AASHTO ACCREDITED

CERTIFICATE OF ACCREDITATION

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AASHTO

TTL Engineering Services, LLC

in

Toledo, 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).

Jim Tymon,
AASHTO Executive Director

Matt Linneman,
AASHTO COMP Chair

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Scope of AASHTO Accreditation for:

TTL Engineering Services, LLC

in Toledo, Ohio, USA

Quality Management System

Standard:		Accredited Since:
R18	Establishing and Implementing a Quality System for Construction Materials Testing Laboratories	05/15/1996
C1077 (Aggregate)	Laboratories Testing Concrete and Concrete Aggregates	07/22/2011
C1077 (Concrete)	Laboratories Testing Concrete and Concrete Aggregates	07/22/2011
D3666 (Aggregate)	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials	07/22/2011
D3666 (Asphalt Mixture)	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials	07/22/2011
E329 (Aggregate)	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	07/22/2011
E329 (Asphalt Mixture)	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	07/22/2011
E329 (Concrete)	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	06/20/2014

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Asphalt Mixture

Standard:		Accredited Since:
R47	Reducing Samples of Hot-Mix Asphalt to Testing Size	04/15/1998
R68	Preparation of Asphalt Mixtures by Means of the Marshall Apparatus	04/15/1998
T30	Mechanical Analysis of Extracted Aggregate	04/15/1998
T164	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)	04/15/1998
T166	Bulk Specific Gravity of Compacted Hot Mix Asphalt Using Saturated Surface-Dry Specimens	04/15/1998
T209	Maximum Specific Gravity of Hot Mix Asphalt Paving Mixtures	04/15/1998
T245	Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus	04/15/1998
T269	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	04/15/1998
T275	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens	04/15/1998
T355	Density of Bituminous Concrete In Place by Nuclear Methods	06/19/2018
D2041	Maximum Specific Gravity of Hot Mix Asphalt Paving Mixtures	04/15/1998
D2172	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)	04/15/1998
D2726	Bulk Specific Gravity of Compacted Hot Mix Asphalt Using Saturated Surface-Dry Specimens	04/15/1998
D2950	Density of Bituminous Concrete In Place by Nuclear Methods	11/18/2011
D3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures	04/15/1998
D3549	Thickness or Height of Compacted Bituminous Paving Mixture Specimens	02/25/2021
D5444	Mechanical Analysis of Extracted Aggregate	04/15/1998
D6926	Preparation of Asphalt Mixtures by Means of the Marshall Apparatus	04/15/1998
D6927	Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus	04/15/1998

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Soil

Standard:		Accredited Since:
T99	The Moisture-Density Relations of Soils Using a 5.5 lb [2.5 kg] Rammer and a 12 in. [305 mm] Drop	10/30/2024
T180	Moisture-Density Relations of Soils Using a 10 lb [4.54 kg] Rammer and an 18 in. [457 mm] Drop	10/30/2024
T191	Density of Soil In-Place by the Sand Cone Method	10/30/2024
T265	Laboratory Determination of Moisture Content of Soils	10/30/2024
T310	In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	10/30/2024
D698	The Moisture-Density Relations of Soils Using a 5.5 lb [2.5 kg] Rammer and a 12 in. [305 mm] Drop	10/30/2024
D1556	Density of Soil In-Place by the Sand Cone Method	10/30/2024
D1557	Moisture-Density Relations of Soils Using a 10 lb [4.54 kg] Rammer and an 18 in. [457 mm] Drop	10/30/2024
D2216	Laboratory Determination of Moisture Content of Soils	10/30/2024
D6938	In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	10/30/2024

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Aggregate

Standard:		Accredited Since:
R76	Reducing Samples of Aggregate to Testing Size	05/15/1996
T11	Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing	05/15/1996
T19	Bulk Density (“Unit Weight”) and Voids in Aggregate	11/18/2011
T21	Organic Impurities in Fine Aggregates for Concrete	05/15/1996
T27	Sieve Analysis of Fine and Coarse Aggregates	05/15/1996
T84	Specific Gravity (Relative Density) and Absorption of Fine Aggregate	05/15/1996
T85	Specific Gravity and Absorption of Coarse Aggregate	05/15/1996
T96	Resistance to Abrasion of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	05/15/1996
T104	Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate	12/06/2013
T112	Clay Lumps and Friable Particles in Aggregate	11/18/2011
T113	Lightweight Pieces in Aggregate	11/18/2013
T255	Total Moisture Content of Aggregate by Drying	05/15/1996
T304	Uncompacted Void Content of Fine Aggregate (Influenced by Shape, Texture, and Grading)	05/15/1996
T335	Determining the Percentage of Fractured Particles in Coarse Aggregate	05/26/2016
C29	Bulk Density (“Unit Weight”) and Voids in Aggregate	05/15/1996
C40	Organic Impurities in Fine Aggregates for Concrete	05/15/1996
C88	Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate	05/15/1996
C117	Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing	05/15/1996
C123	Lightweight Pieces in Aggregate	11/18/2013
C127	Specific Gravity and Absorption of Coarse Aggregate	05/15/1996
C128	Specific Gravity (Relative Density) and Absorption of Fine Aggregate	05/15/1996
C131	Resistance to Abrasion of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	05/15/1996
C136	Sieve Analysis of Fine and Coarse Aggregates	05/15/1996

