

STANDARD SPECIFICATIONS
for
TRANSPORTATION MATERIALS
and
METHODS OF SAMPLING AND TESTING
Thirty-Third Edition
2013

Adopted by the



INTRODUCTION

This Thirty-Third Edition of Transportation Materials is published in two parts. Part 1 contains specifications for materials, and Part 2 includes methods of testing and specifications for testing equipment. Part 1 contains 136 materials specifications and 52 Standard Practices, of which most contain both English and Metric units of measure. Technical revisions were made in 25 of the standards since the Thirty-Second Edition, 26 standards were reconfirmed, 1 standard was updated, 4 new standards were added, 4 standards were discontinued, and 3 standards were deleted. A number of specifications were included in this publication at the request of the AASHTO Subcommittee on Bridges and Structures.

Many of these specifications agree with those of the American Society for Testing and Materials (ASTM). In all cases where the Association and ASTM standards are technically identical, or substantially identical with some changes, reference to the ASTM designation number is shown in the heading of the specification.

In previous editions, AASHTO has printed ASTM standards which have been adopted by AASHTO and given an AASHTO designation. This was done under a long-standing copyright arrangement between AASHTO and ASTM. Starting with the Thirty-First Edition, AASHTO-approved ASTM standards are not printed. Instead, the AASHTO specification includes the corresponding ASTM designation number and any AASHTO exception to the ASTM specification. A complete list of AASHTO specifications with corresponding ASTM standards is included following the Table of Contents.

General jurisdiction over Association standards in this field rests with the AASHTO Highway Subcommittee on Materials, which has members representing each of the 50 States, the Commonwealth of Puerto Rico and the District of Columbia, that constitute the Member Departments of the Association, and the U.S. Department of Transportation. In addition, the Subcommittee has representation from several of its Associate Members, including the Massachusetts Metropolitan District Commission, the New Jersey Turnpike Authority, and the Port Authority of New York and New Jersey. Also represented on the Subcommittee are most of the Association's International Associate members, including the Canadian Provinces of New Brunswick, the Northwest Territories, Nova Scotia, Ontario, and Saskatchewan.

Beginning in 1993 with the Sixteenth Edition, material specifications and test methods are published by AASHTO each year. Annual revisions are voted upon by the Association's 52 Member Departments prior to the publication of each new edition of this book, and if approved by at least two-thirds of the Member Departments, they are included in the edition as standards of the Association.

Comments regarding these specifications are welcomed and should be addressed to the Executive Director of AASHTO, 444 North Capitol Street, N.W., Suite 249, Washington, D.C. 20001. AASHTO's Web site and internet address is <http://transportation.org>.

PART 1—STANDARD SPECIFICATIONS AND STANDARD PRACTICES

Table of Contents

SUBJECT SEQUENCE

Number	Title	Page	Volume
AGGREGATES			
M 6-13	Fine Aggregate for Hydraulic Cement Concrete.....	M 6-1	1A
M 17-11	Mineral Filler for Bituminous Paving Mixtures.....	M 17-1	1A
M 29-12	Fine Aggregate for Bituminous Paving Mixtures	M 29-1	1A
M 43-05 (2009)	Sizes of Aggregate for Road and Bridge Construction	M 43-1	1A
M 45-06 (2010)	Aggregate for Masonry Mortar	M 45-1	1A
M 80-13	Coarse Aggregate for Hydraulic Cement Concrete.....	M 80-1	1A
M 195-11	Lightweight Aggregates for Structural Concrete	M 195-1	1A
M 327-11	Processing Additions for Use in the Manufacture of Hydraulic Cements	M 327-1	1B
BITUMINOUS MATERIALS			
M 81-92 (2012)	Cutback Asphalt (Rapid-Curing Type).....	M 81-1	1A
M 82-75 (2012)	Cutback Asphalt (Medium-Curing Type)	M 82-1	1A
M 140-13	Emulsified Asphalt	M 140-1	1A
M 156-13	Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.....	M 156-1	1A
M 208-01 (2009)	Cationic Emulsified Asphalt.....	M 208-1	1A
M 226-80 (2012)	Viscosity-Graded Asphalt Cement.....	M 226-1	1A
M 303-89 (2010)	Lime for Asphalt Mixtures.....	M 303-1	1B
M 316-13	Polymer-Modified Cationic Emulsified Asphalt.....	M 316-1	1B
M 320-10	Performance-Graded Asphalt Binder.....	M 320-1	1B
M 323-13	Superpave Volumetric Mix Design.....	M 323-1	1B
M 325-08 (2012)	Stone Matrix Asphalt (SMA).....	M 325-1	1B
R 5-13	Selection and Use of Emulsified Asphalts	R 5-1	1B
R 15-00 (2012)	Asphalt Additives and Modifiers	R 15-1	1B
R 26-01 (2009)	Certifying Suppliers of Performance-Graded Asphalt Binders.....	R 26-1	1B
R 28-12	Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)	R 28-1	1B
R 29-08 (2012)	Grading or Verifying the Performance Grade (PG) of an Asphalt Binder	R 29-1	1B

Number	Title	Page	Volume
R 30-02 (2010)	Mixture Conditioning of Hot Mix Asphalt (HMA)	R 30-1	1B
R 35-12	Superpave Volumetric Design for Hot Mix Asphalt (HMA).....	R 35-1	1B
R 46-08 (2012)	Designing Stone Matrix Asphalt (SMA).....	R 46-1	1B
R 47-08 (2012)	Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size.....	R 47-1	1B
R 49-09	Determination of Low-Temperature Performance Grade (PG) of Asphalt Binders	R 49-1	1B
R 59-11	Recovery of Asphalt Binder from Solution by Abson Method.....	R 59-1	1B
R 62-13	Developing Dynamic Modulus Master Curves for Asphalt Mixtures.....	R 62-1	1B

BOX CULVERT, CULVERT PIPE, AND DRAIN TILE

M 36-03 (2011)	Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains	M 36-1	1A
M 86M/M 86-09	Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe.....	M 86M/ M 86-1	1A
M 167M/M 167-09 (2012)	Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches.....	M 167M/ M 167-1	1A
M 170-12	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.....	M 170-1	1A
M 170M-12	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe [Metric].....	M 170M-1	1A
M 175M/M 175-05 (2009)	Perforated Concrete Pipe	M 175M/ M 175-1	1A
M 176M/M 176-07 (2012)	Porous Concrete Pipe.....	M 176M/ M 176-1	1A
M 178M/M 178-07 (2012)	Concrete Drain Tile	M 178M/ M 178-1	1A
M 190-04 (2012)	Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches	M 190-1	1A
M 196-92 (2012)	Corrugated Aluminum Pipe for Sewers and Drains.....	M 196-1	1A
M 197-06 (2011)	Aluminum Alloy Sheet for Corrugated Aluminum Pipe.....	M 197-1	1A
M 199M/M 199-10	Precast Reinforced Concrete Manhole Sections	M 199M/ M 199-1	1A
M 206M/M 206-12	Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe.....	M 206M/ M 206-1	1A
M 207M/M 207-12	Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe.....	M 207M/ M 207-1	1A
M 218-03 (2011)	Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe	M 218-1	1A
M 219-92 (2012)	Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches.....	M 219-1	1A

Number	Title	Page	Volume
M 242M/M 242-12	Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe.....	M 242M/ M 242-1	1A
M 243-96 (2012)	Field-Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches.....	M 243-1	1A
M 245-00 (2012)	Corrugated Steel Pipe, Polymer-Precoated, for Sewers and Drains.....	M 245-1	1A
M 246-05 (2011)	Steel Sheet, Metallic-Coated and Polymer-Precoated, for Corrugated Steel Pipe.....	M 246-1	1A
M 252-09 (2012)	Corrugated Polyethylene Drainage Pipe.....	M 252-1	1A
M 259-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers.....	M 259-1	1A
M 259M-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers [Metric].....	M 259M-1	1A
M 262-11	Concrete Pipe and Related Products.....	M 262-1	1A
M 273-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 2 ft of Cover Subjected to Highway Loadings.....	M 273-1	1A
M 273M-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 0.6 m of Cover Subjected to Highway Loadings [Metric].....	M 273M-1	1A
M 274-87 (2012)	Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe.....	M 274-1	1A
M 278-12	Class PS46 Poly(Vinyl Chloride) (PVC) Pipe.....	M 278-1	1A
M 289-91 (2012)	Aluminum-Zinc Alloy Coated Sheet Steel for Corrugated Steel Pipe.....	M 289-1	1B
M 294-13	Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.....	M 294-1	1B
M 304-11	Poly(Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter.....	M 304-1	1B
M 306-10	Drainage, Sewer, Utility, and Related Castings.....	M 306-1	1B
M 326-08 (2012)	Polyethylene (PE) Liner Pipe, 300- to 1600-mm Diameter, Based on Controlled Outside Diameter.....	M 326-1	1B
M 330-13	Polypropylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.....	M 330-1	1B
R 63-13	Solid Wall High-Density Polyethelene (HDPE) Conduit for Non-Pressure Applications Used for the Protection of Power and Telecommunications Cables.....	R 63-1	1B

CONCRETE, CURING MATERIALS, AND ADMIXTURES

M 154M/M 154-12	Air-Entraining Admixtures for Concrete.....	M 154-1	1A
M 157-13	Ready-Mixed Concrete.....	M 157-1	1A
M 182-05 (2012)	Burlap Cloth Made from Jute or Kenaf and Cotton Mats.....	M 182-1	1A

Number	Title	Page	Volume
M 194M/M 194-13	Chemical Admixtures for Concrete	M 194M/ M 194-1	1A
M 205M/M 205-11	Molds for Forming Concrete Test Cylinders Vertically	M 205M/ M 205-1	1A
M 210M/M 210-12	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete.....	M 210M/ M 210-1	1A
M 224-91 (2009)	Use of Protective Sealers for Portland Cement Concrete.....	M 224-1	1A
M 233-86 (2009)	Boiled Linseed Oil Mixture for Treatment of Portland Cement Concrete.....	M 233-1	1A
M 241M/M 241-13	Concrete Made by Volumetric Batching and Continuous Mixing.....	M 241M/ M 241-1	1A
M 295-11	Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete	M 295-1	1B
M 302-13	Slag Cement for Use in Concrete and Mortars	M 302-1	1B
R 39-07 (2012)	Making and Curing Concrete Test Specimens in the Laboratory	R 39-1	1B
R 60-12	Sampling Freshly Mixed Concrete	R 60-1	1B

ENVIRONMENTAL TESTS

R 23-99 (2013)	Chemical, Biological, and Physical Analysis of Water	R 23-1	1B
R 24-99 (2013)	Collection and Preservation of Water Samples.....	R 24-1	1B

GUARDRAIL AND FENCING

M 180-12	Corrugated Sheet Steel Beams for Highway Guardrail	M 180-1	1A
M 181-10	Chain-Link Fence	M 181-1	1A
M 269-96 (2013)	Turnbuckles and Shackles.....	M 269-1	1A
M 279-09	Metallic-Coated, Steel Woven Wire Fence Fabric.....	M 279-1	1A
M 280-09	Metallic-Coated (Carbon) Steel Barbed Wire.....	M 280-1	1B
M 281-96 (2013)	Steel Fence Posts and Assemblies, Hot-Wrought.....	M 281-1	1B

HYDRAULIC CEMENT

M 85-12	Portland Cement	M 85-1	1A
M 240M/M 240-13	Blended Hydraulic Cement.....	M 240M/ M 240-1	1A
M 307-13	Silica Fume Used in Cementitious Mixtures	M 307-1	1B
M 321-04 (2012)	High-Reactivity Pozzolans for Use in Hydraulic-Cement Concrete, Mortar, and Grout.....	M 321-1	1B

Number	Title	Page	Volume
JOINT FILLER AND ASPHALT PLANK			
M 33-99 (2012)	Preformed Expansion Joint Filler for Concrete (Bituminous Type).....	M 33-1	1A
M 153-06 (2011)	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction	M 153-1	1A
M 213-01 (2010)	Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).....	M 213-1	1A
M 220-84 (2012)	<i>Discontinued</i> —Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements.....	M 220-1	1A
M 251-06 (2011)	Plain and Laminated Elastomeric Bridge Bearings.....	M 251-1	1A
M 282-99 (2012)	<i>Discontinued</i> —Joint Sealants, Hot-Poured, Elastomeric-Type, for Portland Cement Concrete Pavements	M 282-1	1B
M 297-10	Preformed Polychloroprene Elastomeric Joint Seals for Bridges	M 297-1	1B
M 324-12	<i>Discontinued</i> —Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.....	M 324-1	1B
R 50-09	Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures	R 50-1	1B
METALLIC MATERIALS FOR BRIDGES			
M 102M/M 102-06 (2011)	Steel Forgings, Carbon and Alloy, for General Industrial Use	M 102M/ M 102-1	1A
M 103M/M 103-12	Steel Castings, Carbon, for General Application	M 103M/ M 103-1	1A
M 105-09	Gray Iron Castings	M 105-1	1A
M 111M/M 111-11	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.....	M 111M/ M 111-1	1A
M 163M/M 163-07 (2012)	Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application.....	M 163M/ M 163-1	1A
M 169-09	Steel Bars, Carbon and Alloy, Cold-Finished.....	M 169-1	1A
M 202M/ M 202-08 (2012)	Steel Sheet Piling	M 202M/ M 202-1	1A
M 227M/M 227-13	Steel Bars, Carbon, Merchant Quality, Mechanical Properties.....	M 227/ M 227M-1	1A
M 232M/M 232-10	Zinc Coating (Hot-Dip) on Iron and Steel Hardware.....	M 232M/ M 232-1	1A
M 255M/ M 255-05 (2008)	Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties.....	M 255M/ M 255-1	1A
M 270M/M 270-12	Structural Steel for Bridges.....	M 270M/ M 270-1	1A

Number	Title	Page	Volume
M 277-06 (2010)	Wire Rope and Sockets for Movable Bridges.....	M 277-1	1A
M 285M/M 285-11	Castings, Iron-Chromium-Nickel, Corrosion Resistant, for Severe Service.....	M 285M/ M 285-1	1B
M 292M/M 292-13	Carbon and Alloy Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both.....	M 292M/ M 292-1	1B
M 314-90 (2008)	Steel Anchor Bolts.....	M 314-1	1B
R 53-10	Qualification of Deformed and Plain Reinforcing Steel Bar, Welded Wire, and Wire Producing Mills.....	R 53-1	1B

