### Miami-Dade County, Florida

DEPARTMENT OF REGULATORY AND ECONMIC RESOURCES
BOARD AND CODE ADMINISTRATION DIVISON

PRODUCT CONTROL SECTION

Laboratory Certificate



11805 S.W. 26 Street-Room 208 Miami, Florida 33175-2474 T (786) 315-2590 Fax (786) 315-2599

This certifies that Applied Testing & Geosciences, LLC located at 401 E.4<sup>th</sup> Street Building 12B, Bridgeport, PA 19405 is an approved Testing Laboratory in accordance with Miami-Dade County Department of Regulatory and Economic Resources and Protocol 7A5301-94, and is Certified to perform the following tests:

International Accreditation Services Inc. Certificate of Accreditation TL-292

Results of the above mentioned test shall be properly submitted to the Miami-Dade County Department of Regulatory and Economic Resources per 7.45301-94, along with all other documentation required for the approval of products. Approved engineer(s) for this laboratory:

Craig J. Joss, P.E.

This Certification and Registration Approved: October 11, 2018
This Certification and Registration Expires: October 11, 2023

Certification No.: 18-0830.01

Helmy A. Makar, P.E., M.S.

Product Control Section Supervisor

**Product Control Section** 

Americo Segura, M.S.

Quality Assurance Unit Supervisor

**Product Control Section** 

The Miami-Dade County Department of Regulatory and Economic Resources reserves the right to remove this certification for non-compliance with rules and regulations as set by Protocol 7.45301-94.





IAS Accreditation Number	TL-292
Company Name	Applied Testing & Geosciences, LLC
Address	401 E. Fourth St., Bldg. 12B
	Bridgeport, PA 19405
Contact Name	Thomas Smith, Laboratory Manager
Telephone	+1 (610) 313-3227
Effective Date of Scope	November 21, 2017
Accreditation Standard	ISO/IEC 17025:2005

### **CONSTRUCTION MATERIALS**

### **Concrete Testing Methods**

ASTM C29 / C29M	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C39 / C39M	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C40 / C40M	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes
ASTM C42 / C42M	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C70	Standard Test Method for Surface Moisture in Fine Aggregate
ASTM C78	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C87	Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C128	Standard Test Method for Relative Density (Specific Gravity) and Absorption of Fine Aggregate



ASTM C131	Standard Test Method for Resistance to Degradation of Small- Size Coarse Aggregate by Abrasion And Impact in the Los Angeles Machine
ASTM C136 / C136M	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C138 / C138M	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C143 / C143M	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C157 / C157M	Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete
ASTM C173 / C173M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C174 / C174M	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C227	Standard Test Method for Potential Alkali Reactivity of Cement- Aggregate Combinations
ASTM C231 / C231M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C232/C232M	Standard Test Method for Bleeding of Concrete
ASTM C293 / C293M	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam With Center-Point Loading)
ASTM C295 / C295M	Standard Guide for Petrographic Examination of Aggregates for Concrete
ASTM C403 / C403M	Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
ASTM C404	Standard Specification for Aggregates for Masonry Grout
ASTM C426	Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Units
ASTM C457 / C457M	Standard Test Method for Microscopical Determination of Parameters of the Air-Void System in Hardened Concrete
ASTM C470	Standard Specification for Molds for Forming Concrete Test Cylinders Vertically





ASTM C495 / C495M	Standard Test Method for Compressive Strength of Lightweight Insulating Concrete
ASTM C496 / C496M	Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens
ASTM C531	Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical-
ASTM C535	Standard Test Method for Resistance to Degradation of Large- Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM C567 / C567M	Standard Test Method for Determining Density of Structural Lightweight Concrete
ASTM C579	Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes
ASTM C617	Standard Practice for Capping Cylindrical Concrete Specimens
ASTM C666 / C666M	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C779 / C779M	Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces
ASTM C796	Standard Test Method for Foaming Agents for Use in Producing Cellular Concrete Using Preformed Foam
ASTM C803 / C803M	Standard Test Method for Penetration Resistance of Hardened Concrete
ASTM C805 / C805M	Standard Test Method for Rebound Number of Hardened Concrete
ASTM C823 / C823M	Standard Practice for Examination and Sampling of Hardened Concrete in Constructions
ASTM C856	Standard Practice for Petrographic Examination of Hardened Concrete
ASTM C873 / C873M	Standard Test Method for Compressive Strength of Concrete Cylinders Cast in Place in Cylindrical Molds
ASTM C900	Standard Test Method for Pullout Strength of Hardened



