

Bar Size	Area	Top Bars ⁽¹⁾	Others ⁽²⁾	Top Bars ⁽³⁾	Others ⁽⁴⁾
#10	71	355	300	300	300
#13	129	460	330	370	300
#16	199	565	405	455	325
#19	284	670	480	540	385
#22	387	860	615	690	495
#25	510	1135	810	910	650
#29	645	1435	1025	1150	820
#32	819	1820	1300	1460	1040
#36	1006	2240	1600	1790	1280
#43	1452	2780	1985	2225	1590
#57	2581	3780	2700	3025	2160

Notes:

(1) $1.4 \times l_d$

(2) l_d

(3) $1.4 \times 0.8 \times l_d$

(4) $0.8 \times l_d$

5. All lengths are in millimeters, and are modified for ≥ 150 mm spacing and minimum 75 mm clear spacing between bars.

6. $d_b < \text{Cover}$; $2d_b < \text{Clear Spacing}$

7. Values are for normal weight concrete.

8. Top bars are horizontal bars with more than 300 mm of fresh concrete below the reinforcement.

DEVELOPMENT LENGTHS FOR UNCOATED BARS IN TENSION

$$f'_c = 28 \text{ MPa}$$

Figure 62-2F