



TYPICAL SIEVE ANALYSES

TYPICAL SIEVE ANALYSIS - Coarse Aggregate - 3/4" - No. 4 Size

Sieve No.	Percent Retained	Percent Passing	ASTM C 330
3/4	3.0	97	90-100
1/2	33	64	--
3/8	35	29	10-50
No. 4	27	2	0-15
No. 200	1.3	0.7	0-10

Fineness Modulus 7.08
ASTM Requirement < 55 lb./ft.³
Dry Loose Bulk Density lb./cu. ft. 42

TYPICAL SIEVE ANALYSIS - Intermediate Aggregate - 3/8" - No. 8 Size

Sieve No.	Percent Retained	Percent Passing	ASTM C 331
1/2	0.0	100	100
3/8	0.0	100	80-100
No. 4	62.5	37.5	5-40
No. 8	36	1.5	0-20
No. 16	0.8	0.7	0-10
No. 200	0.2	0.5	0-10

Fineness Modulus 5.61
ASTM Requirement < 55 lb./ft.³
Dry Loose Bulk Density lb./cu. ft. 44

TYPICAL SIEVE ANALYSIS - Fine Aggregate- No. 4 - 0 Size

Sieve No.	Percent Retained	Percent Passing	ASTM C 330 C 331
3/8"	0.0	100	100
No. 4	0.0	100	85-100
8	11.0	89	—
16	29	60	40-80
30	22	39	--
50	14	24	10-35
100	8	16	5-25

Fineness Modulus 2.72
ASTM Requirement < 70 lb./ft.³
Dry Loose Bulk Density lb./cu. ft. 55



TYPICAL SIEVE ANALYSIS - Combined Fine and Coarse Aggregate - 3/8" - 0 Size

Sieve No.	Percent Retained	Percent Passing	ASTM C 330
1/2	0	100	100
3/8	2.0	98	90-100
4	13.0	85	65-90
8	13.0	72	35-65
16	27.0	45	--
30	16.0	29	--
50	12.0	17	10-25
100	8.0	9	5-15
200	5.0	4	0-10

Fineness Modulus 3.89
 Dry Loose Bulk Density lb./cu. ft. 56
 ASTM REQUIREMENT < 65 lb./ft.3

AVERAGE DENSITIES

	Loose Dry	ASTM Requirement
Coarse 3/4" - No. 4	42	55
Intermediate 3/8" - No. 8	44	55
Fines No. 4 - 0	55	70
Block Mix 3/8" - 0	56	65

SPECIFIC GRAVITY

	3/4"	3/8"	No. 4 - 0
Specific Gravity (0% Moisture)	1.25	1.30	1.55



ASTM SPECIFICATIONS

ASTM SPECIFICATIONS - C 330 Lightweight Aggregates for Structural Concrete

	3/4" - No. 4	3/8" - No. 8	ASTM C 330
Organic Impurities	--	--	
Staining	None	None	
Loss on Ignition, %	0	0	5 MAX
Friable particles, %	0.2	0.2	2% MAX
Clay Lumps	0.1	0.1	2 MAX
Popouts	None	None	
Drying Shrinkage, % 35 Days	0.028	0.039	0.07 MAX

ASTM SPECIFICATIONS - C 331 Lightweight Aggregates for Concrete Masonry Units

	Block Mix	ASTM C 331
Organic Impurities		
Staining	0.0	
Loss on Ignition, %	0.1	5 Max.
Friable particles, %		2% Max.
Clay Lumps	0.3	2 Max.



DURABILITY FACTOR DATA (Freeze Thaw Test)

Laboratory tests were conducted with Norlite concrete in accordance with the Standard Method of Testing for Resistance of Concrete to Rapid Freezing and Thawing, ASTM Designation C 666 (Procedure B, Rapid Freezing in Air and Thawing in Water).

Test Samples: 3" x 4" x 16" Norlite Concrete Bars

Curing Conditions: Set A - 14 days moist and 14 days dry

Set B - 28 days moist

Test Requested: Freeze in air and thaw in water

Duration of Test: 300 Cycles

Test Method: Conrad Freeze and Thaw Machine programmed to meet cabinet temperatures as called for in the Freeze and Thaw Procedure B in ASTM C 666 71.

Average Durability Factor

(Based on 300 cycles) Set A 93%

Set B 100%

CHEMICAL ANALYSIS

Silica	(SiO ₂)	64.20%
Alumina	(Al ₂ O ₃)	20.24%
Iron Oxide	(Fe ₂ O ₃)	4.86%
Titanium Oxide	(TiO ₂)	.70%
Calcium Oxide	(CaO)	2.00%
Magnesium Oxide (MgO)		3.62%
Alkalies		3.16%
Sulphur Trioxide (So ₃)		.69%
Loss on Ignition		.70%



SOUNDNESS ANALYSES

SODIUM SULFATE - 5 CYCLES

Size	¾ - No. 4	3/8 - No. 8	3/16	Blockmix	No. 4 - 0	No. 8 - 0
Percent Loss	4.8	4.4	4.7	3.4	3.8	3.1

SOUNDNESS ANALYSIS - Nominal 3/4" - No. 4 Size

MAGNESIUM SULFATE - 5 CYCLES

Weighted Percent Loss

3.41