



IOM International Organization for Migration

سازمان بین المللی مهاجرت
دمه‌اجرت نړیوال سازمان

Humanitarian Assistance Program

Disaster Risk Mitigation Infrastructure

Specification of Aggregates

Specification for Mountain Stone

Mountain stone shall be sound, clean, natural, hard, durable, susceptible, non-frost and free of spalls, cracks, open seams, pits, or other defects that are likely to impair its structural integrity in its intended use. Mountain stone shall be of such quality that shall not disintegrate on exposure to water or weathering during the life of the structure.

Mountain stone shall meet the requirements of Table 1:

Table 1: Physical Requirements for Mountain Stone

Property	Test Requirements	Test Method(s)
Maximum absorption by weight	3%	ASTM C 97
Minimum density	160 lb/ft ³ (2560 kg/m ³)	ASTM C 97
Minimum compressive strength	8000 PSI (55 MPa)	ASTM C 170
Minimum modulus of rupture	1000 PSI (6.9 MPa)	ASTM C 99
Minimum Abrasion Resistance	10	ASTM C 241/C 1353

Mountain Stone shall be well graded within the following limits stated in Table 2:

Table 2: Required Mountain Stone Gradation

Minimum length, width & thickness	Maximum length, width & thickness
250mm	350mm

The contractor shall supply all stone from project from one single source. The sources from which the contractor proposes to obtain the stone shall be selected well in advance. Sample of stone should be brought to project site by contractor from selected source. A sample shall be taken from the transported stone to project site in presence of IOM engineer and contractor representative for testing. The stone sample shall be signed by contractor representative and IOM field engineer and will be delivered to construction material testing laboratory for testing. Stone test shall be performed at the presence of IOM engineer. The test result of stone shall be submitted to IOM/HAP. Engineering team of IOM/ HAP will decide to approve or reject the stone test result. If the mountain stone test result is approved, then the contractor can start supplying of stone to project site and if the test result is rejected then the contractor should look for another stone source and redo the process for approval.

The construction material testing laboratory where the stone will be performed must be certified by Government of the Islamic Republic of Afghanistan, Afghanistan Builders Association (ABA) or U.S. Army Corps of Engineers and must have a valid certificate.

Under any circumstances if the source of stone is changed, contractor is responsible to redo the approval process for new stone source. If a source is approved and stone is supplied from that source to project site for a while and then the source is changed all properties of new source including color of stone should match with the approved previous one.

Mountain stone shall be delivered to the work site in a manner to minimize its reduction in sizes (breakdown) during the handling of the stone.

Contractor is responsible to perform testing, grading (which requires breaking of stone) of oversize stones and any other activity associated with supplying of stone to project site. Contractor is responsible for all expenses associated with above activities. IOM will only pay for stone used in gabions boxes and the quantity of stone will be measured in fully filled gabion boxes. The unit for measurement of stone in fully filled gabion box is cubic meter (m^3).

Note: The stone quantity will be measured as per the actual dimensions of constructed wall or in installed gabion boxes, it will not be measured in loaded trucks.

Pictures of Mountain Stone