Concrete





ASTM C1012	Standard Test Method for Length Change of Hydraulic-Cement Mortars Exposed to a Sulfate Solution
ASTM C1040 / C1040M	Standard Test Methods for In-Place Density of Unhardened and Hardened Concrete, Including Roller Compacted Concrete, By Nuclear Methods
ASTM C1064 / C1064M	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1105	Standard Test Method for Length Change of Concrete Due to Alkali-Carbonate Rock Reaction
ASTM C1116	Standard Specification for Fiber-Reinforced Concrete
ASTM C1152 / C1152M	Standard Test Method for Acid-Soluble Chloride in Mortar and Concrete
ASTM C1218 / C1218M	Standard Test Method for Water-Soluble Chloride in Mortar and Concrete
ASTM C1231 / C1231M	Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Cylindrical Concrete Specimens
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates
ASTM C1293	Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction
ASTM C1399 / C1399M	Standard Test Method for Obtaining Average Residual-Strength of Fiber-Reinforced Concrete
ASTM C1524	Standard Test Method for Water-Extractable Chloride in Aggregate (Soxhlet Method)
ASTM C1567	Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate
ASTM C1688	Standard Test Method for Density and Void Content of Freshly Mixed Pervious Concrete
ASTM C1754	Standard Test Method for Density and Void Content of Hardened Pervious Concrete
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled



Low Strength Material (CLSM) Test Cylinders



ASTM D5821 Standard Test Method for Determining the Percentage of

Fractured Particles in Coarse Aggregate

ASTM E70 Standard Test Method for pH of Aqueous Solutions With the

Glass Electrode

ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission

Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

CRD C48 Standard Test Method for Water Permeability of Concrete

AASHTO T103 Soundness of Aggregates by Freezing and Thawing (Procedure

A Total Immersion in Water)