MISCELLANEOUS

M 143-13	Sodium Chloride.....	M 143-1	1A
M 144-13	Calcium Chloride.....	M 144-1	1A
M 200-73 (2012)	<i>Discontinued</i> —Epoxy Protective Coatings.....	M 200-1	1A
M 230-07 (2012)	Expanded and Extruded Foam Board (Polystyrene).....	M 230-1	1A
M 235M/M 235-13	Epoxy Resin Adhesives.....	M 235M/ M 235-1	1A
R 8-96 (2009)	Evaluation of Transportation-Related Earthborne Vibrations.....	R 8-1	1B
R 10-06 (2011)	Definition of Terms Related to Quality and Statistics as Used in Highway Construction.....	R 10-1	1B
R 16-04 (2009)	Regulatory Information for Chemicals Used in AASHTO Tests.....	R 16-1	1B
R 25-00 (2009)	Technician Training and Qualification Programs.....	R 25-1	1B
R 34-03 (2013)	Evaluating Deicing Chemicals.....	R 34-1	1B
R 44-07 (2012)	Independent Assurance (IA) Programs.....	R 44-1	1B

PAINTING AND TRAFFIC MARKING AND SIGNING

M 237-96 (2009)	Epoxy Resin Adhesives for Bonding Traffic Markers to Hardened Portland Cement and Asphalt Concrete.....	M 237-1	1A
M 247-13	Glass Beads Used in Pavement Markings.....	M 247-1	1A
M 248-91 (2012)	Ready-Mixed White and Yellow Traffic Paints.....	M 248-1	1A
M 249-12	White and Yellow Reflective Thermoplastic Striping Material (Solid Form).....	M 249-1	1A
M 268-13	Retroreflective Sheeting for Flat and Vertical Traffic Control Applications.....	M 268-1	1A
M 290-96 (2013)	Acrylic Prismatic Reflectors and Embossed Aluminum Frames for Signs.....	M 290-1	1B
M 300-03 (2012)	Inorganic Zinc-Rich Primer.....	M 300-1	1B
R 31-09	Evaluation of Protective Coating Systems for Structural Steel.....	R 31-1	1B

Number	Title	Page	Volume
PAVEMENT SURFACE CHARACTERISTICS			
M 328-10	Inertial Profiler.....	M 328-1	1B
M 331-13	Smoothness of Pavement in Weigh-in-Motion (WIM) Systems.....	M 331-1	1B
R 36-13	Evaluating Faulting of Concrete Pavements.....	R 36-1	1B
R 37-04 (2009)	Application of Ground Penetrating Radar (GPR) to Highways.....	R 37-1	1B
R 40-10	Measuring Pavement Profile Using a Rod and Level.....	R 40-1	1B
R 41-05 (2010)	Measuring Pavement Profile Using a Dipstick®.....	R 41-1	1B
R 43-13	Quantifying Roughness of Pavements.....	R 43-1	1B
R 48-10	Determining Rut Depth in Pavements.....	R 48-1	1B
R 54-10	Accepting Pavement Ride Quality When Measured Using Inertial Profiling Systems.....	R 54-1	1B
R 55-10	Quantifying Cracks in Asphalt Pavement Surfaces.....	R 55-1	1B
R 56-10	Certification of Inertial Profiling Systems.....	R 56-1	1B
R 57-10	Operating Inertial Profiling Systems.....	R 57-1	1B
QUALITY ASSURANCE			
R 9-05 (2009)	Acceptance Sampling Plans for Highway Construction.....	R 9-1	1B
R 18-10	Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories.....	R 18-1	1B
R 20-99 (2012)	Procedures for Measuring Highway Noise.....	R 20-1	1B
R 38-10	Quality Assurance of Standard Manufactured Materials.....	R 38-1	1B
R 42-06 (2011)	Developing a Quality Assurance Plan for Hot Mix Asphalt (HMA).....	R 42-1	1B
R 61-12	Establishing Requirements for Equipment Calibrations, Standardizations, and Checks.....	R 61-1	1B
REINFORCING STEEL AND WIRE ROPE			
M 30-02 (2010)	Zinc-Coated Steel Wire Rope and Fittings for Highway Guardrail.....	M 30-1	1A
M 31M/M 31-10 (2011)	Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.....	M 31M/ M 31-1	1A
M 32M/M 32-09	Steel Wire, Plain, for Concrete Reinforcement.....	M 32M/ M 32-1	1A
M 54M/M 54-07 (2012)	Welded Deformed Steel Bar Mats for Concrete Reinforcement.....	M 54M/ M 54-1	1A
M 55M/M 55-09	Steel Welded Wire Reinforcement, Plain, for Concrete.....	M 55M/ M 55-1	1A

Number	Title	Page	Volume
M 203M/M 203-12	Steel Strand, Uncoated Seven-Wire for Concrete Reinforcement	M 203M/ M 203-1	1A
M 204M/M 204-06 (2010)	Uncoated Stress-Relieved Steel Wire for Prestressed Concrete	M 204M/ M 204-1	1A
M 221M/M 221-09	Steel Welded Wire Reinforcement, Deformed, for Concrete	M 221M/ M 221-1	1A
M 225M/M 225-09	Steel Wire, Deformed, for Concrete Reinforcement.....	M 225M/ M 225-1	1A
M 254-06 (2010)	Corrosion-Resistant Coated Dowel Bars	M 254-1	1A
M 275M/M 275-08 (2012)	Uncoated High-Strength Steel Bars for Prestressing Concrete.....	M 275M/ M 275-1	1B
M 322M/M 322-10	Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement	M 322M/ M 322-1	1B
M 329M/M 329-11	Stainless Clad Deformed and Plain Round Steel Bars for Concrete Reinforcement	M 329M/ M 329-1	1B

SOILS AND STABILIZATION

M 57-80 (2012)	Materials for Embankments and Subgrades.....	M 57-1	1A
M 145-91 (2012)	Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes	M 145-1	1A
M 146-91 (2012)	Terms Relating to Subgrade, Soil-Aggregate, and Fill Materials	M 146-1	1A
M 147-65 (2012)	Materials for Aggregate and Soil-Aggregate Subbase, Base, and Surface Courses.....	M 147-1	1A
M 216-13	Lime for Soil Stabilization.....	M 216-1	1A
M 288-06 (2011)	Geotextile Specification for Highway Applications	M 288-1	1B
M 318-02 (2010)	Glass Cullet Use for Soil-Aggregate Base Course.....	M 318-1	1B
M 319-02 (2010)	Reclaimed Concrete Aggregate for Unbound Soil-Aggregate Base Course.....	M 319-1	1B
R 13-12	Conducting Geotechnical Subsurface Investigations.....	R13-1	1B
R 21-96 (2009)	Drilling for Subsurface Investigations—Unexpectedly Encountering Suspected Hazardous Material	R 21-1	1B
R 22-97 (2010)	Decommissioning Geotechnical Exploratory Boreholes	R 22-1	1B
R 27-01 (2010)	Assessment of Corrosion of Steel Piling for Non-Marine Applications.....	R 27-1	1B
R 51-13	Compost for Erosion/Sediment Control (Filter Berms and Filter Socks).....	R 51-1	1B
R 52-10	Compost for Erosion/Sediment Control (Compost Blankets).....	R 52-1	1B
R 58-11	Dry Preparation of Disturbed Soil and Soil-Aggregate Samples for Test.....	R 58-1	1B

Number	Title	Page	Volume
TESTING EQUIPMENT			
M 92-10	Wire-Cloth Sieves for Testing Purposes.....	M 92-1	1A
M 152M/M 152-11	Flow Table for Use in Tests of Hydraulic Cement	M 152M/ M 152-1	1A
M 201-11	Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes.....	M 201-1	1A
M 231-95 (2010)	Weighing Devices Used in the Testing of Materials.....	M 231-1	1A
M 261-96 (2009)	Rib-Tread Standard Tire for Special-Purpose Pavement Frictional-Property Tests	M 261-1	1A
M 286-96 (2009)	Smooth-Tread Standard Tire for Special-Purpose Pavement Frictional-Property Tests	M 286-1	1B
R 32-11	Calibrating the Load Cell and Deflection Sensors for a Falling Weight Deflectometer.....	R 32-1	1B
R 33-11	Calibrating the Reference Load Cell Used for Reference Calibrations for a Falling Weight Deflectometer.....	R 33-1	1B
R 45-13	Installing, Monitoring, and Processing Data of the Traveling Type Slope Inclinometer.....	R 45-1	1B

TIMBER AND PRESERVATIVES

M 133-12	Preservatives and Pressure Treatment Processes for Timber.....	M 133-1	1A
M 168-07 (2012)	Wood Products.....	M 168-1	1A

DELETED SPECIFICATIONS

The following specifications have been deleted from the 33rd Edition:

M 284M/M 284-09	Epoxy-Coated Reinforcing Bars: Materials and Coating Requirements
M 317M/ M 317-03 (2007)	Epoxy-Coated Reinforcing Bars: Handling Requirements for Fabrication and Job Site
R 14-88 (2007)	Classifying Hot Mix Recycling Agents

PART 1—STANDARD SPECIFICATIONS AND STANDARD PRACTICES

Table of Contents

NUMERICAL SEQUENCE

Number	Title	Page	Volume
M 6-13	Fine Aggregate for Hydraulic Cement Concrete.....	M 6-1	1A
M 17-11	Mineral Filler for Bituminous Paving Mixtures.....	M 17-1	1A
M 29-12	Fine Aggregate for Bituminous Paving Mixtures	M 29-1	1A
M 30-02 (2010)	Zinc-Coated Steel Wire Rope and Fittings for Highway Guardrail.....	M 30-1	1A
M 31M/M 31-10 (2011)	Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement	M 31M/ M 31-1	1A
M 32M/M 32-09	Steel Wire, Plain, for Concrete Reinforcement.....	M 32M/ M 32-1	1A
M 33-99 (2012)	Preformed Expansion Joint Filler for Concrete (Bituminous Type).....	M 33-1	1A
M 36-03 (2011)	Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains	M 36-1	1A
M 43-05 (2009)	Sizes of Aggregate for Road and Bridge Construction	M 43-1	1A
M 45-06 (2010)	Aggregate for Masonry Mortar	M 45-1	1A
M 54M/M 54-07 (2012)	Welded Deformed Steel Bar Mats for Concrete Reinforcement.....	M 54M/ M 54-1	1A
M 55M/M 55-09	Steel Welded Wire Reinforcement, Plain, for Concrete	M 55M/ M 55-1	1A
M 57-80 (2012)	Materials for Embankments and Subgrades.....	M 57-1	1A
M 80-13	Coarse Aggregate for Hydraulic Cement Concrete.....	M 80-1	1A
M 81-92 (2012)	Cutback Asphalt (Rapid-Curing Type).....	M 81-1	1A
M 82-75 (2012)	Cutback Asphalt (Medium-Curing Type).....	M 82-1	1A
M 85-12	Portland Cement.....	M 85-1	1A
M 86M/M 86-09	Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe.....	M 86M/ M 86-1	1A
M 92-10	Wire-Cloth Sieves for Testing Purposes.....	M 92-1	1A
M 102M/M 102-06 (2011)	Steel Forgings, Carbon and Alloy, for General Industrial Use	M 102M/ M 102-1	1A
M 103M/M 103-12	Steel Castings, Carbon, for General Application	M 103M/ M 103-1	1A
M 105-09	Gray Iron Castings	M 105-1	1A
M 111M/M 111-11	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products	M 111M/ M 111-1	1A

Number	Title	Page	Volume
M 133-12	Preservatives and Pressure Treatment Processes for Timber	M 133-1	1A
M 140-13	Emulsified Asphalt.....	M 140-1	1A
M 143-13	Sodium Chloride	M 143-1	1A
M 144-13	Calcium Chloride.....	M 144-1	1A
M 145-91 (2012)	Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes	M 145-1	1A
M 146-91 (2012)	Terms Relating to Subgrade, Soil-Aggregate, and Fill Materials ...	M 146-1	1A
M 147-65 (2012)	Materials for Aggregate and Soil-Aggregate Subbase, Base, and Surface Courses.....	M 147-1	1A
M 152M/M 152-11	Flow Table for Use in Tests of Hydraulic Cement	M 152M/ M 152-1	1A
M 153-06 (2011)	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction	M 153-1	1A
M 154M/M 154-12	Air-Entraining Admixtures for Concrete	M 154M/ M 154-1	1A
M 156-13	Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures	M 156-1	1A
M 157-13	Ready-Mixed Concrete	M 157-1	1A
M 163M/M 163-07 (2012)	Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application.....	M 163M/ M 163-1	1A
M 167M/M 167-09 (2012)	Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches	M 167M/ M 167-1	1A
M 168-07 (2012)	Wood Products.....	M 168-1	1A
M 169-09	Steel Bars, Carbon and Alloy, Cold-Finished	M 169-1	1A
M 170-12	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe	M 170-1	1A
M 170M-12	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe [Metric].....	M 170M-1	1A
M 175M/M 175-05 (2009)	Perforated Concrete Pipe	M 175M/ M 175-1	1A
M 176M/M 176-07 (2012)	Porous Concrete Pipe.....	M 176M/ M176-1	1A
M 178M/M 178-07 (2012)	Concrete Drain Tile.....	M 178M/ M 178-1	1A
M 180-12	Corrugated Sheet Steel Beams for Highway Guardrail.....	M 180-1	1A
M 181-10	Chain-Link Fence.....	M 181-1	1A
M 182-05 (2012)	Burlap Cloth Made from Jute or Kenaf and Cotton Mats	M 182-1	1A
M 190-04 (2012)	Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches	M 190-1	1A

