

A.G. Wassenaar

Inc.

LABORATORY TESTING

Laboratory Testing of Soils

Swell or Consolidation (undisturbed) (ASTM D 4546)
Swell or Consolidation (remolded) (ASTM D 4546)
One Dimensional Timed Consolidation (ASTM D 2435)
Grain-size Analysis, 6 inch to the No. 200 sieve (ASTM D 422)
Grain-size Analysis for minus No. 200 sieve wash (ASTM D 1140)
Hydrometer Analysis (ASTM D 422)
Plastic and Liquid Limits (ASTM D 4318)
Natural Moisture Content and Dry Unit Weight (ASTM D 2216)
Specific Gravity (ASTM D 854)
Permeability Test - Undisturbed (ASTM D 2434)
Permeability Test - Remolded (ASTM D 2434)
Unconfined Compression (ASTM D 2166)
Direct Shear Tests (ASTM D 3080)
California Bearing Ratio (ASTM D 1883)
Resistance R-Value (ASTM D 2844)
Water Soluble Sulfates
Compaction Tests-Standard (ASTM D 698)
Compaction Tests-Modified (ASTM D 1557)
Relative Density (ASTM D 4253 and 4254)

Aggregate Laboratory Tests

Sieve Analyses
ASTM C-136 Coarse Aggregate
ASTM C-136 Fine Aggregate
ASTM C-117 Material Finer Than #200 Sieve (minus #200 sieve wash)
ASTM D-422 Hydrometer Analysis
Atterberg Analyses ASTM D-4318
Los Angeles Abrasion Test
(1½" maximum) ASTM C-131
(3" maximum) ASTM C-535
Sodium Sulfate Soundness (5 cycles)
ASTM C-88 Coarse Aggregate
ASTM C-88 Fine Aggregate
Magnesium Sulfate Soundness (5 cycles)
ASTM C-88 Coarse Aggregate
ASTM C-88 Fine Aggregate
Soundness Test For Filter Rock (20 cycles)

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LABORATORY TESTING CONTINUED

Aggregate Laboratory Tests Continued

Specific Gravity

ASTM C-127 Coarse Aggregate

ASTM C-128 Fine Aggregate

Organic Impurities

ASTM C-40 Fine Aggregate

Friable Particles

ASTM C-142 Coarse Aggregate

ASTM C-142 Fine Aggregate

Lightweight Pieces

ASTM C-123 Coarse Aggregate

ASTM C-123 Fine Aggregate

Soft Particles ASTM C-851 Coarse Aggregate

Sand Equivalent AASHTO T-176, ASTM D 2419

Fractured Faces - Coarse Aggregate

Flat and Elongated Particles - Coarse Aggregate

Unit Weight ASTM C-29

Moisture Content

ASTM C-566 Coarse Aggregate

ASTM C-566 Fine Aggregate

Effective Size, Uniformity Coefficient (includes sieve analysis and calculations)

Potential Reactivity Test (Chemical Method) ASTM C-289

Salt Content

Concrete Laboratory Testing

Compression Tests, Standard Cylinders (ASTM C-39)

Flexural Tests (Beams) (ASTM C-78)

Tensile Splitting Test (ASTM C-496)

Modulus of Elasticity Test (ASTM C-469)

Setting Time Test (ASTM C-403)

Shrinkage Test (ASTM C-157)

Asphalt Laboratory Testing

SHRP Gyration (Includes Unit Weight)

Marshall Properties (3 Specimens), ASTM D 1559 (Includes Unit Weight, Stability, and Flow)

Maximum Theoretical Specific Gravity, ASTM D 2041

Immersion - Compression Test, ASTM D-1074-1075

Lottman Test, CP L-5109

Extraction/Gradation, ASTM D-2172

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LABORATORY TESTING CONTINUED

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Soil Cement Laboratory Testing

Mix Design (1 source, 3 cement contents)
Additional Cement Contents
Freeze Thaw Test, ASTM D-560
Wet Dry Test, ASTM D-559
Compression, ASTM D-1633

Masonry Units Laboratory Testing

Bricks

Compressive Strength (Set of 5) ASTM C-67
Absorption: 24 Hour Submersion (Set of 5) ASTM C-67
5 Hour Boil
Modulus of Rupture (Set of 5) ASTM C-67
Efflorescence (Set of 5) ASTM C-67
Freeze-Thaw (Set of 5) ASTM C-67
Initial Rate of Absorption (Set of 5) ASTM C-67
Acid Solubility (Set of 5) ASTM C-67

Concrete Masonry Units Compressive Strength ASTM C-140

Hollow Block (Set of 3)
Absorption Analysis (Set of 3)

Masonry Prisms Compressive Strength (ASTM E-447)

Block, Hollow Prism (up to 8" width)
Block, Grout Filled (up to 8" width)
Block, Hollow Prism (over 8" width)
Block, Grout Filled (over 8" width)
Brick, Hollow Prism
Brick, Grout Filled

Mortar Cubes Compression Strength (ASTM C-109)

Structural and Reinforcing Steel Laboratory Testing

Tensile, Ultimate Strength Only
Tensile, Ultimate, Yield
Tensile, Ultimate, Yield, Elongation
Tensile, Ultimate, Yield, Elongation, Area Reduction

Fireproofing

Density and Moisture Content