

PERLITE PRODUCT GUIDE

LIGHTWEIGHT FIBER REINFORCED PERLITE CEMENT PLASTERS

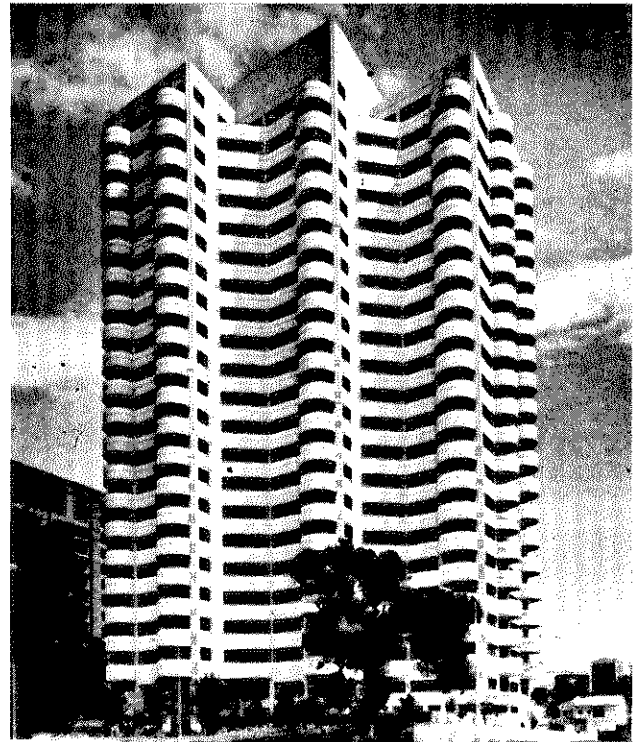
Portland cement plasters made with perlite aggregate instead of sand offer many advantages. They are more fire resistant, better insulators and weigh approximately 60% less than conventional cement and sand plasters. With the addition of fiber reinforcement, superior crack resistance is achieved. In addition, fiber reinforced perlite cement plaster panels can be safely and easily handled in the field.

Fiber Reinforced Perlite Cement Plasters

The addition of alkali resistant glass, polypropylene or acrylic fibers makes possible the manufacture of prefabricated steel stud, lath and plaster exterior wall panels for high rise structures. Perlite cement plasters with fiberglass reinforcement can also be used for fire protecting structural steel columns or for any normal application where conventional cement plasters might be used.

Panelizing

Fiber reinforced perlite cement plaster panels using steel studs may be constructed in a fabricating shop and shipped to the job site for installation. On smaller projects, it has proven more efficient to prefabricate the wall panels on each floor of the building and tip them into place.



Mixing

In batch mixing, all required water is placed in the mixer and cement is added and mixed for approximately 1 minute until the slurry is uniform. Perlite aggregate and chopped fiber is added as the mixer is rotated. Mixing should continue until the mix is thoroughly blended but should not exceed 4 minutes. The batch should not be overmixed.

Application

Fiber reinforced perlite cement plaster may be machine or hand applied. For machine application, 1/2 in. (13mm) long fibers are preferred as they do not tend to ball up in the equipment. On vertical applications, plastering should consist of separate scratch and brown coats. The brown coat may be applied as soon as the scratch coat has set sufficiently hard to support subsequent coats. For horizontal applications (panel construction), plaster may be poured in one coat and screeded level. When plaster begins to set it should be floated to provide compaction.

Typical Aggregate Characteristics*

Bulk Density	6-12 lb/ft ³ (100-200 kg/m ³)	
Grading Requirements		
Sieve Size	Volume Retained % (Cumulative)	
	Max.	Min.
Number 4 (4.75 mm)	0	-
Number 8 (2.36 mm)	5	0
Number 16 (1.18 mm)	60	5
Number 30 (0.60 mm)	95	45
Number 50 (0.30 mm)	98	75
Number 100 (0.15 mm)	100	85

*Conforms to ASTM C-35

