Minimum Grout Space Requirements for ASTM C476 Grout (with tolerance of +3/8" or -1/4")			
Grout Type	Maximum Grout Pour Height (ft.)	Minimum Width of Grout Space Between Wythes of Masonry§ (in.)	Minimum Grout Space Dimensions for Grouting Cells or Cores of Hollow Units§† (in. x in.)
Fine	1	¾	1½ x 2
Fine	5	2	2 x 3
Fine	12	2½	2½ x 3
Fine	24	3	3 x 3
Coarse	1	1½	1½ x 3
Coarse	5	2	2½ x 3
Coarse	12	2½	3 x 3
Coarse	24	3	3 x 4

§ Grout space dimension is the clear dimension between any masonry protrusion and shall be increased by the diameters of the horizontal bars within the cross section of the grout space.

† Area of vertical reinforcement not to exceed 6% of the area of the grout space.

Figure 6-12 Minimum grout space requirements for fine or coarse grout. (*From Masonry Standards Joint Committee,* Building Code Requirements for Masonry Structures, *ACI 530/ASCE 5/TMS 402, American Concrete Institute, Detroit, MI, 1992.*)

- Specify masonry grout either by mix proportions or by minimum compressive strength.
- Select grout type based on the size of the space to be grouted.
- ASTM C476 and most building codes require a minimum grout compressive strength of 2000 psi when tested in accordance with ASTM C1019.

Grout Type	Parts by Volume of Portland Cement or Blended Cement	Parts by Volume of Hydrated Lime or Lime Putty	Aggregate Measured in Damp, Loose Condition	
			Fine	Coarse
Fine	1	0 to 1/10	2-1/4 to 3 times the sum of the volumes of the cement and lime	—
Coarse	1	0 to 1/10	2-1/4 to 3 times the sum of the volumes of the cement and lime	1 to 2 times the sum of the volumes of the cement and lime

Figure 6-13 Requirements for ASTM C476 masonry grout.

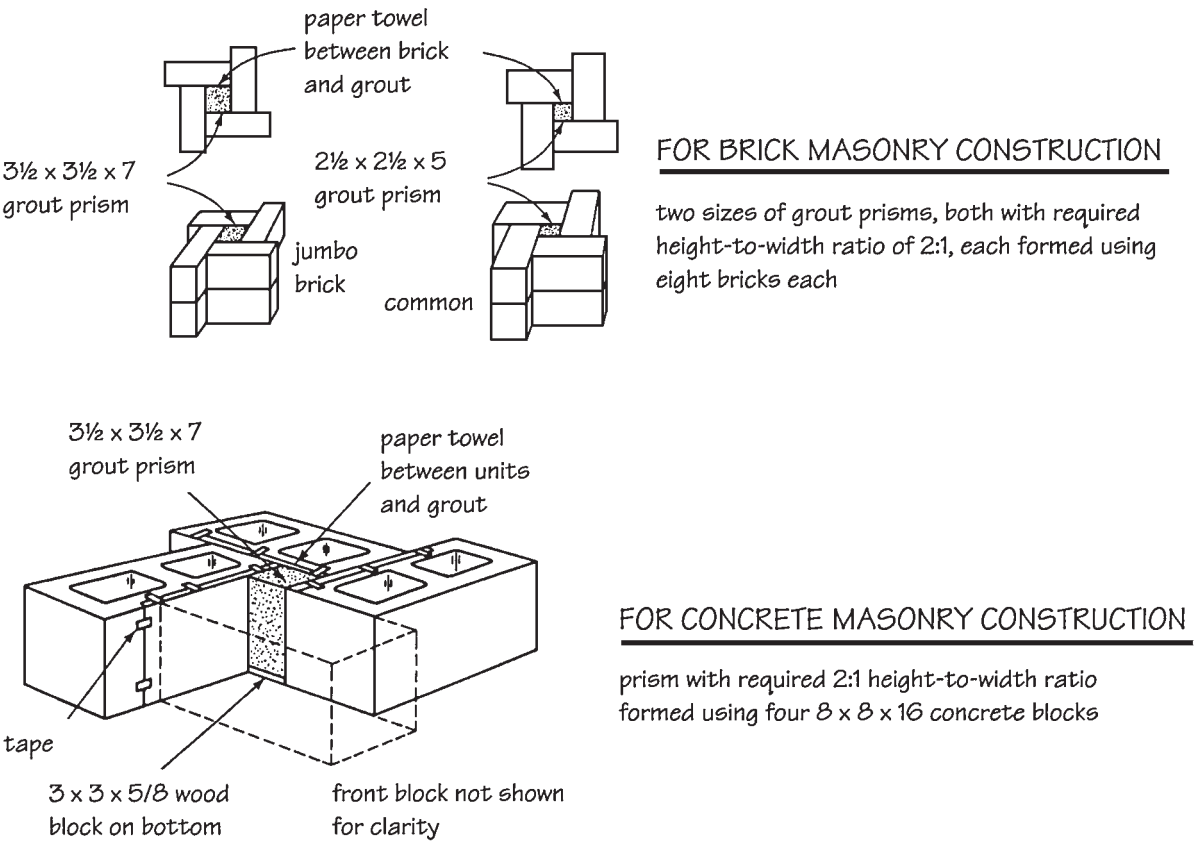

Figure 6-14 ASTM C1019 masonry grout test prisms.

used, the grout must be mixed to a slump of 8 to 11 in. Minimum 28-day compressive strength must be 2000 psi when tested in accordance with ASTM C1019, *Standard Test Method for Sampling and Testing Grout* (*see Fig. 6-14*). Actual compressive strength is usually higher because mixing water is absorbed by the units, reducing the water-cement ratio and increasing the strength. The water absorbed by the units is retained for a period of time, providing a moist condition for optimum curing of the grout. Unit absorption is affected not only by the characteristics of the brick or block, but also by the size of the cavity. The greater the surface area, the more water will be absorbed, so water content and slump limits should be adjusted accordingly.