



# CERTIFICATE OF ACCREDITATION



## Solar Testing Laboratories, Inc.

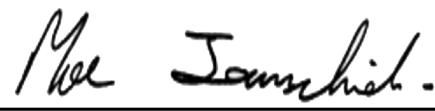
in

### Brooklyn Heights, Ohio, USA

has demonstrated proficiency for the testing of construction materials and has conformed to the requirements established in AASHTO R 18 and the AASHTO Accreditation policies established by the AASHTO Committee on Materials and Pavements.

The scope of accreditation can be viewed on the Directory of AASHTO Accredited Laboratories ([aashtoresource.org](http://aashtoresource.org)).

  
\_\_\_\_\_  
Bud Wright,  
AASHTO Executive Director

  
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Moe Jamshidi,  
AASHTO COMP Chair

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# SCOPE OF AASHTO ACCREDITATION FOR:

Solar Testing Laboratories, Inc.

in Brooklyn Heights, Ohio, USA

## Quality Management System

### Standard:

### Accredited Since:

R18	Establishing and Implementing a Quality System for Construction Materials Testing Laboratories	08/01/1997
C1077 (Aggregate)	Laboratories Testing Concrete and Concrete Aggregates	08/21/2013
C1077 (Concrete)	Laboratories Testing Concrete and Concrete Aggregates	01/10/2011
D3666 (Aggregate)	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials	01/10/2011
D3666 (Asphalt Mixture)	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials	01/10/2011
D3740 (Soil)	Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction	08/21/2013
E329 (Aggregate)	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	01/10/2011
E329 (Asphalt Mixture)	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	01/10/2011
E329 (Concrete)	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	01/10/2011
E329 (Soil)	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	08/21/2013



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## Asphalt Mixture

### Standard:

### Accredited Since:

R68	Preparation of Asphalt Mixtures by Means of the Marshall Apparatus	08/01/1997
T30	Mechanical Analysis of Extracted Aggregate	08/01/1997
T164	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)	08/01/1997
T166	Bulk Specific Gravity of Compacted Hot Mix Asphalt Using Saturated Surface-Dry Specimens	08/01/1997
T209	Maximum Specific Gravity of Hot Mix Asphalt Paving Mixtures	08/01/1997
T245	Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus	08/01/1997
T269	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	08/01/1997
D2041	Maximum Specific Gravity of Hot Mix Asphalt Paving Mixtures	08/01/1997
D2172	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)	08/01/1997
D2726	Bulk Specific Gravity of Compacted Hot Mix Asphalt Using Saturated Surface-Dry Specimens	08/01/1997
D3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	08/01/1997
D5444	Mechanical Analysis of Extracted Aggregate	08/01/1997
D6926	Preparation of Asphalt Mixtures by Means of the Marshall Apparatus	08/01/1997
D6927	Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus	08/01/1997



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## Soil

### Standard:

### Accredited Since:

R58	Dry Preparation of Disturbed Soil and Soil Aggregate Samples for Test	08/01/1997
T88	Particle Size Analysis of Soils by Hydrometer	08/01/1997
T89	Determining the Liquid Limit of Soils (Atterberg Limits)	08/01/1997
T90	Plastic Limit of Soils (Atterberg Limits)	08/01/1997
T99	The Moisture-Density Relations of Soils Using a 5.5 lb [2.5 kg] Rammer and a 12 in. [305 mm] Drop	08/01/1997
T100	Specific Gravity of Soils	08/01/1997
T180	Moisture-Density Relations of Soils Using a 10 lb [4.54 kg] Rammer and an 18 in. [457 mm] Drop	08/01/1997
T208	Unconfined Compressive Strength of Cohesive Soil	08/01/1997
T216	One-Dimensional Consolidation Properties of Soils Using Incremental Loading	08/01/1997
T236	Direct Shear Test of Soils Under Consolidated Drained Conditions	08/01/1997
T265	Laboratory Determination of Moisture Content of Soils	08/01/1997
T267	Determination of Organic Content in Soils by Loss on Ignition	06/11/2013
T296	Unconsolidated, Undrained Compressive Strength of Cohesive Soils in Triaxial Compression	08/01/1997
T297	Consolidated-Undrained Triaxial Compression Test on Cohesive Soils	08/01/1997
D421	Dry Preparation of Disturbed Soil and Soil Aggregate Samples for Test	08/01/1997
D422	Particle Size Analysis of Soils by Hydrometer	08/01/1997
D698	The Moisture-Density Relations of Soils Using a 5.5 lb [2.5 kg] Rammer and a 12 in. [305 mm] Drop	08/01/1997
D1140	Amount of Material in Soils Finer than the No. 200 (75- $\mu$ m) Sieve	08/01/1997
D1557	Moisture-Density Relations of Soils Using a 10 lb [4.54 kg] Rammer and an 18 in. [457 mm] Drop	08/01/1997
D2166	Unconfined Compressive Strength of Cohesive Soil	08/01/1997
D2216	Laboratory Determination of Moisture Content of Soils	08/01/1997
D2435	One-Dimensional Consolidation Properties of Soils Using Incremental Loading	08/01/1997
D2850	Unconsolidated, Undrained Compressive Strength of Cohesive Soils in Triaxial Compression	08/01/1997