**Concrete Sampling Methods** 

ASTM C31 / C31M Standard Practice for Making and Curing Concrete Test

Specimens in the Field

ASTM C42 / C42M Standard Test Method for Obtaining and Testing Drilled Cores

and Sawed Beams of Concrete

ASTM C94 Standard Specification for Ready-Mixed Concrete

ASTM C172 / C172M Standard Practice for Making and Curing Concrete Test

Specimens in the Laboratory

ASTM C192 / C192M Standard Practice for Sampling Freshly Mixed Concrete

ASTM C513 Standard Test Method for Obtaining and Testing Specimens of

Hardened Lightweight Insulating Concrete for Compressive

Strength

ASTM C702 / C702M Standard Practice for Reducing Samples of Aggregate to Testing

Size

ASTM C1140 Standard Practice for Preparing and Testing Specimens from

Shotcrete Test Panels

ASTM C1385 Standard Practice for Sampling Materials for Shotcrete

ASTM C1604 Standard Test Method for Obtaining and Testing Drilled Cores of

Shotcrete

ASTM C1704 Standard Test Method for Sampling and Testing Structural

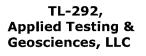
Cementitious Panels

ASTM D75 Standard Practice for Sampling Aggregates

ASTM D5971 Standard Practice for Sampling Freshly Mixed Controlled Low-

Strength Material

**Concrete Specifications** 







Standard Specification for Concrete Aggregates ASTM C33 / C33M

Standard Specification for Ready-Mixed Concrete ASTM C94

Standard Specification for Packaged, Dry, Combined Materials ASTM C387

for Concrete and High Strength Mortar

Standard Specification for Mixing Rooms, Moist Cabinets, Moist ASTM C511

Rooms, and Water Storage Tanks Used in the Testing of

Hydraulic Cements and Concretes

Standard Specification for Foaming Agents Used in Making ASTM C869

Preformed Foam for Cellular Concrete

Standard Specification for Packaged, Dry, Rapid-Hardening ASTM C928

Cementitious Materials for Concrete Repairs

Standard Practice for Agencies Testing Concrete and Concrete **ASTM C1077** 

Aggregates for Use in Construction and Criteria for Testing

Agency Evaluation

Standard Specification for Fiber-Reinforced Concrete **ASTM C1116** 

Standard Specification for Woven Wire Test Sieve Cloth and ASTM E11

**Test Sieves** 

Standard Specification for Agencies Engaged in Construction ASTM E329

Inspection, Testing, or Special Inspection

#### **Concrete Equivalent AASHTO Test**

AASHTO M6 Fine Aggregate for Hydraulic Cement Concrete

AASHTO M80 Coarse Aggregate for Hydraulic Cement Concrete

Ready-Mixed Concrete AASHTO M157

Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage AASHTO M201

Tanks Used in the Testing of Hydraulic Cements and Concretes

Making and Curing Concrete Test Specimens in the Laboratory AASHTO R39

AASHTO R60 Sampling Freshly Mixed Concrete

Use of Apparatus for the Determination of Length Change of AASHTO R70

Hardened Cement Paste, Mortar, and Concrete

Sampling of Aggregates AASHTO T2

Materials Finer Than 75-µm (No. 200) Sieve in Mineral AASHTO T11

Aggregates by Washing

AASHTO T19 Bulk Density ("Unit Weight") and Voids in Aggregate







Organic Impurities in Fine Aggregates for Concrete
Compressive Strength of Cylindrical Concrete Specimens
Making and Curing Concrete Test Specimens in the Field
Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
Sieve Analysis of Fine and Coarse Aggregates
Effect of Organic Impurities in Fine Aggregate on Strength of Mortar
Specific Gravity and Absorption of Fine Aggregate
Specific Gravity and Absorption of Coarse Aggregate
Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
Standard Method of Test for Clay Lumps and Friable Particles in Aggregate
Slump of Hydraulic Cement Concrete
Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
Measuring Length of Drilled Concrete Cores
Air Content of Freshly Mixed Concrete by the Pressure Method
Bleeding of Concrete
Resistance of Concrete to Rapid Freezing and Thawing
Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)
Air Content of Freshly Mixed Concrete by the Volumetric Method
Time of Setting of Concrete Mixtures by Penetration Resistance
Splitting Tensile Strength of Cylindrical Concrete Specimens
Capping Cylindrical Concrete Specimens







AASHTO T248 Reducing Samples of Aggregate to Testing Size

AASHTO T255 Total Evaporable Moisture Content of Aggregate by Drying

AASHTO T260 Sampling and Testing for Chloride Ion in Concrete and Concrete

Raw Materials

AASHTO T303 Accelerated Detection of Potentially Deleterious Expansion of

Mortar Bars Due to Alkali-Silica Reaction

AASHTO T309 Temperature of Freshly Mixed Hydraulic Cement Concrete

**Cement Testing Methods** 

ASTM C110 Standard Test Methods for Physical Testing of Quicklime,

Hydrated Lime, and Limestone

ASTM C114 Standard Test Methods for Chemical Analysis of Hydraulic

Cement

ASTM C151 / C151M Standard Test Method for Autoclave Expansion of Hydraulic

Cement

ASTM C183 / C183M Standard Practice for Sampling and the Amount of Testing of

Hydraulic Cement

ASTM C187 Standard Test Method for Amount of Water Required for Normal

Consistency of Hydraulic Cement Paste

ASTM C188 Standard Test Method for Density of Hydraulic Cement

ASTM C191 Standard Test Methods for Time of Setting of Hydraulic Cement

by Vicat Needle

ASTM C204 Standard Test Methods for Fineness of Hydraulic Cement by

Air-Permeability Apparatus

ASTM C266 Standard Test Method for Time of Setting of Hydraulic-Cement

Paste by Gillmore Needles

ASTM C359 Standard Test Method for Early Stiffening of Hydraulic Cement

(Mortar Method)

ASTM C430 Standard Test Method for Fineness of Hydraulic Cement by the

45-µm (No. 325) Sieve

ASTM C451 Standard Test Method for Early Stiffening of Hydraulic Cement

(Paste Method)

ASTM C472 Standard Test Methods for Physical Testing of Gypsum, Gypsum

Plasters and Gypsum Concrete







ASTM C482 Standard Test Method for Bond Strength of Ceramic Tile to

Portland Cement Paste

ASTM C563 Standard Guide for Approximation of Optimum SO3 in Hydraulic

Cement

**Cement Specifications** 

ASTM C91 Standard Specification for Masonry Cement

ASTM C150 / C150M Standard Specification for Portland Cement

ASTM C219 Standard Terminology Relating to Hydraulic Cement

ASTM C465 Standard Specification for Processing Additions for Use in the

Manufacture of Hydraulic Cements

ASTM C472 Standard Test Methods for Physical Testing of Gypsum, Gypsum

Plasters and Gypsum Concrete

ASTM C595 Standard Specification for Blended Hydraulic Cements

ASTM C1157 Standard Performance Specification for Hydraulic Cement

ASTM C1329 Standard Specification for Mortar Cement

**Cement Equivalent AASHTO Test** 

AASHTO M85 Portland Cement

AASHTO M240 Blended Hydraulic Cement

AASHTO T105 Chemical Analysis of Hydraulic Cement

AASHTO T131 Time of Setting of Hydraulic Cement by Vicat Needle

AASHTO T153 Fineness of Hydraulic Cement by Air Permeability Apparatus

Supplementary Cementitious Materials/Pozzolans (SCMs) Testing Methods

ASTM C311 / C311M Standard Test Methods for Sampling and Testing Fly Ash or

Natural Pozzolans for Use in Portland-Cement Concrete

ASTM C618 Standard Specification for Coal Fly Ash and Raw or Calcined

Natural Pozzolan for Use in Concrete

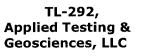
Supplementary Cementitious Materials/Pozzolans (SCMs) Specifications

