

Table 4-14. Approximate mixing water requirements for different slumps and maximum sizes of aggregates

Maximum size of aggregate, inches	Air-entrained concrete				Nonair-entrained concrete			
	Recommended average total air content, percent*	Slump, inches			Approximate amount of entrapped air, percent†	Slump, inches		
		1 to 2	3 to 4	5 to 6		1 to 2	3 to 4	5 to 6
		Water, gal per cu. yd. of concrete**				Water, gal per cu. yd. of concrete**		
3/8	7.5	37	41	43	3.0	42	46	49
1/2	7.5	36	39	41	2.5	40	44	46
3/4	6.0	33	36	38	2.0	37	41	43
1	6.0	31	34	36	1.5	36	39	41
1 1/2	5.0	29	32	34	1.0	33	36	38
2	5.0	27	30	32	0.5	31	34	36
3	4.0	25	28	30	0.3	29	32	34
6	3.0	22	24	26	0.2	25	28	30

This table was adapted from Recommended Practice for Selecting Proportions for Concrete (ACI 613-54)

*Plus or minus 1 percent.

**These quantities of mixing water are for use in computing cement factors for trial batches. They are maximums for reasonably well-shaped angular coarse aggregates graded within limits of accepted specifications.

Table 4-15. Recommended slumps for various types of construction*

Type of construction	Slump, inches	
	Maximum	Minimum
Reinforced foundation walls and footings	6	3
Unreinforced footings, caissons, and substructure walls	4	1
Reinforced slabs, beams, and walls	6	3
Building columns	6	4
Pavements	3	1
Heavy mass construction	3	1
Bridge decks	4	3
Sidewalk, driveway, and slabs on ground	6	3

*When high-frequency vibrators are used, the values may be decreased approximately one-third, but in no case should the slump exceed 6 inches.