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Aggregate (Continued)

Standard:	Accredited Since:
C142 Clay Lumps and Friable Particles in Aggregate	05/15/1996
C535 Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	05/15/1996
C566 Total Moisture Content of Aggregate by Drying	05/15/1996
C702 Reducing Samples of Aggregate to Testing Size	05/15/1996
C1252 Uncompacted Void Content of Fine Aggregate (Influenced by Shape, Texture, and Grading)	05/15/1996
D4791 Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	05/15/1996
D5821 Determining the Percentage of Fractured Particles in Coarse Aggregate	05/15/1996

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Sprayed Fire-Resistive Material

Standard:	Accredited Since:
E605 Thickness and Density of Sprayed Fire-Resistive Material(SFRM) Applied to Structural Members	11/18/2013
E736 Cohesion/Adhesion of Sprayed Fire-Resistive MaterialsApplied to Structural Members	11/18/2013

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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	06/20/2014
R39	Making and Curing Concrete Test Specimens in the Laboratory	05/15/1996
R60	Sampling Freshly Mixed Concrete	05/15/1996
R100 (Beams)	Making and Curing Concrete Test Specimens in the Field	05/15/1996
R100 (Cylinders)	Making and Curing Concrete Test Specimens in the Field	05/15/1996
T22	Compressive Strength of Cylindrical Concrete Specimens	05/15/1996
T24 (Testing Drilled Cores of Concrete)	Testing Drilled Cores of Concrete	04/05/2012
T97	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	05/15/1996
T119	Slump of Hydraulic Cement Concrete	05/15/1996
T121	Density (Unit Weight), Yield, and Air Content of Concrete	05/15/1996
T152	Air Content of Freshly Mixed Concrete by the Pressure Method	05/15/1996
T196	Air Content of Freshly Mixed Concrete by the Volumetric Method	05/15/1996
T231 (7000 psi and below)	Capping Cylindrical Concrete Specimens	06/20/2014
T309	Temperature of Freshly Mixed Portland Cement Concrete	04/05/2012
C31 (Beams)	Making and Curing Concrete Test Specimens in the Field	05/15/1996
C31 (Cylinders)	Making and Curing Concrete Test Specimens in the Field	05/15/1996
C39	Compressive Strength of Cylindrical Concrete Specimens	05/15/1996
C42 (Testing Drilled Cores of Concrete)	Testing Drilled Cores of Concrete	05/15/1996
C78	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	05/15/1996
C138	Density (Unit Weight), Yield, and Air Content of Concrete	05/15/1996
C143	Slump of Hydraulic Cement Concrete	05/15/1996
C172	Sampling Freshly Mixed Concrete	05/15/1996
C173	Air Content of Freshly Mixed Concrete by the Volumetric Method	05/15/1996

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Concrete (Continued)

Standard:		Accredited Since:
C192	Making and Curing Concrete Test Specimens in the Laboratory	05/15/1996
C231	Air Content of Freshly Mixed Concrete by the Pressure Method	05/15/1996
C511	Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the testing of Hydraulic Cements and Concretes	04/05/2012
C617 (7000 psi and below)	Capping Cylindrical Concrete Specimens	06/20/2014
C939 (Pre-Mixed)	Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method - Pre-Mixed Grout)	03/17/2026
C942 (Pre-Mixed)	Compressive Strength of Grouts for Preplaced-Aggregate Concrete in the Laboratory (Pre-Mixed Grout)	06/20/2014
C1064	Temperature of Freshly Mixed Portland Cement Concrete	05/15/1996
C1231 (7000 psi and below)	Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders	04/05/2012
C1542	Measuring Length of Concrete Cores	06/20/2014

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