ASTM C618 Standard Specification for Coal Fly Ash and Raw or Calcined

Natural Pozzolan for Use in Concrete

ASTM C989 Standard Specification for Slag Cement for Use in Concrete and

Mortars







Standard Specification for Silica Fume Used in Cementitious ASTM C1240

**Mixtures** 

Standard Specification for Blended Supplementary Cementitious **ASTM C1697** 

Materials

Standard Specification for Pozzolanic Blended Materials in **ASTM D5370** 

Construction Applications

Supplementary Cementitious Materials/Pozzolans (SCMs) Equivalent AASHTO Test

Slag Cement for Use in Concrete and Mortars AASHTO M302

Silica Fume Used in Cementitious Mixtures AASHTO M307

**Mortar Testing Methods** 

Standard Test Method for Compressive Strength of Hydraulic ASTM C109 / C109M

Cement Mortars

Standard Test Method for Air Content of Hydraulic Cement ASTM C185

Mortar

Method of Test for Tensile Strength of Hydraulic Cement ASTM C190

Mortars (Withdrawn 1990)

Standard Test Method for Water-Extractable Sulfate in ASTM C265

Hydrated Hydraulic Cement Mortar

ASTM C305 Standard Practice for Mechanical Mixing of Hydraulic Cement

Pastes and Mortars of Plastic

Standard Test Method for Flexural Strength of Hydraulic-ASTM C348

Cement Mortars

Standard Test Method for Compressive Strength of Hydraulic-ASTM C349

Cement Mortars (Using Portions of Prisms Broken in Flexure)

Standard Test Method for Potential Expansion of Portland-ASTM C452

Cement Mortars Exposed to Sulfate

Standard Test Method for Preconstruction and Construction ASTM C780

Evaluation of Mortars for Plain and Reinforced Unit Masonry

Consistency

ASTM C1038 / C1038M Standard Test Method for Expansion of Hydraulic Cement

Mortar Bars Stored in Water

Standard Test Method for Flow of Hydraulic Cement Mortar **ASTM C1437** 

**ASTM C1506** Standard Test Method for Water Retention of Hydraulic

Cement-Based Mortars and Plasters





ASTM E518 / E518M Standard Test Methods for Flexural Bond Strength of Masonry-

Method A

ASTM E519 Standard Test Method for Diagonal Tension (Shear) in Masonry

**Assemblages** 

**Mortar Specifications** 

ASTM C150 / C150M Standard Specification for Portland Cement

ASTM C230 Standard Specification for Flow Table for Use in Tests of

Hydraulic Cement

ASTM C270 Standard Specification for Mortar for Unit Masonry

ASTM C1586 Standard Guide for Quality Assurance of Mortars

ASTM C1714 Standard Specification for Preblended Dry Mortar Mix for Unit

Masonry

ASTM E329 Standard Specification for Agencies Engaged in Construction

Inspection, Testing, or Special Inspection

**Mortar Equivalent AASHTO Test** 

AASHTO T106 Compressive Strength of Hydraulic Cement Mortar (Using 50-

mm or 2-in. Cube Specimens)

**Grout Testing Methods** 

ASTM C109 / C109M Standard Test Method for Compressive Strength of Hydraulic

Cement Mortars

ASTM C942 Standard Test Method for Compressive Strength of Grouts for

Preplaced-Aggregate Concrete in the Laboratory

ASTM C1019 Standard Test Method for Sampling and Testing Grout

**Grout Sampling Methods** 

ASTM C476 Standard Specification for Grout for Masonry

ASTM C937 Standard Specification for Grout Fluidifier for Preplaced-

Aggregate Concrete

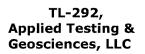
ASTM C1107 Standard Specification for Packaged Dry, Hydraulic-Cement

Grout (Nonshrink)

**Asphalt Testing Methods** 

ASTM C127 Standard Test Method for Relative Density (Specific Gravity)

and Absorption of Coarse Aggregate







ASTM C128 Standard Test Method for Relative Density (Specific Gravity)

and Absorption of Fine Aggregate

ASTM D127 Standard Test Method for Drop Melting Point of Petroleum Wax,

Including Petrolatum

ASTM D2950 / D2950M Standard Test Method for Density of Bituminous Concrete in

Place by Nuclear Methods

ASTM D3142 / D3142M Standard Test Method for Specific Gravity, API Gravity, or

Density of Cutback Asphalts by Hydrometer Method

ASTM D6951 / D6951M Standard Test Method for Use of the Dynamic Cone

Penetrometer in Shallow Pavement Applications

**Asphalt Specifications** 

ASTM D3666 Standard Specification for Minimum Requirements for Agencies

Testing and Inspecting Road and Paving Materials

**Asphalt Sampling Methods** 

ASTM C702 / C702M Standard Practice for Reducing Samples of Aggregate to Testing

Size

ASTM D75 Standard Practice for Sampling Aggregates

ASTM D5361 / D5361M Standard Practice for Sampling Compacted Asphalt Mixtures for

