



IOM International Organization for Migration

سازمان بین المللی مهاجرت

د مهاجرت نړیوال سازمان

**Humanitarian Assistance Program**  
**Disaster Risk Mitigation Infrastructure**  
**Specification of Aggregates**

## Specification of Sand

### 1. Materials and Manufacture

Aggregate for use in masonry mortar shall consist of natural sand or manufactured sand. Manufactured sand is the product obtained by crushing stone, gravel, or air-cooled iron blast-furnace slag specially processed to ensure suitable gradation.

### 2. Grading

2.1 Aggregate for use in masonry mortar shall be graded within the following limits, depending upon whether natural sand or manufactured sand is to be used:

Sieve Size		Percent Passing	
		Natural Sand	Manufactured Sand
4.75-mm	(No. 4)	100	100
2.36-mm	(No. 8)	95 to 100	95 to 100
1.18-mm	(No. 16)	70 to 100	70 to 100
600- $\mu$ m	(No. 30)	40 to 75	40 to 75
300- $\mu$ m	(No. 50)	10 to 35	20 to 40
150- $\mu$ m	(No. 100)	2 to 15	10 to 25
75- $\mu$ m	(No. 200)	0 to 5	0 to 10

2.2 The aggregate shall not have more than 50 % retained between any two consecutive sieves of those listed in 1.1 nor more than 25 % between 300- $\mu$ m (No. 50) and the 150- $\mu$ m (No. 100) sieve.

2.3 If the fineness modulus varies by more than 0.20 from the value assumed in selecting proportions for the mortar, the aggregate shall be rejected unless suitable adjustments are made in proportions to compensate for the change in grading

### 3. Composition

#### 3.1 Deleterious Substances

The amount of deleterious substances in aggregate for masonry mortar, each determined on independent samples complying with the grading requirements of Section 2, shall not exceed the following:

Item	Maximum Permissible Weight Percent
Friable particles	1.0
Lightweight particles, floating on liquid having a specific gravity of 2.0	0.5

### **3.2 Organic Impurities**

**3.2.1** The aggregate shall be free of injurious amounts of organic impurities. Except as herein provided, aggregates subjected to the test for organic impurities and producing a color darker than the standard shall be rejected.

**3.2.2** Aggregate failing in the test may be used, provided that the discoloration is due principally to the presence of small quantities of coal, lignite, or similar discrete particles.

**3.2.3** Aggregate failing in the test may be used provided that, when tested for the effect of organic impurities on strength of mortar, the relative strength at seven days calculated in accordance with the Procedure Section of Test Method ASTM C 87, is not less than 95 %.

*In all cases aggregate which will be used for masonry mortar shall conform to standard specification stated in ASTM C144.*