Number	Title	Page	Volume
M 194M/M 194-13	Chemical Admixtures for Concrete	M 194M/ M 194-1	1A
M 195-11	Lightweight Aggregates for Structural Concrete	M 195-1	1A
M 196-92 (2012)	Corrugated Aluminum Pipe for Sewers and Drains.....	M 196-1	1A
M 197-06 (2011)	Aluminum Alloy Sheet for Corrugated Aluminum Pipe.....	M 197-1	1A
M 199M/M 199-10	Precast Reinforced Concrete Manhole Sections	M 199M/ M 199-1	1A
M 200-73 (2012)	<i>Discontinued</i> —Epoxy Protective Coatings.....	M 200-1	1A
M 201-11	Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes.....	M 201-1	1A
M 202M/M 202-08 (2012)	Steel Sheet Piling	M 202M/ M 202-1	1A
M 203M/M 203-12	Steel Strand, Uncoated Seven-Wire for Concrete Reinforcement	M 203M/ M 203-1	1A
M 204M/M 204-06 (2010)	Uncoated Stress-Relieved Steel Wire for Prestressed Concrete.....	M 204M/ M 204-1	1A
M 205M/M 205-11	Molds for Forming Concrete Test Cylinders Vertically	M 205M/ M 205-1	1A
M 206M/M 206-12	Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe.....	M 206M/ M 206-1	1A
M 207M/M 207-12	Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe.....	M 207M/ M 207-1	1A
M 208-01 (2009)	Cationic Emulsified Asphalt	M 208-1	1A
M 210M/M 210-12	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete.....	M 210M/ M 210-1	1A
M 213-01 (2010)	Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).....	M 213-1	1A
M 216-13	Lime for Soil Stabilization.....	M 216-1	1A
M 218-03 (2011)	Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe	M 218-1	1A
M 219-92 (2012)	Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches.....	M 219-1	1A
M 220-84 (2012)	<i>Discontinued</i> —Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements	M 220-1	1A
M 221M/M 221-09	Steel Welded Wire Reinforcement, Deformed, for Concrete.....	M 221M/ M 221-1	1A
M 224-91 (2009)	Use of Protective Sealers for Portland Cement Concrete.....	M 224-1	1A

Number	Title	Page	Volume
M 225M/M 225-09	Steel Wire, Deformed, for Concrete Reinforcement.....	M 225M/ M 225-1	1A
M 226-80 (2012)	Viscosity-Graded Asphalt Cement.....	M 226-1	1A
M 227M/M 227-13	Steel Bars, Carbon, Merchant Quality, Mechanical Properties.....	M 227M/ M 227-1	1A
M 230-07 (2012)	Expanded and Extruded Foam Board (Polystyrene).....	M 230-1	1A
M 231-95 (2010)	Weighing Devices Used in the Testing of Materials.....	M 231-1	1A
M 232M/M 232-10	Zinc Coating (Hot-Dip) on Iron and Steel Hardware.....	M 232M/ M 232-1	1A
M 233-86 (2009)	Boiled Linseed Oil Mixture for Treatment of Portland Cement Concrete.....	M 233-1	1A
M 235M/M 235-13	Epoxy Resin Adhesives	M 235M/ M 235-1	1A
M 237-96 (2009)	Epoxy Resin Adhesives for Bonding Traffic Markers to Hardened Portland Cement and Asphalt Concrete.....	M 237-1	1A
M 240M/M 240-13	Blended Hydraulic Cement.....	M 240M/ M 240-1	1A
M 241M/M 241-13	Concrete Made by Volumetric Batching and Continuous Mixing	M 241M/ M 241-1	1A
M 242M/M 242-12	Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe.....	M 242M M 242-1	1A
M 243-96 (2012)	Field-Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches.....	M 243-1	1A
M 245-00 (2012)	Corrugated Steel Pipe, Polymer-Precoated, for Sewers and Drains.....	M 245-1	1A
M 246-05 (2011)	Steel Sheet, Metallic-Coated and Polymer-Precoated, for Corrugated Steel Pipe.....	M 246-1	1A
M 247-13	Glass Beads Used in Pavement Markings.....	M 247-1	1A
M 248-91 (2012)	Ready-Mixed White and Yellow Traffic Paints.....	M 248-1	1A
M 249-12	White and Yellow Reflective Thermoplastic Striping Material (Solid Form)	M 249-1	1A
M 251-06 (2011)	Plain and Laminated Elastomeric Bridge Bearings.....	M 251-1	1A
M 252-09 (2012)	Corrugated Polyethylene Drainage Pipe	M 252-1	1A
M 254-06 (2010)	Corrosion-Resistant Coated Dowel Bars	M 254-1	1A
M 255M/ M 255-05 (2008)	Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties.....	M 255M/ M 255-1	1A
M 259-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers.....	M 259-1	1A

Number	Title	Page	Volume
M 259M-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers [Metric].....	M 259M-1	1A
M 261-96 (2009)	Rib-Tread Standard Tire for Special-Purpose Pavement Frictional-Property Tests.....	M 261-1	1A
M 262-11	Concrete Pipe and Related Products	M 262-1	1A
M 268-13	Retroreflective Sheeting for Flat and Vertical Traffic Control Applications.....	M 268-1	1A
M 269-96 (2013)	Turnbuckles and Shackles.....	M 269-1	1A
M 270M/M 270-12	Structural Steel for Bridges.....	M 270M/ M 270-1	1A
M 273-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 2 ft of Cover Subjected to Highway Loadings	M 273-1	1A
M 273M-11	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 0.6 m of Cover Subjected to Highway Loadings [Metric].....	M 273M-1	1A
M 274-87 (2012)	Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe	M 274-1	1A
M 275M/M 275-08 (2012)	Uncoated High-Strength Steel Bars for Prestressing Concrete	M 275M/ M 275-1	1A
M 277-06 (2010)	Wire Rope and Sockets for Movable Bridges.....	M 277-1	1A
M 278-12	Class PS46 Poly(Vinyl Chloride) (PVC) Pipe	M 278-1	1A
M 279-09	Metallic-Coated, Steel Woven Wire Fence Fabric.....	M 279-1	1A
M 280-09	Metallic-Coated (Carbon) Steel Barbed Wire.....	M 280-1	1B
M 281-96 (2013)	Steel Fence Posts and Assemblies, Hot-Wrought	M 281-1	1B
M 282-99 (2012)	<i>Discontinued</i> —Joint Sealants, Hot-Poured, Elastomeric-Type, for Portland Cement Concrete Pavements	M 282-1	1B
M 285M/M 285-11	Castings, Iron-Chromium-Nickel, Corrosion Resistant, for Severe Service.....	M 285M/ M 285-1	1B
M 286-96 (2009)	Smooth-Tread Standard Tire for Special-Purpose Pavement Frictional-Property Tests.....	M 286-1	1B
M 288-06 (2011)	Geotextile Specification for Highway Applications	M 288-1	1B
M 289-91 (2012)	Aluminum-Zinc Alloy Coated Sheet Steel for Corrugated Steel Pipe	M 289-1	1B
M 290-96 (2013)	Acrylic Prismatic Reflectors and Embossed Aluminum Frames for Signs	M 290-1	1B
M 292M/M 292-13	Carbon and Alloy Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both.....	M 292M/ M 292-1	1B
M 294-13	Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.....	M 294-1	1B

Number	Title	Page	Volume
M 295-11	Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete	M 295-1	1B
M 297-10	Preformed Polychloroprene Elastomeric Joint Seals for Bridges ...	M 297-1	1B
M 300-03 (2012)	Inorganic Zinc-Rich Primer	M 300-1	1B
M 302-13	Slag Cement for Use in Concrete and Mortars	M 302-1	1B
M 303-89 (2010)	Lime for Asphalt Mixtures.....	M 303-1	1B
M 304-11	Poly(Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter	M 304-1	1B
M 306-10	Drainage, Sewer, Utility, and Related Castings.....	M 306-1	1B
M 307-13	Silica Fume Used in Cementitious Mixtures.....	M 307-1	1B
M 314-90 (2008)	Steel Anchor Bolts	M 314-1	1B
M 316-13	Polymer-Modified Cationic Emulsified Asphalt.....	M 316-1	1B
M 318-02 (2010)	Glass Cullet Use for Soil-Aggregate Base Course.....	M 318-1	1B
M 319-02 (2010)	Reclaimed Concrete Aggregate for Unbound Soil-Aggregate Base Course	M 319-1	1B
M 320-10	Performance-Graded Asphalt Binder.....	M 320-1	1B
M 321-04 (2012)	High-Reactivity Pozzolans for Use in Hydraulic-Cement Concrete, Mortar, and Grout.....	M 321-1	1B
M 322M/M 322-10	Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement	M 322M/ M 322-1	1B
M 323-13	Superpave Volumetric Mix Design.....	M 323-1	1B
M 324-12	<i>Discontinued</i> —Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.....	M 324-1	1B
M 325-08 (2012)	Stone Matrix Asphalt (SMA).....	M 325-1	1B
M 326-08 (2012)	Polyethylene (PE) Liner Pipe, 300- to 1600-mm Diameter, Based on Controlled Outside Diameter.....	M 326-1	1B
M 327-11	Processing Additions for Use in the Manufacture of Hydraulic Cements.....	M 327-1	1B
M 328-10	Inertial Profiler.....	M 328-1	1B
M 329M/M 329-11	Stainless Clad Deformed and Plain Round Steel Bars for Concrete Reinforcement	M 329M/ M 329-1	1B
M 330-13	Polypropylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.....	M 330-1	1B
M 331-13	Smoothness of Pavement in Weigh-in-Motion (WIM) Systems	M 331-1	1B
R 5-13	Selection and Use of Emulsified Asphalts	R 5-1	1B
R 8-96 (2009)	Evaluation of Transportation-Related Earthborne Vibrations.....	R 8-1	1B
R 9-05 (2009)	Acceptance Sampling Plans for Highway Construction	R 9-1	1B

Number	Title	Page	Volume
R 10-06 (2011)	Definition of Terms Related to Quality and Statistics as Used in Highway Construction	R 10-1	1B
R 13-12	Conducting Geotechnical Subsurface Investigations	R 13-1	1B
R 15-00 (2012)	Asphalt Additives and Modifiers	R 15-1	1B
R 16-04 (2009)	Regulatory Information for Chemicals Used in AASHTO Tests....	R 16-1	1B
R 18-10	Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories.....	R 18-1	1B
R 20-99 (2012)	Procedures for Measuring Highway Noise	R 20-1	1B
R 21-96 (2009)	Drilling for Subsurface Investigations—Unexpectedly Encountering Suspected Hazardous Material	R 21-1	1B
R 22-97 (2010)	Decommissioning Geotechnical Exploratory Boreholes	R 22-1	1B
R 23-99 (2013)	Chemical, Biological, and Physical Analysis of Water.....	R 23-1	1B
R 24-99 (2013)	Collection and Preservation of Water Samples.....	R 24-1	1B
R 25-00 (2009)	Technician Training and Qualification Programs	R 25-1	1B
R 26-01 (2009)	Certifying Suppliers of Performance-Graded Asphalt Binders.....	R 26-1	1B
R 27-01 (2010)	Assessment of Corrosion of Steel Piling for Non-Marine Applications	R 27-1	1B
R 28-12	Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)	R 28-1	1B
R 29-08 (2012)	Grading or Verifying the Performance Grade (PG) of an Asphalt Binder	R 29-1	1B
R 30-02 (2010)	Mixture Conditioning of Hot Mix Asphalt (HMA).....	R 30-1	1B
R 31-09	Evaluation of Protective Coating Systems for Structural Steel.....	R 31-1	1B
R 32-11	Calibrating the Load Cell and Deflection Sensors for a Falling Weight Deflectometer	R 32-1	1B
R 33-11	Calibrating the Reference Load Cell Used for Reference Calibrations for a Falling Weight Deflectometer	R 33-1	1B
R 34-03 (2013)	Evaluating Deicing Chemicals	R 34-1	1B
R 35-12	Superpave Volumetric Design for Hot Mix Asphalt (HMA).....	R 35-1	1B
R 36-13	Evaluating Faulting of Concrete Pavements	R 36-1	1B
R 37-04 (2009)	Application of Ground Penetrating Radar (GPR) to Highways	R 37-1	1B
R 38-10	Quality Assurance of Standard Manufactured Materials	R 38-1	1B
R 39-07 (2012)	Making and Curing Concrete Test Specimens in the Laboratory ...	R 39-1	1B
R 40-10	Measuring Pavement Profile Using a Rod and Level	R 40-1	1B
R 41-05 (2010)	Measuring Pavement Profile Using a Dipstick	R 41-1	1B
R 42-06 (2011)	Developing a Quality Assurance Plan for Hot Mix Asphalt (HMA)	R 42-1	1B
R 43-13	Quantifying Roughness of Pavements	R 43-1	1B

Number	Title	Page	Volume
R 44-07 (2012)	Independent Assurance (IA) Programs	R 44-1	1B
R 45-13	Installing, Monitoring, and Processing Data of the Traveling Type Slope Inclinometer	R 45-1	1B
R 46-08 (2012)	Designing Stone Matrix Asphalt (SMA).....	R 46-1	1B
R 47-08 (2012)	Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size.....	R 47-1	1B
R 48-10	Determining Rut Depth in Pavements.....	R 48-1	1B
R 49-09	Determination of Low-Temperature Performance Grade (PG) of Asphalt Binders	R 49-1	1B
R 50-09	Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures.....	R 50-1	1B
R 51-13	Compost for Erosion/Sediment Control (Filter Berms and Filter Socks).....	R 51-1	1B
R 52-10	Compost for Erosion/Sediment Control (Compost Blankets).....	R 52-1	1B
R 53-10	Qualification of Deformed and Plain Reinforcing Steel Bar, Welded Wire, and Wire Producing Mills.....	R 53-1	1B
R 54-10	Accepting Pavement Ride Quality When Measured Using Inertial Profiling Systems.....	R 54-1	1B
R 55-10	Quantifying Cracks in Asphalt Pavement Surfaces	R 55-1	1B
R 56-10	Certification of Inertial Profiling Systems	R 56-1	1B
R 57-10	Operating Inertial Profiling Systems.....	R 57-1	1B
R 58-11	Dry Preparation of Disturbed Soil and Soil-Aggregate Samples for Test	R 58-1	1B
R 59-11	Recovery of Asphalt Binder from Solution by Abson Method.....	R 59-1	1B
R 60-12	Sampling Freshly Mixed Concrete.....	R 60-1	1B
R 61-12	Establishing Requirements for Equipment Calibrations, Standardizations, and Checks	R 61-1	1B
R 62-13	Developing Dynamic Modulus Master Curves for Asphalt Mixtures.....	R 62-1	1B
R 63-13	Solid Wall High-Density Polyethylene (HDPE) Conduit for Non-Pressure Applications Used for the Protection of Power and Communications Cables.....	R 63-1	1B

DELETED SPECIFICATIONS

The following specifications have been deleted from the 33rd Edition:

M 284M/M 284-09	Epoxy-Coated Reinforcing Bars: Materials and Coating Requirements
M 317/M 317-03 (2007)	Epoxy-Coated Reinforcing Bars: Handling Requirements for Fabrication and Job Site
R 14-88 (2007)	Classifying Hot Mix Recycling Agents

**Revisions for 33rd Edition of Standard Specifications for
Transportation Materials and Methods of Sampling and Testing—Part 1**

The balloted technical changes listed below are also indicated in the specifications by a change bar in the left margin. Non-balloted editorial changes do not receive the change bar.