Laboratory Testing

ASTM E329 Standard Specification for Agencies Engaged in Construction

Inspection, Testing, or Special Inspection

**Asphalt Equivalent AASHTO Test** 

AASHTO T84 Specific Gravity and Absorption of Fine Aggregate

AASHTO T85 Specific Gravity and Absorption of Coarse Aggregate

Soil and Rock/Aggregate Test Methods

ASTM D422 Standard Test Method for Particle-Size Analysis of Soils

ASTM D698 Standard Test Methods for Laboratory Compaction

Characteristics of Soil Using Standard Effort

ASTM D854 Standard Test Methods for Specific Gravity of Soil Solids by

Water Pycnometer

ASTM D1140 Standard Test Methods for Determining the Amount of Material

Finer than 75-µm (No. 200) Sieve in Soils by Washing

ASTM D1557 Standard Test Methods for Laboratory Compaction

Characteristics of Soil Using Modified Effort

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ASTM D1883 Standard Test Method for California Bearing Ratio (CBR) of

Laboratory-Compacted Soils

ASTM D2166 / D2166M Standard Test Method for Unconfined Compressive Strength of

Cohesive Soil

ASTM D2216 Standard Test Methods for Laboratory Determination of Water

(Moisture) Content of Soil and Rock by Mass System)

ASTM D2487 Standard Practice for Classification of Soils for Engineering

Purposes (Unified Soil Classification

ASTM D2936 Standard Test Method for Direct Tensile Strength of Intact Rock

Core Specimens

ASTM D2938 Standard Test Method for Unconfined Compressive Strength of

Intact Rock Core Specimens

ASTM D2974 Standard Test Methods for Moisture, Ash, and Organic Matter of

Peat and Other Organic Soils

ASTM D3080 / D3080M Standard Test Method for Direct Shear Test of Soils Under

Consolidated Drained Conditions

ASTM D4221 Standard Test Method for Dispersive Characteristics of Clay Soil

by Double Hydrometer

ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and

Plasticity Index of Soils

ASTM D4525 Standard Test Method for Permeability of Rocks by Flowing Air

ASTM D4630 Standard Test Method for Determining Transmissivity and

Storage Coefficient of Low-Permeability Rocks by In Situ

Measurements Using the Constant Head Injection Test

ASTM D4972 Standard Test Method for pH of Soils

ASTM D6913 Standard Test Methods for Particle-Size Distribution (Gradation)

of Soils Using Sieve Analysis

ASTM D6938 Standard Test Methods for In-Place Density and Water Content

of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

ASTM D7928 Standard Test Method for Particle-Size Distribution (Gradation)

of Fine-Grained Soils Using the Sedimentation (Hydrometer)

**Analysis** 

#### Soils and Rock/Aggregate Specifications

ASTM D3740 Standard Practice for Minimum Requirements for Agencies

Engaged in Testing and/or Inspection of Soil and Rock as Used

in Engineering Design and Construction

TL-292, Applied Testing & Geosciences, LLC







ASTM E329 Standard Specification for Agencies Engaged in Construction

Inspection, Testing, or Special Inspection

Soils and Rock/Aggregate Sampling Methods

ASTM D75 Standard Practice for Sampling Aggregates

ASTM D5268 Standard Specification for Topsoil Used for Landscaping

Purposes

Soils and Rock/Aggregate Equivalent AASHTO Test

AASHTO M145 Classification of Soils and Soil-Aggregate Mixtures for Highway

Construction Purposes

AASHTO T2 Sampling of Aggregates

AASHTO T88 Particle Size Analysis of Soils

AASHTO T89 Determining the Liquid Limit of Soils

AASHTO T90 Determining the Plastic Limit and Plasticity Index of Soils

AASHTO T99 Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb)

Rammer and a 305-mm (12-in.) Drop

AASHTO T100 Specific Gravity of Soils

AASHTO T180 Moisture-Density Relations of Soils Using a 4.54-kg (10-lb)

Rammer and a 457-mm (18-in.) Drop

AASHTO T193 The California Bearing Ratio

AASHTO T208 Unconfined Compressive Strength of Cohesive Soil

AASHTO T236 Direct Shear Test of Soils under Consolidated Drained

Conditions

AASHTO T248 Reducing Samples of Aggregate to Testing Size

AASHTO T265 Laboratory Determination of Moisture Content of Soils

AASHTO T267 Determination of Organic Content in Soils by Loss on Ignition

**Metals Test Methods** 

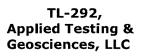
ASTM E8 / E8M Standard Test Methods for Tension Testing of Metallic Materials

ASTM E9 Standard Test Methods of Compression Testing of Metallic

Materials at Room Temperature

ASTM E18 Standard Test Methods for Rockwell Hardness of Metallic

Materials







ASTM E164 Standa	I Practice for Contact Ultrasonic Testing of Weldments
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ASTM E165 / E165M Standard Practice for Liquid Penetrant Examination for General

