25                       | 13           | 5d                           | 8                          | 0.35 | 0.60 | 1.88  | 0.048 | 0.048 | 0.014 | -    | 0.61 |
|            |                     | B300C R Ribbed Bar    | 300  | -         | -    | -       | 1.15                       | 16           | 5d                           | 7                          | -    | -    | -     | 0.070 | 0.070 | -     | -    | -    |
|            |                     | B400CWR Ribbed Bar    | 400  | -         | -    | -       | 1.15                       | 14           | 5d                           | 7                          | 0.24 | 0.65 | 1.66  | 0.058 | 0.058 | 0.014 | -    | 0.50 |
|            |                     | B500C R Ribbed Bar    | 500  | -         | -    | -       | 1.15                       | 14           | 5d                           | 7                          | -    | -    | -     | 0.070 | 0.070 | -     | -    | -    |
|            |                     | B300B R Ribbed Bar    | 300  | -         | -    | -       | 1.08                       | 16           | 5d                           | 5                          | -    | -    | -     | 0.070 | 0.070 | -     | -    | -    |
|            |                     | B400B R Ribbed Bar    | 400  | -         | -    | -       | 1.08                       | 14           | 5d                           | 5                          | -    | -    | -     | 0.070 | 0.070 | -     | -    | -    |
|            |                     | B400BWR Ribbed Bar    | 400  | -         | -    | -       | 1.08                       | 14           | 5d                           | 5                          | 0.24 | 0.65 | 1.66  | 0.058 | 0.058 | 0.014 | -    | 0.50 |
|            |                     | B500B R Ribbed Bar    | 500  | -         | -    | -       | 1.08                       | 14           | 5d                           | 5                          | -    | -    | -     | 0.070 | 0.070 | -     | -    | -    |
|            |                     | B500BWR Ribbed Bar    | 500  | -         | -    | -       | 1.08                       | 14           | 5d                           | 5                          | 0.24 | 0.65 | 1.66  | 0.058 | 0.058 | 0.014 | -    | 0.50 |
| American   | ASTM A615/A615M-15  | Gr.40 Ribbed Bar      | 300  | -         | 500  | -       | -                          | 12           | 200 mm                       | -                          | -    | -    | 0.060 | -     | -     | -     | -    |      |
|            |                     | Gr.60 Ribbed Bar      | 420  | -         | 620  | -       | -                          | 9            | 200 mm                       | -                          | -    | -    | 0.060 | -     | -     | -     | -    |      |
|            |                     | Gr.75 Ribbed Bar      | 520  | -         | 690  | -       | -                          | 7            | 200 mm                       | -                          | -    | -    | 0.060 | -     | -     | -     | -    |      |
|            | ASTM A 706/A706M-14 | Gr.60 Ribbed Bar      | 420  | 540       | 550  | -       | 1.25                       | 14           | 200 mm                       | -                          | 0.33 | 0.55 | 1.56  | 0.043 | 0.053 | -     | -    | 0.55 |
| British    | BS 4449:1997        | Gr.250 Plain Bar      | 250  | -         | -    | -       | 1.15                       | 22           | 5d                           | -                          | 0.27 | -    | -     | 0.065 | 0.065 | 0.013 | -    | 0.45 |
|            |                     | Gr.460b Ribbed Bar    | 460  | -         | -    | -       | 1.08                       | 14           | 5d                           | 5                          | 0.27 | -    | -     | 0.055 | 0.055 | 0.013 | -    | 0.54 |
| Lebanon    | LRB500              | Gr. B500B Ribbed Bar  | 500  | 650       | -    | -       | 1.08                       | 14           | 5d                           | 5                          | 0.24 | -    | -     | 0.055 | 0.055 | 0.014 | 0.85 | 0.52 |
|            |                     | (A500S) Ribbed Bar    | 500  | -         | 600  | -       | -                          | 10           | 10d                          | -                          | 0.25 | -    | -     | 0.055 | 0.055 | 0.013 | -    | 0.52 |
| Canada     | CAN/CSA -G30.18-M92 | Gr. 500W Ribbed Bar   | 500  | 625       | 625  | -       | -                          | 12           | 200 mm                       | -                          | 0.33 | 0.55 | 1.65  | 0.042 | 0.052 | 0.013 | -    | 0.55 |
| Italian    | Italian             | Fe B 44K Ribbed Bar   | 430  | -         | 540  | -       | -                          | 12           | 5d                           | -                          | 0.24 | -    | -     | 0.055 | 0.055 | 0.013 | -    | 0.52 |
| Australian | AS/NZS 4671:2001    | Gr. 500E Ribbed Bar   | 500  | 600       | -    | -       | 1.15                       | 12           | 10d                          | -                          | 0.24 | -    | -     | 0.055 | 0.055 | 0.013 | -    | 0.51 |
| Algeria    | Algeria             | RB 500W Ribbed Bar    | 500  | -         | 550  | -       | 1.05                       | 14           | 5d                           | -                          | 0.24 | 0.65 | 1.70  | 0.055 | 0.055 | 0.013 | -    | 0.50 |
| DIN        | DIN 488 BSt         | 500s Ribbed Bar       | 500  | 650       | 550  | -       | 1.08                       | 10           | 10d                          | 8                          | 0.24 | -    | -     | 0.050 | 0.050 | 0.013 | 0.65 | -    |
| JIS        | JIS G3117           | SD50 Ribbed Bar       | 490  | 628       | 618  | -       | -                          | 12           | 10d                          | -                          | 0.32 | 0.55 | 1.80  | 0.040 | 0.040 | 0.013 | -    | 0.60 |
| ISO        | ISO 6935:1991       | RB500W Ribbed Bar     | 500  | -         | 550  | -       | 1.05                       | 14           | 5d                           | -                          | 0.24 | 0.65 | 1.50  | 0.055 | 0.055 | 0.013 | -    | 0.52 |
| UNE        | UNE                 | UNE 36065 Ribbed Bar  | 500  | 625       | 575  | -       | 1.15                       | 16           | 5d                           | -                          | 0.24 | -    | -     | 0.055 | 0.055 | 0.013 | -    | 0.52 |