Designation Number	Title	Technical Section Number	2012 Ballot Revision
M 6-13	Fine Aggregate for Hydraulic Cement Concrete	1c	Revised the Referenced Documents and removed the Supplementary Requirements and the Appendix that dealt with reactive aggregate issues.
M 57-80 (2012)	Materials for Embankments and Subgrades	1b	Reconfirmed in 2012.
M 80-13	Coarse Aggregate for Hydraulic Cement Concrete	1c	Revised the Referenced Documents and removed the Supplementary Requirements and the Appendix that dealt with reactive aggregate issues.
M 81-92 (2012)	Cutback Asphalt (Rapid-Curing Type)	2a	Reconfirmed in 2012.
M 82-75 (2012)	Cutback Asphalt (Medium-Curing Type)	2a	Reconfirmed in 2012.
M 140-13	Emulsified Asphalt	2a	Revised to include additional Referenced Documents.
M 143-13	Sodium Chloride	4c	Revised extensively and adopted as an AASHTO standard.
M 144-13	Calcium Chloride	4c	Revised extensively and adopted as an AASHTO standard.
M 145-91 (2012)	Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes	1b	Reconfirmed in 2012.
M 146-91 (2012)	Terms Relating to Subgrade, Soil-Aggregate, and Fill Materials	1b	Reconfirmed in 2012.
M 147-65 (2012)	Materials for Aggregate and Soil-Aggregate Subbase, Base, and Surface Courses	1b	Reconfirmed in 2012.
M 156-13	Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures	2c	Revised extensively and adopted as an AASHTO standard.

Designation Number	Title	Technical Section Number	2012 Ballot Revision
M 157-13	Ready-Mixed Concrete	3b	Revised Section 8.1.
M 167M/M 167-09 (2012)	Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches	4b	Reconfirmed in 2012.
M 176M/M 176-07 (2012)	Porous Concrete Pipe	4a	Reconfirmed in 2012.
M 178M/M 178-07 (2012)	Concrete Drain Tile	4a	Reconfirmed in 2012.
M 182-05 (2012)	Burlap Cloth Made from Jute or Kenaf and Cotton Mats	3b	Reconfirmed in 2012.
M 194M/M 194-13	Chemical Admixtures for Concrete	3b	Revised to maintain equivalency with ASTM C 494/C 194M-11.
M 200-73 (2012)	Epoxy Protective Coatings	4c	Discontinued due to lack of use.
M 202M/M 202-08 (2012)	Steel Sheet Piling	4f	Reconfirmed in 2012.
M 216-13	Lime for Soil Stabilization	3a	Revised to maintain equivalency with ASTM C 977-10.
M 220-84 (2012)	Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements	4e	Discontinued.
M 226-80 (2012)	Viscosity-Graded Asphalt Cement	2b	Reconfirmed in 2012.
M 227M/M 227-13	Steel Bars, Carbon, Merchant Quality, Mechanical Properties	4f	Deleted former Sections 6.2 and 7.1.6 in order to maintain equivalency with ASTM A 663/A 663M-12.
M 235M/M 235-13	Epoxy Resin Adhesives	4c	Revised extensively.
M 240M/M 240-13	Blended Hydraulic Cement	3a	Revised to maintain equivalency with ASTM C 595/C 595M-12.
M 241M/M 241-13	Concrete Made by Volumetric Batching and Continuous Mixing	3b	Revised to maintain equivalency with ASTM C 685/C 685M-11.
M 247-13	Glass Beads Used in Pavement Markings	4c	Revised Section 3.4.
M 252-09 (2012)	Corrugated Polyethylene Drainage Pipe	4b	Reconfirmed in 2012.
M 268-13	Retroreflective Sheeting for Flat and Vertical Traffic Control Applications	4d	Revised extensively.

Designation Number	Title	Technical Section Number	2012 Ballot Revision
M 269-96 (2013)	Turnbuckles and Shackles	4d	Reconfirmed in 2013.
M 275M/M 275-08 (2012)	Uncoated High-Strength Steel Bars for Prestressing Concrete	4g	Reconfirmed in 2012.
M 281-96 (2013)	Steel Fence Posts and Assemblies, Hot-Wrought	4d	Reconfirmed in 2013.
M 282-99 (2012)	Joint Sealants, Hot-Poured, Elastomeric-Type, for Portland Cement Concrete Pavements	4e	Discontinued.
M 290-96 (2013)	Acrylic Prismatic Reflectors and Embossed Aluminum Frames for Signs	4d	Reconfirmed in 2013.
M 292M/M 292-13	Carbon and Alloy Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both	4f	Revised to maintain equivalency with ASTM A 194/A 194M-11.
M 294-13	Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	4b	Revised extensively.
M 302-13	Slag Cement for Use in Concrete and Mortars	3b	Revised to maintain equivalency with ASTM C 989-12.
M 307-13	Silica Fume Used in Cementitious Mixtures	3b	Revised to maintain equivalency with ASTM C 1240-11
M 316-13	Polymer-Modified Cationic Emulsified Asphalt	2a	Revised the Referenced Documents and Sections 4.1 and 6.1.
M 323-13	Superpave Volumetric Mix Design	2d	Revised extensively.
M 324-12	Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements	4e	Discontinued.
M 325-08 (2012)	Stone Matrix Asphalt (SMA)	2d	Reconfirmed in 2012.
M 330-13	Polypropylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	4b	Adopted AASHTO Provisional standard MP 21 as a full standard.
M 331-13	Smoothness of Pavement in Weigh-in-Motion (WIM) Systems	5a	Adopted AASHTO Provisional standard MP 14 as a full standard.
R 5-13	Selection and Use of Emulsified Asphalts	2a	Updated to reference ASTM D 3628-08.
R 15-00 (2012)	Asphalt Additives and Modifiers	2b	Reconfirmed in 2012.

Designation Number	Title	Technical Section Number	2012 Ballot Revision
R 20-99 (2012)	Procedures for Measuring Highway Noise	5a	Reconfirmed in 2012.
R 23-99 (2013)	Chemical, Biological, and Physical Analysis of Water	5b	Reconfirmed in 2013.
R 24-99 (2013)	Collection and Preservation of Water Samples	5b	Reconfirmed in 2013.
R 29-08 (2012)	Grading or Verifying the Performance Grade (PG) of an Asphalt Binder	2b	Reconfirmed in 2012.
R 34-03 (2013)	Evaluating Deicing Chemicals	5b	Reconfirmed in 2013.
R 36-13	Evaluating Faulting of Concrete Pavements	5a	Revised extensively.
R 43-13	Quantifying Roughness of Pavements	5a	Revised extensively.
R 45-13	Installing, Monitoring, and Processing Data of the Traveling Type Slope Inclinometer	1b	Revised sections 3.4 and 8.1.1.
R 46-08 (2012)	Designing Stone Matrix Asphalt (SMA)	2d	Reconfirmed in 2012.
R 47-08 (2012)	Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size	2c	Reconfirmed in 2012.
R 51-13	Compost for Erosion/Sediment Control (Filter Berms and Filter Socks)	1a	Revised to add a second type of acceptable filter sock netting material.
R 62-13	Developing Dynamic Modulus Master Curves for Asphalt Mixtures	2d	Adopted AASHTO Provisional standard PP 62 as a full standard.
R 63-13	Solid Wall High-Density Polyethylene (HDPE) Conduit for Non-Pressure Applications Used for the Protection of Power and Telecommunications Cables	4b	Adopted as a new standard.

- * The designation numbers of AASHTO materials standards are comprised of the following:
- a letter that reflects the type of standard—M for standard specifications, R for standard practices, or T for standard methods of test;
 - the unique sequential number of the standard in its type;
 - following a hyphen, the date of publication in its current form; and
 - in some cases, the year of its last reconfirmation in parentheses.

For example, M 326-08 (2012) would be a standard specification, would carry the unique identifying number 326 in the list of specifications, was initially approved or last revised in 2008, and was reconfirmed without technical changes in 2012.

PART 2 TESTS

Table of Contents

SUBJECT SEQUENCE

Number	Title	Page	Volume
AGGREGATES			
T 2-91 (2010)	Sampling of Aggregates	T 2-1	2A
T 11-05 (2009)	Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing.....	T 11-1	2A
T 19M/T 19-09	Bulk Density (“Unit Weight”) and Voids in Aggregate.....	T 19M/ T 19-1	2A
T 21-05 (2009)	Organic Impurities in Fine Aggregates for Concrete	T 21-1	2A
T 27-11	Sieve Analysis of Fine and Coarse Aggregates.....	T 27-1	2A
T 30-13	Mechanical Analysis of Extracted Aggregate	T 30-1	2A
T 37-07 (2011)	Sieve Analysis of Mineral Filler for Hot Mix Asphalt (HMA)	T 37-1	2A
T 71-08 (2012)	Effect of Organic Impurities in Fine Aggregate on Strength of Mortar	T 71-1	2A
T 84-13	Specific Gravity and Absorption of Fine Aggregate	T 84-1	2A
T 85-13	Specific Gravity and Absorption of Coarse Aggregate	T 85-1	2A
T 96-02 (2010)	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.....	T 96-1	2A
T 103-08 (2012)	Soundness of Aggregates by Freezing and Thawing.....	T 103-1	2A
T 104-99 (2011)	Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate.....	T 104-1	2A
T 112-00 (2012)	Clay Lumps and Friable Particles in Aggregate	T 112-1	2A
T 113-06 (2010)	Lightweight Pieces in Aggregate.....	T 113-1	2A
T 210-10	Aggregate Durability Index	T 210-1	2A
T 248-11	Reducing Samples of Aggregate to Testing Size	T 248-1	2B
T 255-00 (2012)	Total Evaporable Moisture Content of Aggregate by Drying	T 255-1	2B
T 279-12	Accelerated Polishing of Aggregates Using the British Wheel.....	T 279-1	2B
T 304-11	Uncompacted Void Content of Fine Aggregate	T 304-1	2B
T 326-05 (2009)	Uncompacted Void Content of Coarse Aggregate (As Influenced by Particle Shape, Surface Texture, and Grading)	T 326-1	2B
T 327-12	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus.....	T 327-1	2B
T 330-07 (2011)	The Qualitative Detection of Harmful Clays of the Smectite Group in Aggregates Using Methylene Blue.....	T 330-1	2B
T 335-09	Determining the Percentage of Fracture in Coarse Aggregate	T 335-1	2B
BITUMINOUS MATERIALS			
T 40-02 (2012)	Sampling Bituminous Materials.....	T 40-1	2A
T 44-13	Solubility of Bituminous Materials	T 44-1	2A

Number	Title	Page	Volume
T 48-06 (2010)	Flash and Fire Points by Cleveland Open Cup.....	T 48-1	2A
T 49-07 (2011)	Penetration of Bituminous Materials.....	T 49-1	2A
T 50-09	Float Test for Bituminous Materials.....	T 50-1	2A
T 51-09	Ductility of Asphalt Materials.....	T 51-1	2A
T 53-09	Softening Point of Bitumen (Ring-and-Ball Apparatus)	T 53-1	2A
T 59-13	Emulsified Asphalts	T 59-1	2A
T 72-10	Saybolt Viscosity.....	T 72-1	2A
T 78-10	Distillation of Cutback Asphalt Products	T 78-1	2A
T 79-12	Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Point Less Than 93°C (200°F).....	T 79-1	2A
T 102-09	Spot Test of Asphaltic Materials	T 102-1	2A
T 110-03 (2011)	Moisture or Volatile Distillates in Hot Mix Asphalt (HMA)	T 110-1	2A
T 111-11	Mineral Matter or Ash in Asphalt Materials	T 111-1	2A
T 164-13	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)...	T 164-1	2A
T 166-13	Bulk Specific Gravity of Compacted (G_{mb}) Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens	T 166-1	2A
T 167-10	Compressive Strength of Hot Mix Asphalt	T 167-1	2A
T 168-03 (2011)	Sampling Bituminous Paving Mixtures.....	T 168-1	2A
T 179-05 (2009)	Effect of Heat and Air on Asphalt Materials (Thin-Film Oven Test)	T 179-1	2A
T 195-11	Determining Degree of Particle Coating of Asphalt Mixtures	T 195-1	2A
T 201-10	Kinematic Viscosity of Asphalts (Bitumens)	T 201-1	2A
T 202-10	Viscosity of Asphalts by Vacuum Capillary Viscometer	T 202-1	2A
T 209-12	Theoretical Maximum Specific Gravity (G_{mm}) and Density of Hot Mix Asphalt (HMA).....	T 209-1	2A
T 228-09	Specific Gravity of Semi-Solid Asphalt Materials	T 228-1	2A
T 240-13	Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin-Film Oven Test).....	T 240-1	2B
T 245-13	Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus	T 245-1	2B
T 246-10	Resistance to Deformation and Cohesion of Hot Mix Asphalt (HMA) by Means of Hveem Apparatus	T 246-1	2B
T 247-10	Preparation of Test Specimens of Hot Mix Asphalt (HMA) by Means of California Kneading Compactor	T 247-1	2B
T 269-11	Percent Air Voids in Compacted Dense and Open Asphalt Mixtures	T 269-1	2B
T 275-07 (2012)	Bulk Specific Gravity (G_{mb}) of Compacted Hot Mix Asphalt (HMA) Using Paraffin-Coated Specimens.....	T 275-1	2B
T 283-07 (2011)	Resistance of Compacted Hot Mix Asphalt (HMA) to Moisture- Induced Damage.....	T 283-1	2B
T 287-06 (2010)	Asphalt Binder Content of Asphalt Mixtures by the Nuclear Method.....	T 287-1	2B
T 295-13	Specific Gravity or API Gravity of Liquid Asphalts by Hydrometer Method	T 295-1	2B