Industry

ASTM E1417/E1417M Standard Practice for Liquid Penetrant Testing

ASTM E1444 / E1444M Standard Practice for Magnetic Particle Testing

AISI S901 Rotational-Lateral Stiffness Test Method for Beam-to-Panel

Assemblies

AISI S902 Stub-Column Test Method for Effective Area of Cold-Formed

Steel Columns

AISI S903 Standard Methods for Determination of Uniform and Local

Ductility

AISI S906 Standard Procedures for Panel and Anchor Structural Tests

AISI S907 Test Standard for Cantilever Test Method for Cold-Formed Steel

Diaphragms

AISI S908 Base Test Method for Purlins Supporting a Standing Seam Roof

System"

AISI S909 Standard Test Method for Determining the Web Crippling

Strength of Cold-Formed Steel Beams

AISI S910 Test Method for Distortional Buckling of Cold Formed Steel Hat

**Shaped Compression Members** 

AISI S911 Method for Flexural Testing Cold-Formed Steel Hat Shaped

**Beams** 

AISI S912 Test Procedure for Determining a Strength Value for a Roof

Panel-to-Purlin-to-Anchorage Device Connection

AISI S913 Test Standard for Hold-Downs Attached to Cold-Formed Steel

Structural Framing

AISI S914 Test Standard for Joist Connectors Attached to Cold-Formed

Steel Structural Framing

ICC-ES AC25 Acceptance Criteria for Metal Composite Material (Section 4.0)

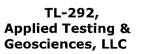
**Metals Specification Methods** 

ASTM E329 Standard Specification for Agencies Engaged in Construction

Inspection, Testing, or Special Inspection

ASTM E543 Standard Specification for Agencies Performing Nondestructive

Testing







#### **CONSTRUCTION PRODUCTS**

#### **Wood/Lumber Testing Methods**

ASTM D143 Standard Test Methods for Small Clear Specimens of Timber

ASTM D198 Standard Test Methods of Static Tests of Lumber in Structural

Sizes

ASTM D1037 Standard Test Methods for Evaluating Properties of Wood-Base

Fiber and Particle Panel Materials

ASTM D1761 Standard Test Methods for Mechanical Fasteners in Wood

ASTM D2395 Standard Test Methods for Density and Specific Gravity

(Relative Density) of Wood and Wood-Based Materials

ASTM D4442 Standard Test Methods for Direct Moisture Content

Measurement of Wood and Wood-Based Materials

ASTM D4761 Standard Test Methods for Mechanical Properties of Lumber and

Wood-Base Structural Material

ASTM D4933 Standard Guide for Moisture Conditioning of Wood and Wood-

Based Materials

#### Wood/Lumber Sampling Methods

ASTM D2915 Practice for Sampling and Data-Analysis for Structural Wood

and Wood-Based Products

#### Fasteners/Anchors/Nails Testing Methods

ASTM E488/E488M Standard Test Methods for Strength of Anchors in Concrete

Elements

ASTM E1190 Standard Test Methods for Strength of Power-Actuated

Fasteners Installed in Structural Members

ASTM F606 / F606M Standard Test Methods for Determining the Mechanical

Properties of Externally and Internally Threaded Fasteners,

Washers, Direct Tension Indicators, and Rivets

ASTM F1575 Standard Test Method for Determining Bending Yield Moment of

Nails

ICC-ES AC01 Acceptance Criteria for Expansion Anchors in Masonry Elements

(Section 5.6.2.2)

ICC-ES AC13 Joist Hangers and Similar Devices (Section 3.0)

ICC-ES AC58 Adhesive Anchors in Masonry Elements (Section 4.4.3.1.1)







ICC-ES AC70 Fasteners Power-Driven into Concrete, Steel, and Masonry

Elements (Section 4.0)

ICC-ES AC106 Pre-Drilled Fasteners (Screw Anchors) in Masonry (Section 4.0)

ICC-ES AC116 Nails and Spikes (Section 3.0)

ICC-ES AC118 Tapping Screw Fasteners (Section 4.0)

ICC-ES AC233 Alternate Dowel-Type Threaded Fasteners (Section 4.0)

AISI S904 Standard Test Methods for Determining the Tensile and Shear

Strength of Screws

AISI S905 Standard Test Methods for Mechanically Fastened Cold-Formed

Steel Connections

SAE J78 Steel Self-Drilling Tapping Screws

Fasteners/Anchors/Nails Sampling Methods

ASTM F1470 Standard Practice for Fastener Sampling for Specified

Mechanical Properties and Performance Inspection

**Fasteners/Anchors/Nails Specifications** 

ASTM C954 Standard Specification for Steel Drill Screws for the Application

of Gypsum Panel Products

ASTM C1513 Standard Specification for Steel Tapping Screws for Cold-

Formed Steel Framing Connections

ASTM E329 Standard Specification for Agencies Engaged in Construction

Inspection, Testing, or Special Inspection

**Building Products Testing Methods** 

ASTM A370 Standard Test Methods and Definitions for Mechanical Testing

of Steel Products

ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus

ASTM C271 / C271M Standard Test Method for Density of Sandwich Core Materials

ASTM C272 Constructions (Procedure A only) Standard Test Method for

Water Absorption of Core Materials for Sandwich

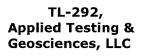
ASTM C1028 Standard Test Method for Determining the Static Coefficient of

