# Bridge Design Details 13.1 September 2025

## Reinforcement

The details and guidelines in this chapter are based on Section 5, Concrete Structures of AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017 with California Amendments. The information provided is for ASTM A706 Grade 60 reinforcement with a nominal yield strength ($f_y$) of 60.0 kips per square inch.

| Bar Size Designation | Nominal Diameter ($d_b$) (in.) | *Deformation Diameter (in.) | Area (Sq in.) | Weight (Lb/Ft) |
|---|---|---|---|---|
| #3 | 0.375 | 0.44 | 0.11 | 0.376 |
| #4 | 0.500 | 0.56 | 0.20 | 0.668 |
| #5 | 0.625 | 0.69 | 0.31 | 1.043 |
| #6 | 0.750 | 0.88 | 0.44 | 1.502 |
| #7 | 0.875 | 1.00 | 0.60 | 2.044 |
| #8 | 1.000 | 1.13 | 0.79 | 2.670 |
| #9 | 1.128 | 1.25 | 1.00 | 3.400 |
| #10 | 1.270 | 1.44 | 1.27 | 4.303 |
| #11 | 1.410 | 1.63 | 1.56 | 5.313 |
| #14 | 1.693 | 1.88 | 2.25 | 7.650 |
| #18 | 2.257 | 2.50 | 4.00 | 13.600 |

***Use deformation diameter when calculating clearances.**

**Table 13.1.1 ASTM Standard Reinforcing Bar Data**