Number	Title	Page	Volume
T 300-11	Force Ductility Test of Asphalt Materials	T 300-1	2B
T 301-13	Elastic Recovery Test of Asphalt Materials by Means of a Ductilometer.....	T 301-1	2B
T 302-05 (2009)	Polymer Content of Polymer-Modified Emulsified Asphalt Residue and Asphalt Binders	T 302-1	2B
T 305-09 (2012)	Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures	T 305-1	2B
T 308-10	Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method.....	T 308-1	2B
T 312-12	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor	T 312-1	2B
T 313-12	Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR).....	T 313-1	2B
T 314-12	Determining the Fracture Properties of Asphalt Binder in Direct Tension (DT).....	T 314-1	2B
T 315-12	Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	T 315-1	2B
T 316-13	Viscosity Determination of Asphalt Binder Using Rotational Viscometer.....	T 316-1	2B
T 319-08	Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures	T 319-1	2B
T 320-07 (2011)	Determining the Permanent Shear Strain and Stiffness of Asphalt Mixtures Using the Superpave Shear Tester (SST).....	T 320-1	2B
T 321-07 (2011)	Determining the Fatigue Life of Compacted Hot Mix Asphalt (HMA) Subjected to Repeated Flexural Bending.....	T 321-1	2B
T 322-07 (2011)	Determining the Creep Compliance and Strength of Hot Mix Asphalt (HMA) Using the Indirect Tensile Test Device	T 322-1	2B
T 324-11	Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA).....	T 324-1	2B
T 329-13	Moisture Content of Hot Mix Asphalt (HMA) by Oven Method.....	T 329-1	2B
T 331-13	Bulk Specific Gravity (G_{mb}) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method.....	T 331-1	2B
T 340-10	Determining Rutting Susceptibility of Hot Mix Asphalt (HMA) Using the Asphalt Pavement Analyzer (APA).....	T 340-1	2B
T 342-11	Determining Dynamic Modulus of Hot Mix Asphalt (HMA).....	T 342-1	2B
T 343-12	Density of In-Place Hot Mix Asphalt (HMA) Pavement by Electronic Surface Contact Devices	T 343-1	2B
T 344-12	Evaluation of Superpave Gyratory Compactor (SGC) Internal Angle of Gyrations Using Simulated Loading.....	T 344-1	2B
 BOX CULVERT, CULVERT PIPE, AND DRAIN TILE			
T 241-95 (2012)	Helical Continuously Welded Seam Corrugated Steel Pipe.....	T 241-1	2B
T 249-03 (2011)	Helical Lock Seam Corrugated Pipe	T 249-1	2B
T 280-06 (2010)	Concrete Pipe, Manhole Sections, or Tile	T 280-1	2B

Number	Title	Page	Volume
T 281-06 (2010)	Vitrified Clay Pipe	T 281-1	2B
T 341-10	Determination of Compression Capacity for Profile Wall Plastic Pipe by Stub Compression Loading	T 341-1	2B
CONCRETE, CURING MATERIALS, AND ADMIXTURES			
T 22-10 (2011)	Compressive Strength of Cylindrical Concrete Specimens	T 22-1	2A
T 23-13	Making and Curing Concrete Test Specimens in the Field	T 23-1	2A
T 24M/T 24-07 (2011)	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete	T 24M/ T 24-1	2A
T 26-79 (2008)	Quality of Water to Be Used in Concrete	T 26-1	2A
T 97-10	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	T 97-1	2A
T 119M/T 119-13	Slump of Hydraulic Cement Concrete	T 119M/ T 119-1	2A
T 121M/T 121-12	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	T 121M/ T 121-1	2A
T 140-97 (2011)	Compressive Strength of Concrete Using Portions of Beams Broken in Flexure	T 140-1	2A
T 148-07 (2011)	Measuring Length of Drilled Concrete Cores	T 148-1	2A
T 152-13	Air Content of Freshly Mixed Concrete by the Pressure Method	T 152-1	2A
T 155-13	Water Retention by Liquid Membrane-Forming Curing Compounds for Concrete	T 155-1	2A
T 157-12	Air-Entraining Admixtures for Concrete	T 157-1	2A
T 158-11	Bleeding of Concrete	T 158-1	2A
T 160-09	Length Change of Hardened Hydraulic Cement Mortar and Concrete	T 160-1	2A
T 161-08 (2012)	Resistance of Concrete to Rapid Freezing and Thawing	T 161-1	2A
T 177-10	Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)	T 177-1	2A
T 178-10	Portland-Cement Content of Hardened Hydraulic-Cement Concrete	T 178-1	2A
T 196M/T 196-11	Air Content of Freshly Mixed Concrete by the Volumetric Method	T 196M/ T 196-1	2A
T 197M/T 197-11	Time of Setting of Concrete Mixtures by Penetration Resistance	T 197M/ T 197-1	2A
T 198-09	Splitting Tensile Strength of Cylindrical Concrete Specimens	T 198-1	2A
T 231-13	Capping Cylindrical Concrete Specimens	T 231-1	2A
T 253-02 (2011)	Coated Dowel Bars	T 253-1	2B
T 259-02 (2012)	Resistance of Concrete to Chloride Ion Penetration	T 259-1	2B
T 260-97 (2011)	Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials	T 260-1	2B
T 276-10	Measuring Early-Age Compression Strength and Projecting Later-Age Strength	T 276-1	2B

Number	Title	Page	Volume
T 277-07 (2011)	Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration	T 277-1	2B
T 285-89 (2010)	Bend Test for Bars for Concrete Reinforcement	T 285-1	2B
T 303-00 (2012)	Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction	T 303-1	2B
T 318-02 (2011)	Water Content of Freshly Mixed Concrete Using Microwave Oven Drying	T 318-1	2B
T 325-04 (2011)	Estimating the Strength of Concrete in Transportation Construction by Maturity Tests	T 325-1	2B
T 332-07 (2011)	Determining Chloride Ions in Concrete and Concrete Materials by Specific Ion Probe	T 332-1	2B
T 334-08 (2012)	Estimating the Cracking Tendency of Concrete	T 334-1	2B
T 336-11	Coefficient of Thermal Expansion of Hydraulic Cement Concrete.....	T 336-1	2B
T 345-12	Passing Ability of Self-Consolidating Concrete (SCC) by J-Ring	T 345-1	2B
T 347-13	Slump Flow of Self-Consolidating Concrete (SCC)	T 347-1	2B
T 348-13	Air-Void Characteristics of Freshly Mixed Concrete by Buoyancy Change.....	T 348-1	2B
T 349-13	Filling Capacity of Self-Consolidating Concrete Using the Caisson Test.....	T 349-1	2B

HYDRAULIC CEMENT

T 98-12	Fineness of Portland Cement by the Turbidimeter.....	T 98-1	2A
T 105-13	Chemical Analysis of Hydraulic Cement	T 105-1	2A
T 106M/T 106-13	Compressive Strength of Hydraulic Cement Mortar (Using 50-mm or 2-in. Cube Specimens)	T 106M/ T 106-1	2A
T 107M/T 107-11	Autoclave Expansion of Hydraulic Cement.....	T 107-1	2A
T 127-11	Sampling and Amount of Testing of Hydraulic Cement.....	T 127-1	2A
T 129-12	Amount of Water Required for Normal Consistency of Hydraulic Cement Paste.....	T 129-1	2A
T 131-10	Time of Setting of Hydraulic Cement by Vicat Needle	T 131-1	2A
T 132-87 (2013)	Tensile Strength of Hydraulic Cement Mortars	T 132-1	2A
T 133-11	Density of Hydraulic Cement.....	T 133-1	2A
T 137-12	Air Content of Hydraulic Cement Mortar	T 137-1	2A
T 153-13	Fineness of Hydraulic Cement by Air Permeability Apparatus	T 153-1	2A
T 154-11	Time of Setting of Hydraulic Cement by Gillmore Needles	T 154-1	2A
T 162-12	Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency	T 162-1	2A
T 185-11	Early Stiffening of Hydraulic Cement (Mortar Method).....	T 185-1	2A
T 186-11	Early Stiffening of Hydraulic Cement (Paste Method)	T 186-1	2A
T 188-05 (2012)	Evaluation by Freezing and Thawing of Air-Entraining Additions to Hydraulic Cement	T 188-1	2A

Number	Title	Page	Volume
T 192-11	Fineness of Hydraulic Cement by the 45- μ m (No. 325) Sieve	T 192-1	2A
T 323-03 (2011)	Determining the Shear Strength at the Interface of Bonded Layers of Portland Cement Concrete	T 323-1	2B
JOINT FILLER AND ASPHALT PLANK			
T 42-10	Preformed Expansion Joint Filler for Concrete Construction	T 42-1	2A
METALLIC MATERIALS FOR BRIDGES			
T 65M/T 65-13	Mass [Weight] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings	T 65M/ T 65-1	2A
T 213M/T 213-11	Mass [Weight] of Coating on Aluminum-Coated Iron or Steel Articles.....	T 213M/ T 213-1	2A
T 243M/T 243-08 (2012)	Sample Procedure for Impact Testing of Structural Steel	T 243M/ T 243-1	2B
T 244-13	Mechanical Testing of Steel Products.....	T 244-1	2B
T 337-09	Non-Instrumental Determination of Metallic Zinc in Zinc-Rich Primers	T 337-1	2B
T 338-09	Analysis of Structural Steel Coatings for Hindered Amine Light Stabilizer (HALS)	T 338-1	2B
T 339-10	Analysis of Structural Steel Coatings for Isocyanate Content	T 339-1	2B
MISCELLANEOUS			
T 256-01 (2011)	Pavement Deflection Measurements	T 256-1	2B
T 257-96 (2013)	Instrumental Photometric Measurements of Retroflective Materials and Retroflective Devices	T 257-1	2B
PAINTING AND TRAFFIC MARKING AND SIGNING			
T 143-13	Sampling and Testing Calcium Chloride for Roads and Structural Applications.....	T 143-1	2A
T 237-05 (2009)	Testing Epoxy Resin Adhesive	T 237-1	2B
T 250-05 (2009)	Thermoplastic Traffic Line Material.....	T 250-1	2B
T 333-07 (2012)	Linear Coefficient of Shrinkage on Cure of Adhesive Systems.....	T 333-1	2B
T 346-13	Glass Beads Used in Pavement Markings.....	T 346-1	2B
PAVEMENT SURFACE CHARACTERISTICS			
T 242-96 (2009)	Frictional Properties of Paved Surfaces Using a Full-Scale Tire	T 242-1	2B
T 278-90 (2012)	Surface Frictional Properties Using the British Pendulum Tester	T 278-1	2B
T 282-01 (2010)	Calibrating a Wheel Force or Torque Transducer Using a Calibration Platform (User Level)	T 282-1	2B
T 317-04 (2009)	Prediction of Asphalt-Bound Pavement Layer Temperatures	T 317-1	2B

Number	Title	Page	Volume
SOILS AND STABILIZATION			
T 88-13	Particle Size Analysis of Soils.....	T 88-1	2A
T 89-13	Determining the Liquid Limit of Soils.....	T 89-1	2A
T 90-00 (2008)	Determining the Plastic Limit and Plasticity Index of Soils.....	T 90-1	2A
T 99-10	Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop	T 99-1	2A
T 100-06 (2010)	Specific Gravity of Soils	T 100-1	2A
T 134-05 (2009)	Moisture-Density Relations of Soil-Cement Mixtures.....	T 134-1	2A
T 135-13	Wetting-and-Drying Test of Compacted Soil-Cement Mixtures.....	T 135-1	2A
T 136-13	Freezing-and-Thawing Tests of Compacted Soil-Cement Mixtures	T 136-1	2A
T 146-96 (2008)	Wet Preparation of Disturbed Soil Samples for Test.....	T 146-1	2A
T 176-08	Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test.....	T 176-1	2A
T 180-10	Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.....	T 180-1	2A
T 190-13	Resistance R-Value and Expansion Pressure of Compacted Soils	T 190-1	2A
T 191-13	Density of Soil In-Place by the Sand-Cone Method.....	T 191-1	2A
T 193-13	The California Bearing Ratio	T 193-1	2A
T 194-97 (2008)	Determination of Organic Matter in Soils by Wet Combustion	T 194-1	2A
T 206-09	Penetration Test and Split-Barrel Sampling of Soils.....	T 206-1	2A
T 207-12	Thin-Walled Tube Sampling of Soils.....	T 207-1	2A
T 208-10	Unconfined Compressive Strength of Cohesive Soil	T 208-1	2A
T 211-90 (2012)	Determination of Cement Content in Cement-Treated Aggregate by the Method of Titration	T 211-1	2A
T 215-70 (2012)	Permeability of Granular Soils (Constant Head)	T 215-1	2A
T 216-07 (2012)	One-Dimensional Consolidation Properties of Soils.....	T 216-1	2A
T 217-13	Determination of Moisture in Soils by Means of a Calcium Carbide Gas Pressure Moisture Tester	T 217-1	2A
T 218-86 (2013)	Sampling Hydrated Lime	T 218-1	2A
T 219-87 (2013)	Testing Lime for Chemical Constituents and Particle Sizes.....	T 219-1	2A
T 220-66 (2008)	Determination of the Strength of Soil-Lime Mixtures	T 220-1	2A
T 221-90 (2012)	Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements.....	T 221-1	2A
T 222-81 (2012)	Nonrepetitive Static Plate Load Test of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements.....	T 222-1	2A
T 223-96 (2012)	Field Vane Shear Test in Cohesive Soil.....	T 223-1	2A
T 224-10	Correction for Coarse Particles in the Soil Compaction Test.....	T 224-1	2A
T 225-06 (2010)	Diamond Core Drilling for Site Investigation	T 225-1	2A
T 226-90 (2008)	Triaxial Compressive Strength of Undrained Rock Core Specimens without Pore Pressure Measurements.....	T 226-1	2A

