

SECTION 530: GROUT

530.1 DESCRIPTION

The use of either fine or course grout is allowed as specified on the plans. Fine grout may be used when there is a minimum one-quarter (1/4) inch gap between obstructions. Course grout may be used when the minimum one-and-one-half (1.5) inch gap or greater exists. Grout shall meet the requirements given in ASTM C 476, Grout for Masonry and UBC Standard No. 21-19, Grout for Masonry.

530.2 MATERIALS

530.2.1 Aggregates

Aggregates for grout shall meet the requirements of ASTM C 404, Aggregates for Grout per UBC Section 2102.2.1.2. Grading of the aggregate shall be in accordance with the following table.

Table 530.2.1-1 Grout Gradation Requirements

Grading Requirements^a					
Sieve Size	Fine Aggregate			Coarse Aggregate	
	Size No. 1	Size No. 2		Size No. 8	Size No. 9
		Natural	Manufactured		
1/2 inch	-	-	-	100	100
3/8 inch	100	-	-	85 - 100	90 - 100
No. 4	95 - 100	100	100	10 - 30	20 - 55
No. 8	80 - 100	95 - 100	95 - 100	0 - 10	5 - 30
No. 16	50 - 85	60 - 100	60 - 100	0 - 5	0 - 10
No. 30	25 - 60	35 - 70	35 - 70	-	0 - 5
No. 50	10 - 30	15 - 35	20 - 40	-	-
No. 100	2 - 10	2 - 15	10 - 25	-	-
No. 200	-	-	0 - 10	-	-

a. Based on ASTM C 404, Table 1.

530.2.2 Water

Water shall be proportional as required and shall conform to the requirements of ASTM C 94.

530.2.3 Cement

Cement shall meet the requirements of Section 525 of these specifications.

530.2.4 Proportions

1. Fine or course grout shall be proportioned as per the following table.

Table 520.2.4-1 Grout Properties

Grout Proportions by Volume^{a,b}				
Type	Parts by Volume of Portland Cement or Blended Cement	Parts by Volume of Hydrated Lime or Lime Putty	Aggregate Measured in a Damp, Loose Condition	
			Fine	Coarse
Fine Grout	1	0 - 1/10	2 ¼ to 3 times the sum of the volumes of cementitious materials	
Coarse Grout	1	0 - 1/10	2 ¼ to 3 times the sum of the volumes of cementitious materials	1 to 2 times the sum of the volumes of the cementitious materials

- a. Grout shall attain a minimum compressive strength at twenty (28) days of 2,000 psi. The City may require a compressive field strength test of grout made in accordance with UBC Standard No. 21-18.
 - b. UBC Table No. 21-B.
1. Both types of grout, fine and coarse, shall contain enough water to provide a slump of eight to ten (8 – 10) inches.

530.3 CONSTRUCTION REQUIREMENTS

530.3.1 Mixing

Grout prepared at the jobsite shall be mixed for three to ten (3 - 10) minutes, in order to assure thorough blending of all ingredients. Enough water must be used in the mixing process to achieve a slump of eight to ten (8 - 10) inches. Dry grout mixes which are blended at a factory shall be mixed at the jobsite in a mechanical mixer until workable, but not more than ten (10) minutes.

530.3.2 Grouting Limitations

1. Masonry Construction - See UBC Table No. 21-C.

530.4 METHOD OF MEASUREMENT

No measurement will be made of the grout incorporated into the work.

530.5 BASIS OF PAYMENT

No payment will be made for grout incorporate into the work. Grout payment shall be considered incidental to other work items.