Friction of Ceramic Tile and Other Like Surfaces by the

Horizontal Dynamometer Pull-Meter Method

ASTM D3154 Standard Test Method for Average Velocity in a Duct (Pitot Tube

Method)







ASTM D7032 Standard Specification for Establishing Performance Ratings for

Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair

Treads, Guards, and Handrails

ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels

for Building Construction

ASTM E96 / E96M Standard Test Methods for Water Vapor Transmission of

Materials

ASTM E330 / E330M Standard Test Method for Structural Performance of Exterior

Windows, Doors, Skylights and Curtain Walls by Uniform Static

Air Pressure Difference

ASTM E331 Standard Test Method for Water Penetration of Exterior

Windows, Skylights, Doors, and Curtain Walls by Uniform Static

Air Pressure Difference

ASTM E455 Standard Test Method for Static Load Testing of Framed Floor

or Roof Diaphragm Constructions for Buildings

ASTM E564 Standard Practice for Static Load Test for Shear Resistance of

Framed Walls for Buildings

ASTM E605 / E605M Standard Test Methods for Thickness and Density of Sprayed

Fire-Resistive Material (SFRM) Applied to Structural Members

ASTM E661 Standard Test Method for Performance of Wood and Wood-

Based Floor and Roof Sheathing Under Concentrated Static and

Impact Loads

ASTM E736 / E736M Standard Test Method for Cohesion / Adhesion of Sprayed Fire-

Resistive Materials Applied to Structural Members

ASTM E761 / E761M Standard Test Method for Compressive Strength of Sprayed

Fire-Resistive Material Applied to Structural Members

ASTM E1155 Standard Test Method for Determining FF Floor Flatness and FL

Floor Levelness Numbers

ASTM E1803 Standard Test Methods for Determining Strength Capacities of

Structural Insulated Panels

ASTM E2322 Standard Test Method for Conducting Transverse and

Concentrated Load Tests on Panels used in Floor and Roof

Construction

ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission

Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

ASTM G85 Standard Practice for Modified Salt Spray (Fog) Testing

ICC-ES AC04 Acceptance Criteria for Sandwich Panels (Section 4.0)







ICC-ES AC17 Acceptance Crit	ria for Glass Glazed Unit Sky	lights and Sloped
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Glass Glazing (Sections A3.0 and A4.0)

ICC-ES AC43 Acceptance Criteria for Steel Deck Roof And Floor Systems

(Section 3.2.1)

ICC-ES AC100 Acceptance Criteria for Air-Conditioning Equipment Pads

(Sections 4.2.7 and 4.2.8)

ICC-ES AC125 Acceptance Criteria for Concrete and Reinforced and

Unreinforced Masonry Strengthening using Externally Bonded

Fiber-Reinforced Polymer (FRP) Composite Systems

ICC-ES AC170 Acceptance Criteria for Shear Reinforcement Devices in

Structural Concrete (Section 3.0)

ICC-ES AC210 Acceptance Criteria For Patio Covers with PVC Plastic

Components (Sections 4.3 and 4.6)

ICC-ES AC213 Glass Shear Walls & Diaphragms for Patio Covers (Section 4.4)

ICC-ES AC323 Acceptance Criteria for Reinforcement of Openings in Shear

Walls with Steel Brackets (Section 3.0)

ANSI A10.8 Safety Requirements for Scaffolding

CISCA (1) Concentrated Loads

CISCA (2) Ultimate Loading

CISCA (3) Rolling Loads

CISCA (4) Stringer Load Testing

CISCA (5) Pedestal Axial Load Test

CISCA (6) Pedestal Overturning Moment Test

CISCA (7) Uniform Load Test

CISCA (8) Drop Impact Load Test

CISCA (10) Air Leakage (through Panel Seams)

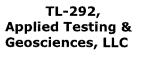
#### **Building Products Specifications**

