$f'_c$ = 3000 psi $F_y$ = 60 ksi

| BASIC DEVELOPMENT LENGTH, $\ell_d$ or CLASS A SPLICE LENGTH | | | | BAR SIZE | CLASS B SPLICE LENGTH 1.3 × $\ell_d$ | | | |
|---|---|---|---|---|---|---|---|---|
| BASIC | ✳ OTHER | TOP BAR | ✳ OTHER TOP BAR | | BASIC | ✳ OTHER | TOP BAR | ✳ OTHER TOP BAR |
| 12″ | 12″ | 1′-1″ | 12″ | #3 | 12″ | 12″ | 1′-5″ | 1′-2″ |
| 12″ | 12″ | 1′-5″ | 1′-2″ | #4 | 1′-4″ | 1′-1″ | 1′-10″ | 1′-6″ |
| 1′-3″ | 12″ | 1′-9″ | 1′-5″ | #5 | 1′-8″ | 1′-4″ | 2′-4″ | 1′-10″ |
| 1′-8″ | 1′-4″ | 2′-3″ | 1′-10″ | #6 | 2′-2″ | 1′-9″ | 3′-0″ | 2′-5″ |
| 2′-3″ | 1′-10″ | 3′-1″ | 2′-6″ | #7 | 2′-11″ | 2′-4″ | 4′-0″ | 3′-3″ |
| 2′-11″ | 2′-4″ | 4′-1″ | 3′-3″ | #8 | 3′-9″ | 3′-0″ | 5′-3″ | 4′-3″ |
| 3′-8″ | 3′-0″ | 5′-2″ | 4′-2″ | #9 | 4′-9″ | 3′-10″ | 6′-8″ | 5′-4″ |
| 4′-8″ | 3′-9″ | 6′-6″ | 5′-3″ | #10 | 6′-1″ | 4′-10″ | 8′-6″ | 6′-10″ |
| 5′-9″ | 4′-7″ | 8′-0″ | 6′-5″ | #11 | 7′-5″ | 6′-0″ | 10′-5″ | 8′-4″ |

✳ BARS SPACED AT LEAST 6″ ON CENTER AND AT LEAST 3″ FROM THE SIDE FACE OF THE MEMBER. FACTOR 0.8 USED. FOR OTHER FACTORS, SEE THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

BASIC DEVELOPMENT LENGTH & SPLICE LENGTH

FOR BARS IN TENSION

**FIGURE 10 – 3**

$f'_c$ = 20.7 MPa $F_y$ = 420 MPa

| BASIC DEVELOPMENT LENGTH, $\ell_d$ or CLASS A SPLICE LENGTH | | | | BAR SIZE | CLASS B SPLICE LENGTH 1.3 × $\ell_d$ | | | |
|---|---|---|---|---|---|---|---|---|
| BASIC | ✳ OTHER | TOP BAR | ✳ OTHER TOP BAR | | BASIC | ✳ OTHER | TOP BAR | ✳ OTHER TOP BAR |
| 310 | 310 | 340 | 310 | #10 | 310 | 310 | 440 | 360 |
| 310 | 310 | 440 | 360 | #13 | 410 | 340 | 560 | 460 |
| 390 | 310 | 540 | 440 | #16 | 510 | 410 | 720 | 560 |
| 510 | 410 | 690 | 560 | #19 | 670 | 540 | 920 | 740 |
| 690 | 560 | 940 | 770 | #22 | 890 | 720 | 1220 | 1000 |
| 890 | 720 | 1250 | 1000 | #25 | 1150 | 920 | 1610 | 1300 |
| 1120 | 920 | 1580 | 1270 | #29 | 1450 | 1170 | 2040 | 1630 |
| 1430 | 1150 | 1990 | 1610 | #32 | 1860 | 1480 | 2600 | 2090 |
| 1760 | 1400 | 2440 | 1960 | #36 | 2270 | 1830 | 3180 | 2540 |

NOTES TO DESIGNER:

ALL DIMENSIONS ARE IN MILLIMETERS

FINAL BAR LENGTH SHALL BE IN 20mm INCREMENTS.

✳ BARS SPACED AT LEAST 150mm ON CENTER AND AT LEAST 75mm FROM THE SIDE FACE OF THE MEMBER. FACTOR 0.8 USED. FOR OTHER FACTORS, SEE THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

BASIC DEVELOPMENT LENGTH & SPLICE LENGTH

FOR BARS IN TENSION

**FIGURE 10 – 3 M**