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Guide ThermaTec Lightweight Grout Mix Design

For use as grout to be pumped into hollow masonry walls

Specified Compressive Strength (Note 1)	3,000 p.s.i. at 28 days
Specified Concrete Unit Weight	85 p.c.f. air dry
Maximum Aggregate Size	3/16-inch
Equivalent Cement Content (sacks per cubic yard)	8.0 including fly ash
Theoretical Maximum Water/Cement Ratio by Weight	0.66 including fly ash
Maximum Slump	Flowable

Proportions for one cubic yard of concrete:

MATERIAL	LOOSE VOLUME	BATCH WEIGHT, pounds	ABSOLUTE VOLUME, cubic feet
Cement, Type 1 or 2	6.4 sacks	602	3.06
Fly Ash, Class F or C	-	150	1.04
Expanded Clay or Shale (See note 6)	24.6 cu.ft.	1,232	13.81
Active Water	60.0 gals.	500	8.01
Absorbed Water, Maximum	41.0 gals.	342	-
Total Water Allowed	101.0 gals.	-	-
Air Entraining Agent to produce:	5%(±1%) air	As required	1.08
			27.00

NOTES:

- Grout specimens to be tested in accordance with ASTM C 1019. (Actual compressive strengths are typically around 6000 + PSI when tested.)
- The batch weight for expanded clay or shale is a *dry* weight. This aggregate usually contains some absorbed water when delivered. This moisture content must be determined and the extra weight must be added to the dry weight before batching. (Example: 24.6 c.f. X actual loose unit wt. = new batch weight)
- Adjust dosage rate of air-entraining admixture per manufacturers recommendations in order to maintain required air content.
- This mix is submitted for guide purposes only. All data shown such as compressive strength, unit weight volumetric yield, etc. and ability to pump must be checked before using in the field.
- This mix was tested using the above proportions and expanded clay meeting the gradation as shown on the attached sieve analysis. Copies of ASTM C 1019 test reports are provided to demonstrate how this mix design performed in a laboratory trial batch. It is recommended that any interested parties order a trial batch using the proposed cement, fly ash, and expanded clay or shale in their market area. Call TXI for consultation.
- SPECIAL NOTE:** It is highly recommended that the ratio of sacks of cement to volume of expanded clay or shale not be adjusted. Actual field usage experience dictates adequate cement content for excellent pumping and placement ease. Any cost savings realized by reducing cement will be eliminated by placement difficulties.