Number	Title	Page	Volume
T 232-90 (2013)	Determination of Lime Content in Lime-Treated Soils by Titration.....	T 232-1	2A
T 233-02 (2010)	Density of Soil In-Place by Block, Chunk, or Core Sampling	T 233-1	2B
T 236-08	Direct Shear Test of Soils under Consolidated Drained Conditions.....	T 236-1	2B
T 252-09	Measurements of Pore Pressures in Soils.....	T 252-1	2B
T 258-81 (2008)	Determining Expansive Soils	T 258-1	2B
T 265-12	Laboratory Determination of Moisture Content of Soils.....	T 265-1	2B
T 267-86 (2008)	Determination of Organic Content in Soils by Loss on Ignition	T 267-1	2B
T 272-10	Family of Curves—One-Point Method	T 272-1	2B
T 273-86 (2008)	Soil Suction	T 273-1	2B
T 288-12	Determining Minimum Laboratory Soil Resistivity	T 288-1	2B
T 289-91 (2008)	Determining pH of Soil for Use in Corrosion Testing	T 289-1	2B
T 290-95 (2012)	Determining Water-Soluble Sulfate Ion Content in Soil.....	T 290-1	2B
T 291-94 (2008)	Determining Water-Soluble Chloride Ion Content in Soil	T 291-1	2B
T 296-10	Unconsolidated, Undrained Compressive Strength of Cohesive Soils in Triaxial Compression	T 296-1	2B
T 297-94 (2012)	Consolidated, Undrained Triaxial Compression Test on Cohesive Soils	T 297-1	2B
T 298-99 (2010)	High-Strain Dynamic Testing of Piles	T 298-1	2B
T 306-11	Progressing Auger Borings for Geotechnical Explorations.....	T 306-1	2B
T 307-99 (2007)	Determining the Resilient Modulus of Soils and Aggregate Materials	T 307-1	2B
T 310-13	In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	T 310-1	2B
T 311-00 (2010)	Grain-Size Analysis of Granular Soil Materials.....	T 311-1	2B

DELETED SPECIFICATIONS

The following specifications have been deleted from the 33rd Edition:

T 141-11	Sampling Freshly Mixed Concrete
T 309M/ T 309-11	Temperature of Freshly Mixed Hydraulic Cement Concrete

PART 2 TESTS

Table of Contents

NUMERICAL SEQUENCE

Number	Title	Page	Volume
T 2-91 (2010)	Sampling of Aggregates	T 2-1	2A
T 11-05 (2009)	Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing.....	T 11-1	2A
T 19M/T 19-09	Bulk Density (“Unit Weight”) and Voids in Aggregate	T 19/T 19M-1	2A
T 21-05 (2009)	Organic Impurities in Fine Aggregates for Concrete.....	T 21-1	2A
T 22-10 (2011)	Compressive Strength of Cylindrical Concrete Specimens	T 22-1	2A
T 23-13	Making and Curing Concrete Test Specimens in the Field	T 23-1	2A
T 24M/T 24-07 (2011)	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete	T 24M/T 24-1	2A
T 26-79 (2008)	Quality of Water to Be Used in Concrete	T 26-1	2A
T 27-11	Sieve Analysis of Fine and Coarse Aggregates.....	T 27-1	2A
T 30-13	Mechanical Analysis of Extracted Aggregate	T 30-1	2A
T 37-07 (2011)	Sieve Analysis of Mineral Filler for Hot Mix Asphalt (HMA)	T 37-1	2A
T 40-02 (2012)	Sampling Bituminous Materials	T 40-1	2A
T 42-10	Preformed Expansion Joint Filler for Concrete Construction.....	T 42-1	2A
T 44-13	Solubility of Bituminous Materials	T 44-1	2A
T 48-06 (2010)	Flash and Fire Points by Cleveland Open Cup.....	T 48-1	2A
T 49-07 (2011)	Penetration of Bituminous Materials	T 49-1	2A
T 50-09	Float Test for Bituminous Materials.....	T 50-1	2A
T 51-09	Ductility of Asphalt Materials	T 51-1	2A
T 53-09	Softening Point of Bitumen (Ring-and-Ball Apparatus)	T 53-1	2A
T 59-13	Emulsified Asphalts.....	T 59-1	2A
T 65M/T 65-13	Mass [Weight] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings	T 65M/T 65-1	2A
T 71-08 (2012)	Effect of Organic Impurities in Fine Aggregate on Strength of Mortar ..	T 71-1	2A
T 72-10	Saybolt Viscosity.....	T 72-1	2A
T 78-10	Distillation of Cutback Asphalt Products	T 78-1	2A
T 79-12	Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Point Less Than 93°C (200°F).....	T 79-1	2A
T 84-13	Specific Gravity and Absorption of Fine Aggregate	T 84-1	2A

Number	Title	Page	Volume
T 85-13	Specific Gravity and Absorption of Coarse Aggregate	T 85-1	2A
T 88-13	Particle Size Analysis of Soils.....	T 88-1	2A
T 89-13	Determining the Liquid Limit of Soils	T 89-1	2A
T 90-00 (2008)	Determining the Plastic Limit and Plasticity Index of Soils.....	T 90-1	2A
T 96-02 (2010)	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.....	T 96-1	2A
T 97-10	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading).....	T 97-1	2A
T 98-12	Fineness of Portland Cement by the Turbidimeter	T 98-1	2A
T 99-10	Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop.....	T 99-1	2A
T 100-06 (2010)	Specific Gravity of Soils.....	T 100-1	2A
T 102-09	Spot Test of Asphaltic Materials	T 102-1	2A
T 103-08 (2012)	Soundness of Aggregates by Freezing and Thawing.....	T 103-1	2A
T 104-99 (2011)	Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate.....	T 104-1	2A
T 105-13	Chemical Analysis of Hydraulic Cement	T 105-1	2A
T 106M/T 106-13	Compressive Strength of Hydraulic Cement Mortar (Using 50-mm or 2-in. Cube Specimens)	T 106M/ T 106-1	2A
T 107M/T 107-11	Autoclave Expansion of Hydraulic Cement	T 107-1	2A
T 110-03 (2011)	Moisture or Volatile Distillates in Hot Mix Asphalt (HMA).....	T 110-1	2A
T 111-11	Mineral Matter or Ash in Asphalt Materials.....	T 111-1	2A
T 112-00 (2012)	Clay Lumps and Friable Particles in Aggregate	T 112-1	2A
T 113-06 (2010)	Lightweight Pieces in Aggregate.....	T 113-1	2A
T 119M/T 119-13	Slump of Hydraulic Cement Concrete.....	T 119M/T 119-1	2A
T 121M/ T 121-12	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	T 121M-1	2A
T 127-11	Sampling and Amount of Testing of Hydraulic Cement	T 127-1	2A
T 129-12	Amount of Water Required for Normal Consistency of Hydraulic Cement Paste	T 129-1	2A
T 131-10	Time of Setting of Hydraulic Cement by Vicat Needle.....	T 131-1	2A
T 132-87 (2013)	Tensile Strength of Hydraulic Cement Mortars.....	T 132-1	2A
T 133-11	Density of Hydraulic Cement	T 133-1	2A
T 134-05 (2009)	Moisture-Density Relations of Soil-Cement Mixtures	T 134-1	2A
T 135-13	Wetting-and-Drying Test of Compacted Soil-Cement Mixtures.....	T 135-1	2A
T 136-13	Freezing-and-Thawing Tests of Compacted Soil-Cement Mixtures	T 136-1	2A

Number	Title	Page	Volume
T 137-12	Air Content of Hydraulic Cement Mortar	T 137-1	2A
T 140-97 (2011)	Compressive Strength of Concrete Using Portions of Beams Broken in Flexure	T 140-1	2A
T 143-13	Sampling and Testing Calcium Chloride for Roads and Structural Applications	T 143-1	2A
T 146-96 (2008)	Wet Preparation of Disturbed Soil Samples for Test.....	T 146-1	2A
T 148-07 (2011)	Measuring Length of Drilled Concrete Cores.....	T 148-1	2A
T 152-13	Air Content of Freshly Mixed Concrete by the Pressure Method.....	T 152-1	2A
T 153-13	Fineness of Hydraulic Cement by Air Permeability Apparatus.....	T 153-1	2A
T 154-11	Time of Setting of Hydraulic Cement Paste by Gillmore Needles	T 154-1	2A
T 155-13	Water Retention by Liquid Membrane-Forming Curing Compounds for Concrete	T 155-1	2A
T 157-12	Air-Entraining Admixtures for Concrete.....	T 157-1	2A
T 158-11	Bleeding of Concrete	T 158-1	2A
T 160-09	Length Change of Hardened Hydraulic Cement Mortar and Concrete....	T 160-1	2A
T 161-08 (2012)	Resistance of Concrete to Rapid Freezing and Thawing	T 161-1	2A
T 162-12	Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency	T 162-1	2A
T 164-13	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA).....	T 164-1	2A
T 166-13	Bulk Specific Gravity (G_{mb}) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens.....	T 166-1	2A
T 167-10	Compressive Strength of Hot Mix Asphalt	T 167-1	2A
T 168-03 (2011)	Sampling Bituminous Paving Mixtures	T 168-1	2A
T 176-08	Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test.....	T 176-1	2A
T 177-10	Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)	T 177-1	2A
T 178-10	Portland-Cement Content of Hardened Hydraulic-Cement Concrete.....	T 178-1	2A
T 179-05 (2009)	Effect of Heat and Air on Asphalt Materials (Thin-Film Oven Test)	T 179-1	2A
T 180-10	Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop	T 180-1	2A
T 185-11	Early Stiffening of Hydraulic Cement (Mortar Method)	T 185-1	2A
T 186-11	Early Stiffening of Hydraulic Cement (Paste Method)	T 186-1	2A
T 188-05 (2012)	Evaluation by Freezing and Thawing of Air-Entraining Additions to Hydraulic Cement.....	T 188-1	2A
T 190-13	Resistance R-Value and Expansion Pressure of Compacted Soils	T 190-1	2A

Number	Title	Page	Volume
T 191-13	Density of Soil In-Place by the Sand-Cone Method.....	T 191-1	2A
T 192-11	Fineness of Hydraulic Cement by the 45- μ m (No. 325) Sieve.....	T 192-1	2A
T 193-13	The California Bearing Ratio	T 193-1	2A
T 194-97 (2008)	Determination of Organic Matter in Soils by Wet Combustion	T 194-1	2A
T 195-11	Determining Degree of Particle Coating of Asphalt Mixtures	T 195-1	2A
T 196M/ T 196-11	Air Content of Freshly Mixed Concrete by the Volumetric Method.....	T 196M/ T 196-1	2A
T 197M/ T 197-11	Time of Setting of Concrete Mixtures by Penetration Resistance	T 197M/ T 197-1	2A
T 198-09	Splitting Tensile Strength of Cylindrical Concrete Specimens	T 198-1	2A
T 201-10	Kinematic Viscosity of Asphalts (Bitumens)	T 201-1	2A
T 202-10	Viscosity of Asphalts by Vacuum Capillary Viscometer	T 202-1	2A
T 206-09	Penetration Test and Split-Barrel Sampling of Soils	T 206-1	2A
T 207-12	Thin-Walled Tube Sampling of Soils	T 207-1	2A
T 208-10	Unconfined Compressive Strength of Cohesive Soil.....	T 208-1	2A
T 209-12	Theoretical Maximum Specific Gravity (G_{mm}) and Density of Hot Mix Asphalt (HMA).....	T 209-1	2A
T 210-10	Aggregate Durability Index	T 210-1	2A
T 211-90 (2012)	Determination of Cement Content in Cement-Treated Aggregate by the Method of Titration.....	T 211-1	2A
T 213M/ T 213-11	Mass [Weight] of Coating on Aluminum-Coated Iron or Steel Articles	T 213M/ T 213-1	2A
T 215-70 (2012)	Permeability of Granular Soils (Constant Head)	T 215-1	2A
T 216-07 (2012)	One-Dimensional Consolidation Properties of Soils	T 216-1	2A
T 217-13	Determination of Moisture in Soils by Means of a Calcium Carbide Gas Pressure Moisture Tester.....	T 217-1	2A
T 218-86 (2013)	Sampling Hydrated Lime.....	T 218-1	2A
T 219-87 (2013)	Testing Lime for Chemical Constituents and Particle Sizes.....	T 219-1	2A
T 220-66 (2008)	Determination of the Strength of Soil-Lime Mixtures.....	T 220-1	2A
T 221-90 (2012)	Repetitive Static Plate Load Test of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements	T 221-1	2A
T 222-81 (2012)	Nonrepetitive Static Plate Load Test of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements	T 222-1	2A
T 223-96 (2012)	Field Vane Shear Test in Cohesive Soil	T 223-1	2A

Number	Title	Page	Volume
T 224-10	Correction for Coarse Particles in the Soil Compaction Test	T 224-1	2A
T 225-06 (2010)	Diamond Core Drilling for Site Investigation	T 225-1	2A
T 226-90 (2008)	Triaxial Compressive Strength of Undrained Rock Core Specimens without Pore Pressure Measurements	T 226-1	2A
T 228-09	Specific Gravity of Semi-Solid Asphalt Materials	T 228-1	2A
T 231-13	Capping Cylindrical Concrete Specimens	T 231-1	2A
T 232-90 (2013)	Determination of Lime Content in Lime-Treated Soils by Titration	T 232-1	2A
T 233-02 (2010)	Density of Soil In-Place by Block, Chunk, or Core Sampling	T 233-1	2B
T 236-08	Direct Shear Test of Soils under Consolidated Drained Conditions.....	T 236-1	2B
T 237-05 (2009)	Testing Epoxy Resin Adhesive.....	T 237-1	2B
T 240-13	Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin-Film Oven Test).....	T 240-1	2B
T 241-95 (2012)	Helical Continuously Welded Seam Corrugated Steel Pipe	T 241-1	2B
T 242-96 (2009)	Frictional Properties of Paved Surfaces Using a Full-Scale Tire.....	T 242-1	2B
T 243M/ T 243-08 (2012)	Sampling Procedure for Impact Testing of Structural Steel	T 243M/ T 243-1	2B
T 244-13	Mechanical Testing of Steel Products	T 244-1	2B
T 245-13	Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus	T 245-1	2B
T 246-10	Resistance to Deformation and Cohesion of Hot Mix Asphalt (HMA) by Means of Hveem Apparatus	T 246-1	2B
T 247-10	Preparation of Test Specimens of Hot Mix Asphalt (HMA) by Means of California Kneading Compactor	T 247-1	2B
T 248-11	Reducing Samples of Aggregate to Testing Size.....	T 248-1	2B
T 249-03 (2011)	Helical Lock Seam Corrugated Pipe.....	T 249-1	2B
T 250-05 (2009)	Thermoplastic Traffic Line Material	T 250-1	2B
T 252-09	Measurements of Pore Pressures in Soils	T 252-1	2B
T 253-02 (2011)	Coated Dowel Bars.....	T 253-1	2B
T 255-00 (2012)	Total Evaporable Moisture Content of Aggregate by Drying.....	T 255-1	2B
T 256-01 (2011)	Pavement Deflection Measurements	T 256-1	2B
T 257-96 (2013)	Instrumental Photometric Measurements of Retroreflective Materials and Retroreflective Devices.....	T 257-1	2B
T 258-81 (2008)	Determining Expansive Soils	T 258-1	2B
T 259-02 (2012)	Resistance of Concrete to Chloride Ion Penetration.....	T 259-1	2B
T 260-97 (2011)	Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials.....	T 260-1	2B