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## Soil (Continued)

### Standard:

### Accredited Since:

D2974 Determination of Organic Content in Soils by Loss on Ignition	06/11/2013
D4318 Determining the Liquid Limit of Soils (Atterberg Limits)	08/01/1997
D4318 Plastic Limit of Soils (Atterberg Limits)	08/01/1997
D4767 Consolidated-Undrained Triaxial Compression Test on Cohesive Soils	08/01/1997



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## Rock

**Standard:****Accredited Since:**

D4644 Slake Durability of Shales and Weak Rocks	06/11/2013
D5731 Point Load Strength Index of Rock	06/11/2013
D7012 Compressive Strength of Rock Core Specimens (Method C)	10/09/2015



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## Aggregate

### Standard:

### Accredited Since:

R76 Reducing Samples of Aggregate to Testing Size	09/28/2011
T11 Materials Finer Than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing	03/27/2014
T21 Organic Impurities in Fine Aggregates for Concrete	09/28/2011
T27 Sieve Analysis of Fine and Coarse Aggregates	09/28/2011
T84 Specific Gravity (Relative Density) and Absorption of Fine Aggregate	09/28/2011
T85 Specific Gravity and Absorption of Coarse Aggregate	09/28/2011
T96 Resistance to Abrasion of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	03/27/2014
T104 Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate	09/28/2011
T255 Total Moisture Content of Aggregate by Drying	09/28/2011
C40 Organic Impurities in Fine Aggregates for Concrete	08/01/1997
C88 Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate	08/01/1997
C117 Materials Finer Than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing	08/01/1997
C127 Specific Gravity and Absorption of Coarse Aggregate	08/01/1997
C128 Specific Gravity (Relative Density) and Absorption of Fine Aggregate	08/01/1997
C131 Resistance to Abrasion of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	08/01/1997
C136 Sieve Analysis of Fine and Coarse Aggregates	08/01/1997
C535 Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	08/01/1997
C566 Total Moisture Content of Aggregate by Drying	08/01/1997
C702 Reducing Samples of Aggregate to Testing Size	08/01/1997



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## Concrete

Standard:		Accredited Since:
M201	Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the testing of Hydraulic Cements and Concretes	03/27/2014
R39	Making and Curing Concrete Test Specimens in the Laboratory	03/27/2014
R60	Sampling Freshly Mixed Concrete	09/28/2011
T22	Compressive Strength of Cylindrical Concrete Specimens	09/28/2011
T23	Making and Curing Concrete Test Specimens in the Field	09/28/2011
T97	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	09/28/2011
T119	Slump of Hydraulic Cement Concrete	09/28/2011
T121	Density (Unit Weight), Yield, and Air Content of Concrete	09/28/2011
T152	Air Content of Freshly Mixed Concrete by the Pressure Method	09/28/2011
T160	Length Change of Hardened Hydraulic-Cement, Mortar, and Concrete	03/27/2014
T177	Flexural Strength of Concrete (Using Simple Beam With Center-Point Loading)	03/27/2014
T196	Air Content of Freshly Mixed Concrete by the Volumetric Method	09/28/2011
T277	Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration	03/27/2014
T309	Temperature of Freshly Mixed Portland Cement Concrete	03/27/2014
C31	Making and Curing Concrete Test Specimens in the Field	08/01/1997
C39	Compressive Strength of Cylindrical Concrete Specimens	08/01/1997
C78	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	08/01/1997
C138	Density (Unit Weight), Yield, and Air Content of Concrete	08/01/1997
C143	Slump of Hydraulic Cement Concrete	08/01/1997
C157	Length Change of Hardened Hydraulic-Cement, Mortar, and Concrete	08/01/1997
C172	Sampling Freshly Mixed Concrete	08/01/1997
C173	Air Content of Freshly Mixed Concrete by the Volumetric Method	08/01/1997
C192	Making and Curing Concrete Test Specimens in the Laboratory	03/27/2014





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**Concrete (Continued)**

<b>Standard:</b>		<b>Accredited Since:</b>
C231	Air Content of Freshly Mixed Concrete by the Pressure Method	08/01/1997
C293	Flexural Strength of Concrete (Using Simple Beam With Center-Point Loading)	03/27/2014
C511	Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the testing of Hydraulic Cements and Concretes	09/28/2011
C1064	Temperature of Freshly Mixed Portland Cement Concrete	08/01/1997
C1202	Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration	08/01/1997
C1231 (7000 psi and below)	Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders	09/28/2011