

Required Lap Length of Bars in Inches  
 Bar Centered in Wall  
 Allowable Stress Design  
 Grade 60

$f'_m =$  1500

Bar Size	Diameter (d, in.)	IBC 2006, MBC 2006 <sup>(1) (2)</sup>	MSJC 2005 <sup>(2)(3)</sup>	
		Standard Lap $l_d = 0.002d_b f_s$	$l_d = \frac{0.13d_b^2 f_y Y}{K \sqrt{f'_m}}$	
			8" CMU	12" CMU
#3	3/8	18.0	15.1	15.1
#4	4/8	24.0	20.1	20.1
#5	5/8	30.0	25.2	25.2
#6	6/8	36.0	42.8	39.3
#7	7/8	42.0	59.4	45.8
#8	8/8	48.0	91.2	60.4

<sup>(1)</sup> In regions of moment where the design tensile stresses in the reinforcement are greater than 80 percent of the allowable steel tension stress,  $f_s$ , the lap length shall be increased not less than 50 percent of the minimum required length. Other equivalent means of stress transfer to accomplish the same 50 percent increase shall be permitted.

<sup>(2)</sup> Development length of epoxy-coated bars shall be taken as 150 percent of the length determined by the equation.

<sup>(3)</sup> Minimum clear spacing between adjacent reinforcement splices assumed to be 8" for this table.