Number	Title	Page	Volume
T 265-12	Laboratory Determination of Moisture Content of Soils.....	T 265-1	2B
T 267-86 (2008)	Determination of Organic Content in Soils by Loss on Ignition	T 267-1	2B
T 269-11	Percent Air Voids in Compacted Dense and Open Asphalt Mixtures	T 269-1	2B
T 272-10	Family of Curves—One-Point Method	T 272-1	2B
T 273-86 (2008)	Soil Suction	T 273-1	2B
T 275-07 (2012)	Bulk Specific Gravity (G_{mb}) of Compacted Hot Mix Asphalt (HMA) Using Paraffin-Coated Specimens.....	T 275-1	2B
T 276-10	Measuring Early-Age Compression Strength and Projecting Later-Age Strength	T 276-1	2B
T 277-07 (2011)	Electrical Indication of Concrete’s Ability to Resist Chloride Ion Penetration.....	T 277-1	2B
T 278-90 (2012)	Surface Frictional Properties Using the British Pendulum Tester	T 278-1	2B
T 279-12	Accelerated Polishing of Aggregates Using the British Wheel	T 279-1	2B
T 280-06 (2010)	Concrete Pipe, Manhole Sections, or Tile	T 280-1	2B
T 281-06 (2010)	Vitrified Clay Pipe.....	T 281-1	2B
T 282-01 (2010)	Calibrating a Wheel Force or Torque Transducer Using a Calibration Platform (User Level).....	T 282-1	2B
T 283-07 (2011)	Resistance of Compacted Hot Mix Asphalt (HMA) to Moisture- Induced Damage.....	T 283-1	2B
T 285-89 (2010)	Bend Test for Bars for Concrete Reinforcement	T 285-1	2B
T 287-06 (2010)	Asphalt Binder Content of Asphalt Mixtures by the Nuclear Method.....	T 287-1	2B
T 288-12	Determining Minimum Laboratory Soil Resistivity	T 288-1	2B
T 289-91 (2008)	Determining pH of Soil for Use in Corrosion Testing.....	T 289-1	2B
T 290-95 (2012)	Determining Water-Soluble Sulfate Ion Content in Soil	T 290-1	2B
T 291-94 (2008)	Determining Water-Soluble Chloride Ion Content in Soil	T 291-1	2B
T 295-13	Specific Gravity or API Gravity of Liquid Asphalts by Hydrometer Method	T 295-1	2B
T 296-10	Unconsolidated, Undrained Compressive Strength of Cohesive Soils in Triaxial Compression	T 296-1	2B
T 297-94 (2012)	Consolidated, Undrained Triaxial Compression Test on Cohesive Soils	T 297-1	2B
T 298-99 (2010)	High-Strain Dynamic Testing of Piles.....	T 298-1	2B
T 300-11	Force Ductility Test of Asphalt Materials	T 300-1	2B
T 301-13	Elastic Recovery Test of Asphalt Materials by Means of a Ductilometer	T 301-1	2B
T 302-05 (2009)	Polymer Content of Polymer-Modified Emulsified Asphalt Residue and Asphalt Binders	T 302-1	2B

Number	Title	Page	Volume
T 303-00 (2012)	Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction	T 303-1	2B
T 304-11	Uncompacted Void Content of Fine Aggregate	T 304-1	2B
T 305-09 (2012)	Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures	T 305-1	2B
T 306-11	Progressing Auger Borings for Geotechnical Explorations.....	T 306-1	2B
T 307-99 (2012)	Determining the Resilient Modulus of Soils and Aggregate Materials ...	T 307-1	2B
T 308-10	Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method.....	T 308-1	2B
T 310-13	In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	T 310-1	2B
T 311-00 (2010)	Grain-Size Analysis of Granular Soil Materials.....	T 311-1	2B
T 312-12	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor	T 312-1	2B
T 313-12	Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	T 313-1	2B
T 314-12	Determining the Fracture Properties of Asphalt Binder in Direct Tension (DT)	T 314-1	2B
T 315-12	Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	T 315-1	2B
T 316-13	Viscosity Determination of Asphalt Binder Using Rotational Viscometer	T 316-1	2B
T 317-04 (2009)	Prediction of Asphalt-Bound Pavement Layer Temperatures	T 317-1	2B
T 318-02 (2011)	Water Content of Freshly Mixed Concrete Using Microwave Oven Drying.....	T 318-1	2B
T 319-08	Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures	T 319-1	2B
T 320-07 (2011)	Determining the Permanent Shear Strain and Stiffness of Asphalt Mixtures Using the Superpave Shear Tester (SST).....	T 320-1	2B
T 321-07 (2011)	Determining the Fatigue Life of Compacted Hot Mix Asphalt (HMA) Subjected to Repeated Flexural Bending.....	T 321-1	2B
T 322-07 (2011)	Determining the Creep Compliance and Strength of Hot Mix Asphalt (HMA) Using the Indirect Tensile Test Device.....	T 322-1	2B
T 323-03 (2011)	Determining the Shear Strength at the Interface of Bonded Layers of Portland Cement Concrete.....	T 323-1	2B
T 324-11	Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA).....	T 324-1	2B
T 325-04 (2011)	Estimating the Strength of Concrete in Transportation Construction by Maturity Tests.....	T 325-1	2B

Number	Title	Page	Volume
T 326-05 (2009)	Uncompacted Void Content of Coarse Aggregate (As Influenced by Particle Shape, Surface Texture, and Grading).....	T 326-1	2B
T 327-12	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus.....	T 327-1	2B
T 329-13	Moisture Content of Hot Mix Asphalt (HMA) by Oven Method.....	T 329-1	2B
T 330-07 (2011)	The Qualitative Detection of Harmful Clays of the Smectite Group in Aggregates Using Methylene Blue.....	T 330-1	2B
T 331-13	Bulk Specific Gravity (G_{mb}) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method.....	T 331-1	2B
T 332-07 (2011)	Determining Chloride Ions in Concrete and Concrete Materials by Specific Ion Probe.....	T 332-1	2B
T 333-07 (2012)	Linear Coefficient of Shrinkage on Cure of Adhesive Systems.....	T 333-1	2B
T 334-08 (2012)	Estimating the Cracking Tendency of Concrete.....	T 334-1	2B
T 335-09	Determining the Percentage of Fracture in Coarse Aggregate.....	T 335-1	2B
T 336-11	Coefficient of Thermal Expansion of Hydraulic Cement Concrete.....	T 336-1	2B
T 337-09	Non-Instrumental Determination of Metallic Zinc in Zinc-Rich Primers.....	T 337-1	2B
T 338-09	Analysis of Structural Steel Coatings for Hindered Amine Light Stabilizer (HALS).....	T 338-1	2B
T 339-10	Analysis of Structural Steel Coatings for Isocyanate Content.....	T 339-1	2B
T 340-10	Determining Rutting Susceptibility of Hot Mix Asphalt (HMA) Using the Asphalt Pavement Analyzer (APA).....	T 340-1	2B
T 341-10	Determination of Compression Capacity for Profile Wall Plastic Pipe by Stub Compression Loading.....	T 341-1	2B
T 342-11	Determining Dynamic Modulus of Hot Mix Asphalt (HMA).....	T 342-1	2B
T 343-12	Density of In-Place Hot Mix Asphalt (HMA) Pavement by Electronic Surface Contact Devices.....	T 343-1	2B
T 344-12	Evaluation of Superpave Gyratory Compactor (SGC) Internal Angle of Gyration Using Simulated Loading.....	T 344-1	2B
T 345-12	Passing Ability of Self-Consolidating Concrete (SCC) by J-Ring.....	T 345-1	2B
T 346-13	Glass Beads Used in Pavement Markings.....	T 346-1	2B
T 347-13	Slump Flow of Self-Consolidating Concrete (SCC).....	T 347-1	2B
T 348-13	Air-Void Characteristics of Freshly Mixed Concrete by Buoyancy Change.....	T 348-1	2B
T 349-13	Filling Capacity of Self-Consolidating Concrete Using the Caisson Test.....	T 349-1	2B

DELETED SPECIFICATIONS

The following specifications have been deleted from the 33rd Edition:

T 141-11	Sampling Freshly Mixed Concrete
T 309M/ T 309-11	Temperature of Freshly Mixed Hydraulic Cement Concrete

Revisions for 33rd Edition of Standard Specifications for Transportation Materials and Methods of Sampling and Testing—Part 2

The balloted technical and editorial changes listed below are also indicated in the specifications by a change bar in the left margin. Non-balloted editorial changes do not receive a change bar.

iii:xxx

Designation Number*	Title	Technical Section Number	2012 Ballot Revision
T 23-13	Making and Curing Concrete Test Specimens in the Field	3c	Revised Section 5.5 to correct a unit conversion and to change vibration requirements.
T 30-13	Mechanical Analysis of Extracted Aggregate	2c	Revised extensively.
T 40-02 (2012)	Sampling Bituminous Materials	2a	Reconfirmed in 2012.
T 44-13	Solubility of Bituminous Materials	2b	Revised Section 9.1 to eliminate additional wait period once sample is completely dissolved.
T 59-13	Emulsified Asphalts	2a	Revised Section 10.3.2 to add a siphon assembly capable of removing and delivering 55 mL of sample.
T 71-08 (2012)	Effect of Organic Impurities in Fine Aggregate on Strength of Mortar	1c	Reconfirmed in 2012.
T 84-13	Specific Gravity and Absorption of Fine Aggregate	1c	Revised extensively.
T 85-13	Specific Gravity and Absorption of Coarse Aggregate	1c	Revised extensively.
T 88-13	Particle Size Analysis of Soils	1a	Revised extensively.
T 89-13	Determining the Liquid Limit of Soils	1a	Revised Section 5.2 to describe the frequency with which the drop height shall be checked.
T 103-08 (2012)	Soundness of Aggregates by Freezing and Thawing	1c	Reconfirmed in 2012.
T 105-13	Chemical Analysis of Hydraulic Cement	3a	Revised extensively.
T 106M/T 106-13	Compressive Strength of Hydraulic Cement Mortar (Using 50-mm or 2-in. Cube Specimens)	3a	Updated to maintain equivalency with ASTM C 109/C 109M-11
T 119M/T 119-13	Slump of Hydraulic Cement Concrete	3b	Revised Section 7.2 to define depth for penetration strokes.

Designation Number*	Title	Technical Section Number	2012 Ballot Revision
T 132-87 (2013)	Tensile Strength of Hydraulic Cement Mortars	3a	Reconfirmed in 2013.
T 135-13	Wetting-and-Drying Test of Compacted Soil-Cement Mixtures	1b	Revised extensively.
T 136-13	Freezing-and-Thawing Tests of Compacted Soil-Cement Mixtures	1b	Revised Section 5.5 to provide guidance in determining height or diameter measurements.
T 143-13	Sampling and Testing Calcium Chloride for Roads and Structural Applications	4c	Revised extensively.
T 152-13	Air Content of Freshly Mixed Concrete by the Pressure Method	3b	Revised Section 8.1 to clarify sieve size.
T 153-13	Fineness of Hydraulic Cement by Air Permeability Apparatus	3a	Updated to maintain equivalency with ASTM C 204-11.
T 155-13	Water Retention by Liquid Membrane-Forming Curing Compounds for Concrete	3b	Updated to maintain equivalency with ASTM C 156-11.
T 161-08 (2012)	Resistance of Concrete to Rapid Freezing and Thawing	3c	Reconfirmed in 2012.
T 164-13	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)	2c	Revise Section A1.1.3.1 to clarify "conditioning" of the ignition dish.
T 166-13	Bulk Specific Gravity (G_{mb}) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens	2c	Revised Section 6.2 to increase the maximum operation time.
T 188-05 (2012)	Evaluation by Freezing and Thawing of Air-Entraining Additions to Hydraulic Cement	3b	Reconfirmed in 2012.
T 190-13	Resistance R-Value and Expansion Pressure of Compacted Soils	1a	Revised extensively.
T 191-13	Density of Soil In-Place by the Sand-Cone Method	1b	Revised extensively.
T 193-13	The California Bearing Ratio	1a	Revised Section 9 to clarify the order of events regarding the application of surcharge weight and piston seating.
T 211-90 (2012)	Determination of Cement Content in Cement-Treated Aggregate by the Method of Titration	1c	Reconfirmed in 2012.
T 217-13	Determination of Moisture in Soils by Means of a Calcium Carbide Gas Pressure Moisture Tester	1a	Added new Note 5 in Section 5.2 to clarify placement of the sample and the reagent in the tester.