ASTM A881 Standard Specification for Steel Wire, Indented, Low-Relaxation

for Prestressed Concrete

ANSI/SCTE 77 Specification for Underground Enclosure Integrity

#### **Concrete Admixtures Testing Methods**







ASTM C233 Standard Test Method for Air-Entraining Admixtures for

Concrete

ASTM C494 Standard Specification for Chemical Admixtures for Concrete

### **Concrete Admixtures Sampling Methods**

#### **Concrete Admixtures Specifications**

ASTM C260 Standard Specification for Air-Entraining Admixtures for

Concrete

ASTM C494 Standard Specification for Chemical Admixtures for Concrete

ASTM C1017 Standard Specification for Chemical Admixtures for Use in

**Producing Flowing Concrete** 

#### **Concrete Admixtures Equivalent AASHTO Test**

AASHTO M154 Air-Entraining Admixtures for Concrete

AASHTO M194 Chemical Admixtures for Concrete

AASHTO T157 Air-Entraining Admixtures for Concrete

### **Masonry/Precast Testing Methods**

ASTM C50 / C50M Standard Practice for Sampling, Sample Preparation, Packaging,

and Marking of Lime and Limestone Products

ASTM C55 Standard Specification for Concrete Building Brick

ASTM C67 Standard Test Methods for Sampling and Testing Brick and

Structural Clay Tile

ASTM C73 Standard Specification for Calcium Silicate Brick (Sand-Lime

Brick)

ASTM C90 Standard Specification for Loadbearing Concrete Masonry Units

ASTM C97 / C97M Standard Test Methods for Absorption and Bulk Specific Gravity

of Dimension Stone

ASTM C110 Standard Test Methods for Physical Testing of Quicklime,

Hydrated Lime, and Limestone

ASTM C140 / C140M Standard Test Methods for Sampling and Testing Concrete

Masonry Units and Related Units

ASTM C497 Standard Test Methods for Concrete Pipe, Manhole Sections, or

Tile

ASTM C936 Standard Specification for Solid Concrete Interlocking Paving

Units









ASTM C1006 Standard Test Method for Splitting Tensile Strength of Masonry

Units

ASTM C1262 Standard Test Method for Evaluating the Freeze-Thaw

Durability of Dry-Cast Segmental Retaining Wall Units and

Related Concrete Units

ASTM C1314 Standard Test Method for Compressive Strength of Masonry

Prisms

ASTM C1645 Standard Test Method for Freeze-thaw and De-icing Salt

Durability of Solid Concrete Interlocking Paving Units

ASTM C1670 Standard Specification for Adhered Manufactured Stone

Masonry Veneer Units

AREMA 4.2.3 AREMA Manual for Railway Engineering (Chapter 30, 4.2.3

(Duggan Test), 4.9.1 (Testing Ties))

NCMA CMU WR2 Standard Test Method for Spray Bar Test of Concrete Masonry

Units

#### Masonry/Precast Sampling Methods

ASTM C50 / C50M Standard Practice for Sampling, Sample Preparation, Packaging,

and Marking of Lime and Limestone Products

#### **Masonry/Precast Specifications**

ASTM C55 Standard Specification for Concrete Building Brick

ASTM C62 Standard Specification for Building Brick (Solid Masonry Units

Made from Clay or Shale)

ASTM C73 Standard Specification for Calcium Silicate Brick (Sand-Lime

Brick)

ASTM C90 Standard Specification for Loadbearing Concrete Masonry Units

ASTM C129 Standard Specification for Nonloadbearing Concrete Masonry

Units

ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes

ASTM C216 Standard Specification for Facing Brick (Solid Masonry Units

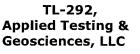
Made from Clay or Shale)

ASTM C652 Standard Specification for Hollow Brick (Hollow Masonry Units

Made from Clay or Shale)

ASTM C936 Standard Specification for Solid Concrete Interlocking Paving

Units







ASTM C985 Standard Specification for Nonreinforced Concrete Specified

Strength Culvert, Storm Drain, and Sewer Pipe

ASTM C1093 Standard Practice for Accreditation of Testing Agencies for

Masonry

ASTM C1319 Standard Specification for Concrete Grid Paving Units

ASTM C1372 Standard Specification for Dry-Cast Segmental Retaining Wall

Units

ASTM C1491 Standard Specification for Concrete Roof Pavers

ASTM C1670 Standard Specification for Adhered Manufactured Stone

Masonry Veneer Units

ASTM E329 Standard Specification for Agencies Engaged in Construction

Inspection, Testing, or Special Inspection

### **Masonry/Precast Equivalent AASHTO Test**

AASHTO M154 Air-Entraining Admixtures for Concrete

AASHTO M194 Chemical Admixtures for Concrete

AASHTO T157 Air-Entraining Admixtures for Concrete

AASHTO T280 Concrete Pipe, Manhole Sections, or Tile

ASTM: American Society for Testing and Materials

ANSI: American National Standards Institute

SAE: Society of Automotive Engineers
AISI: American Iron and Steel Institute

CISCA: Ceilings & Interior Systems Construction Association

AASHTO: American Association of State Highway and Transportation Officials

NCMA: National Concrete Masonry Association

AREMA: American Railway Engineering and Maintenance of Way Association

