



GLASS MOUNTAIN LIGHTWEIGHT AGGREGATE

DATA SHEET

Lightweight Fill / Structure Backfill

1. Chemical Stability – ¾” Minus Lightweight Fill

Cal-Trans Labs 1/15/95

CTM 643 Minimum Resistivity	27,018 ohm-cm
CTM 417 Water Sol. Sulfate	5 ppm
CTM 422 Water Sol. Chloride	5 ppm

Anacom Testing Lab 11/10/94

CTM643 pH	7.3
CTM 643 Minimum Resistivity	19,500 ohm-cm
CTM 417 Water Sol. Sulfate	7.2 ppm
CTM 422 Water Sol. Chloride	0.3 ppm

2. Summary of Unit Weights - ¾” Minus Lightweight Fill

CTM 212 Method	As received Unit Wt	Calculated SSD Unit Wt	Dry Unit Wt	Test source
Shoveling	56.3 pcf (901.44 kg/m ³)		44.9 pcf (718.24 kg/m ³)	Kleinfelder 3/04/02
Jigging	63.1 pcf (1010.24 kg/m ³)		49.7 pcf (794.72 kg/m ³)	Kleinfelder 3/13/02
Jigging		55.3 pcf (884.64 kg/m ³)	48.0 pcf (768.48 kg/m ³)	Kleinfelder 4/24/02
Rodding (ASTM C-29)			54 pcf (864 kg/m ³)	Kleinfelder 11/28/94

3. Method for Calculation of SSD Unit Wt. By CTM 212 b. – jigging.

This specification has been recently introduced by Cal-Trans for the use of Lightweight Fill. The specification is for a maximum calculated SSD Unit Wt determined using the Dry Loose Unit Wt and Absorption of the coarse and fine fraction of the lightweight aggregate.

- a. Testing requirements
 - Dry Loose Unit Wt. by CTM 212 using compaction by jigging.

- Absorption of both coarse and fine aggregates by CTM 206 & 207, but samples shall be oven dry before soaking, and shall be soaked for 24 hrs plus or minus 30 mins.

- b. The SSD Unit Wt is calculated as follows

 - % coarse aggregate X absorption of coarse aggregate = A
 - % fine aggregate X absorption of fine aggregate = B
 - $A + B / 10^4 = C$
 - $(A + C) X \text{ Dry Loose Unit Wt. (by jiggling)}$

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 File: 30-1927-01

SUMMARY OF LABORATORY TEST RESULTS

Source: Sample of Lightweight Aggregate Base (AB) Material from Glass Mountain Pumice, Inc. (Cypress Freeway Project)

Submitted by: Glass Mountain Pumice, Inc. On July 18, 1995

Lab No.: 6639

R-VALUE TEST (CAL-301)			
Sample I.D.	R-Value	Expansion Pressure (psf)	Project Specs. R-Value
Lightweight AB	83	0	78 (min.)

COMPACTION TEST (CAL-216)				
Sample I.D.	As Rec'd Initial Moisture Content	Maximum Wet Density (pcf)	Dry Density	Project Specs Maximum Density
Lightweight AB	18.0	76.1	62.9	70 pcf (max.)
(@ 20.9% Moisture Content)				

Glass Mtn's 3/4" Lightweight Fill, Kleinfelder 4/18/2002

	Fine component Minus # 4 Mesh	Coarse component Plus # 4 Mesh
Content (% w/w oven dry)	50.2	49.8
SG Bulk (dry)	1.785	1.008
SG (SSD)	1.679	1.248
SG Apparent	1.878	1.323
Water Absorption	6.3 %	22.7 %

Calculated values	Dry Unit Wt (by Jigging)	773.22 kg / m ³
	SSD Unit Wt (by Jigging)	885.12 kg / m ³

We can provide some background information on our backfill for shrinkage factors and in-place unit wts of compacted fill as a courtesy to assist buyers in estimating volumes to be purchased from us. We regret that we can assume no liability for values quoted, or methods that we use for calculation of volumes. Glass Mtn Lightweight Aggregate acts as a material supplier under the State of California Commercial Code, and not as a construction or engineering company.

Glass Mtn. Pumice, Inc.

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Sample No. Lightweight Fill Sample Weight Wet (A) 1778
Date: 1/25/03 Sample Weight Dry (B) 1357
Tester: T. Perez Weight of Water (A-B) 421
Moisture % (A-B): A 24

AGGREGATE SIEVE ANALYSIS

Sieve Number	Grams Retained	% Retained	% Passing	Specification % Passing
1 1/2"	0	0	100	100
1"	0	0	100	95 – 100
3/4"	55	.4	96	90 – 100
3/8"	323	24	76	15 – 85
200	1292	95	5	0 – 9
PAN	1357	5		

Aggregate Unit Weight (moist and loose) 52.5 PCF
Aggregate Unit Weight (dry and loose) PCF