Designation Number*	Title	Technical Section Number	2012 Ballot Revision
T 218-86 (2013)	Sampling Hydrated Lime	3a	Reconfirmed in 2013.
T 219-87 (2013)	Testing Lime for Chemical Constituents and Particle Sizes	3a	Reconfirmed in 2013.
T 221-90 (2012)	Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements	1b	Reconfirmed in 2012.
T 222-81 (2012)	Nonrepetitive Static Plate Load Test of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements	1b	Reconfirmed in 2012.
T 223-96 (2012)	Field Vane Shear Test in Cohesive Soil	1b	Reconfirmed in 2012.
T 231-13	Capping Cylindrical Concrete Specimens	3c	Revised Section 6.2.1 to focus attention on Table 1 differentiation on cap thickness based on cylinder strength.
T 232-90 (2013)	Determination of Lime Content in Lime-Treated Soils by Titration	3a	Reconfirmed in 2013.
T 240-13	Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin-Film Oven Test)	2b	Revised Section 7.2 to specify that the empty weight of the mass change bottles needs to be determined.
T 243M/T 243-08 (2012)	Sampling Procedure for Impact Testing of Structural Steel	4f	Reconfirmed in 2012.
T 244-13	Mechanical Testing of Steel Products	4f	Revised extensively.
T 245-13	Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus	2d	Revised extensively.
T 255-00 (2012)	Total Evaporable Moisture Content of Aggregate by Drying	1c	Reconfirmed in 2012.
T 257-96 (2013)	Instrumental Photometric Measurements of Retroreflective Materials and Retroreflective Devices	4d	Reconfirmed in 2013.
T 295-13	Specific Gravity or API Gravity of Liquid Asphalts by Hydrometer Method	2a	Updated to maintain equivalency with ASTM D 3142/D 3142M-11.
T 301-13	Elastic Recovery Test of Asphalt Materials by Means of a Ductilometer	2a	Revised extensively.
T 303-00 (2012)	Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction	1c	Reconfirmed in 2012.

Designation Number*	Title	Technical Section Number	2012 Ballot Revision
T 305-09 (2012)	Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures	2c	Reconfirmed in 2012.
T 310-13	In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	1b	Revised extensively.
T 316-13	Viscosity Determination of Asphalt Binder Using Rotational Viscometer	2b	Revised extensively.
T 329-13	Moisture Content of Hot Mix Asphalt (HMA) by Oven Method	2c	Deleted Section 3, Terminology, and revised to Section 6.6 to specify the percentage of moisture loss allowed.
T 331-13	Bulk Specific Gravity (G_{mb}) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method	2c	Revised extensively.
T 334-08 (2012)	Estimating the Cracking Tendency of Concrete	3c	Reconfirmed in 2012.
T 346-13	Glass Beads Used in Pavement Markings	4c	Revised extensively.
T 347-13	Slump Flow of Self-Consolidating Concrete (SCC)	3b	Adopted AASHTO Provisional Standard TP 73 as a full standard.
T 348-13	Air-Void Characteristics of Freshly Mixed Concrete by Buoyancy Change	3b	Adopted AASHTO Provisional Standard TP 75 as a full standard.
T 349-13	Filling Capacity of Self-Consolidating Concrete Using the Caisson Test	3b	Adopted AASHTO Provisional Standard TP 94 as a full standard.

- * The designation numbers of AASHTO materials standards are comprised of the following:
- a letter that reflects the type of standard—M for standard specifications, R for standard practices, or T for standard methods of test;
 - the unique sequential number of the standard in its type;
 - following a hyphen, the date of publication in its current form; and
 - in some cases, the year of its last reconfirmation in parentheses.

For example, T 333-07 (2012) would be a standard method of test, would carry the unique identifying number 333 in the list of specifications, was initially approved or last revised in 2007, and was reconfirmed without technical changes in 2012.

AASHTO PROVISIONAL STANDARDS

This is the seventeenth edition of the *AASHTO Provisional Standards*. The publication includes a complete set of current protocols containing a total of 61 Provisional Standards. A chronology of the year-to-year status of the Provisional Standards during the past eight years is included immediately following the Table of Contents. A complete chronology is available on our website at http://downloads.transportation.org/chronological_summary.pdf.

All Provisional Standards are approved for publication by the AASHTO Highway Subcommittee on Materials. The format for the Provisional Standards was developed by AASHTO in 1993, with an objective of providing a mechanism for early distribution of materials specifications and test methods resulting from SHRP and other research. Provisional Standards are standards which have been adopted by the Highway Subcommittee on Materials on a temporary basis for a maximum of eight years. At any time during the eight-year period, the Subcommittee can ballot to convert a Provisional Standard into a Full Standard.

A Provisional Standard is initially approved for two years by a vote of the Subcommittee. At the end of two years and four years after the initial approval, the Technical Section of the Subcommittee responsible for the Provisional Standard can extend its life by a voice vote or letter ballot for an additional two years. At the end of six years and seven years after the initial approval, the Subcommittee can extend the Provisional Standard's life by a voice vote or letter ballot for an additional one year. If a Provisional Standard fails any extension vote, it is discontinued. At the end of eight years, the Subcommittee can ballot a Provisional Standard for adoption as a Full Standard or the Provisional Standard is discontinued.

The time period used to maintain the provisional status is used for the refinement of these standards on the basis of the comments received from the users and other reviewers. It is planned that the Provisional Standards contained herein will be considered by the Highway Subcommittee on Materials for inclusion in future editions of the *Standard Specifications for Transportation Materials and Methods of Sampling and Testing*, either as "Provisional Standards" or possibly as "Full Standards" as presented or in amended form, if the Subcommittee so decides in its balloting.

The Subcommittee, so far, has converted 78 Provisional Standards into Full Standards. These Standards are now regularly published in AASHTO's *Standard Specifications for Transportation Materials and Methods of Sampling and Testing*. At the same time, over a period of 19 years, 38 Provisional Standards did not receive the Subcommittee's approval. These standards, therefore, are excluded from this publication.

Future editions of *AASHTO Provisional Standards* will be published and released, as necessary.

In keeping with the concept of *AASHTO Provisional Standards*, comments on the Provisional Standards included in this edition are welcome and should be directed to AASHTO at the address stated below.

American Association of State
Highway and Transportation Officials
444 North Capitol Street, NW, Suite 249
Washington, DC 20001
www.transportation.org

AASHTO PROVISIONAL STANDARDS

Table of Contents

SUBJECT SEQUENCE

Number	Subject	Page
—	Chronological Summary.....	xix
AGGREGATES		
MP 16-13	Reclaimed Concrete Aggregate (RCA) for Use as Coarse Aggregate in Hydraulic Cement Concrete	MP 16-1
PP 64-11	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties.....	PP 64-1
PP 65-11	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction	PP 65-1
TP 77-09 (2011)	Specific Gravity and Absorption of Aggregate by Volumetric Immersion Method.....	TP 77-1
TP 81-12	Determining Aggregate Shape Properties by Means of Digital Image Analysis	TP 81-1
BITUMINOUS MATERIALS		
MP 15-09 (2012)	Use of Reclaimed Asphalt Shingles as an Additive in Hot Mix Asphalt (HMA)	MP 15-1
MP 19-13	Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test	MP 19-1
PP 53-09 (2012)	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in New Hot Mix Asphalt (HMA).....	PP 53-1
PP 60-13	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)	PP 60-1
PP 61-13	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT).....	PP 61-1
PP 66-13	Determination of Long-Term Strength for Geosynthetic Reinforcement.....	PP 66-1
PP 71-11	Certifying Suppliers of Emulsified Asphalt	PP 71-1
PP 72-11	Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Techniques	PP 72-1
PP 76-13	Troubleshooting Asphalt Specimen Volumetric Differences between Superpave Gyrotory Compactors (SCGs) Used in the Design and the Field Management of Superpave Mixtures.....	PP 76-1
TP 70-13	Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer	TP 70-1
TP 72-08 (2012)	Quantitative Determination of the Percentage of Lime in Hot Mix Asphalt (HMA)	TP 72-1
TP 91-11	Determining Asphalt Binder Bond Strength by Means of the Asphalt Bond Strength (ABS) Test	TP 91-1
TP 78-09	Detecting the Presence of Phosphorous in Asphalt Binder	TP 78-1

Number	Subject	Page
TP 79-13	Determining the Dynamic Modulus and Flow Number for Hot Mix Asphalt (HMA) Using the Asphalt Mixture Performance Tester (AMPT)	TP 79-1
TP 82-10 (2012)	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor	TP 82-1
TP 85-10 (2013)	Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument	TP 85-1
TP 86-10 (2013)	Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven	TP 86-1
TP 87-10 (2013)	Measure Low-Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)	TP 87-1
TP 88-10 (2013)	Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test	TP 88-1
TP 89-10 (2013)	Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester	TP 89-1
TP 90-10 (2013)	Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test	TP 90-1
TP 92-11	Determining the Cracking Temperature of Asphalt Binder Using the Asphalt Binder Cracking Device (ABCD)	TP 92-1
TP 101-12	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep	TP 101-1
TP 102-12	Evaluation of Asphalt Release Agents	TP 102-1
TP 105-13	Determining the Fracture Energy of Asphalt Mixtures Using the Semicircular Bend Geometry (SCB)	TP 105-1
BOX CULVERT, CULVERT PIPE, AND DRAIN TILE		
MP 20-13	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	MP 20-1
MP 22-13	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures	MP 22-1
PP 63-09 (2012)	Pipe Joint Selection for Highway Culvert and Storm Drains	PP 63-1
CONCRETE		
PP 54-06	Match Curing of Concrete Test Specimens	PP 54-1
PP 58-12	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders	PP 58-1
TP 59-00 (2007)	Determining Air Content of Hardened Portland Cement Concrete by High-Pressure Air Meter	TP 59-1
TP 64-03 (2007)	Predicting Chloride Penetration of Hydraulic Cement Concrete by the Rapid Migration Procedure	TP 64-1
TP 80-10	Visual Stability Index (VSI) for Self-Consolidating Concrete (SCC)	TP 80-1
TP 83-10	Sampling and Fabrication of 50-mm (2-in.) Cube Specimens Using Grout (Non-Shrink) or Mortar	TP 83-1

Number	Subject	Page
TP 93-12	Determining Formwork Pressure of Fresh Self-Consolidating Concrete Using Pressure Transducers.....	TP 93-1
TP 95-11	Surface Resistivity Indication of Concrete’s Ability to Resist Chloride Ion Penetration.....	TP 95-1
METALLIC MATERIALS AND COATINGS FOR BRIDGES		
MP 12-04 (2013)	Detectable Warning Surfaces	MP 12-1
MP 18M/ MP 18-09 (2010)	Uncoated, Corrosion-Resistant, Deformed and Plain Alloy, Billet-Steel Bars for Concrete Reinforcement and Dowels	MP 18M/ MP 18-1
TP 84-11	Evaluation of Adhesive Anchors in Concrete Under Sustained Loading Conditions	TP 84-1
MISCELLANEOUS		
TP 96-13	Protective Sealers for Portland Cement Concrete	TP 96-1
TP 103-13	Detectable Warning Systems.....	TP 103-1
PAINTING AND TRAFFIC MARKING AND SIGNING		
PP 74-13	Determination of Size and Roundness of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method	PP 74-1
TP 106-13	Determination of Heavy Metal Content of Glass Beads Using X-Ray Fluorescence (XRF)	TP 106-13
PAVEMENT STRUCTURES		
PP 67-10	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Images Utilizing Automated Methods	PP 67-1
PP 68-10	Collecting Images of Pavement Surfaces for Distress Detection	PP 68-1
PP 69-10	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles	PP 69-1
PP 70-10	Collecting the Transverse Pavement Profile	PP 70-1
TP 76-13	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method.....	TP 76-1
PAVEMENT SURFACE CHARACTERISTICS		
TP 98-13	Determining the Influence of Road Surfaces on Vehicle Noise Using the Statistical Isolated Pass-By Method (SIP)	TP 98-1
TP 99-13	Determining the Influence of Road Surfaces on Traffic Noise Using the Continuous-Flow Traffic Time-Integrated Method (CTIM).....	TP 99-1
QUALITY ASSURANCE		
PP 56-06 (2008)	Evaluating the Engineering and Environmental Suitability of Recycled Materials	PP 56-1

Number	Subject	Page
PP 73-13	Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete	PP 73-1
 SOILS		
PP 59-09 (2011)	Coal Combustion Fly Ash for Embankments	PP 59-1
PP 75-13	Vacuum Drying Compacted Asphalt Specimens	PP 75-1
TP 100-12	Deep Foundation Elements for Bi-Directional Static Axial Compressive Load	TP 100-1
TP 104-13	Rapid Axial Compressive Load Testing of Deep Foundation Units	TP 104-1

AASHTO PROVISIONAL STANDARDS

Table of Contents

NUMERICAL SEQUENCE

Number	Title	Page
—	Chronological Summary.....	xix
MP 12-04 (2013)	Detectable Warning Surfaces	MP 12-1
MP 15-09 (2012)	Use of Reclaimed Asphalt Shingles as an Additive in Hot Mix Asphalt (HMA).....	MP 15-1
MP 16-13	Reclaimed Concrete Aggregate (RCA) for Use as Coarse Aggregate in Hydraulic Cement Concrete	MP 16-1
MP 18M/ MP 18-09 (2010)	Uncoated, Corrosion-Resistant, Deformed and Plain Alloy, Billet-Steel Bars for Concrete Reinforcement and Dowels	MP 18M/ MP 18-1
MP 19-10	Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test	MP 19-1
MP 20-13	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	MP 20-1
MP 22-13	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures	MP 22-1
PP 53-09 (2012)	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in New Hot Mix Asphalt (HMA).....	PP 53-1
PP 54-06	Match Curing of Concrete Test Specimens	PP 54-1
PP 56-06 (2008)	Evaluating the Engineering and Environmental Suitability of Recycled Materials	PP 56-1
PP 58-12	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders	PP 58-1
PP 59-09 (2011)	Coal Combustion Fly Ash for Embankments	PP 59-1
PP 60-13	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)	PP 60-1
PP 61-13	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT).....	PP 61-1
PP 63-09 (2012)	Pipe Joint Selection for Highway Culvert and Storm Drains	PP 63-1
PP 64-11	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties	PP 64-1
PP 65-11	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction	PP 65-1
PP 66-13	Determination of Long-Term Strength for Geosynthetic Reinforcement.....	PP 66-1
PP 67-10	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Images Utilizing Automated Methods	PP 67-1
PP 68-10	Collecting Images of Pavement Surfaces for Distress Detection	PP 68-1

Number	Title	Page
PP 69-10	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles	PP 69-1
PP 70-10	Collecting the Transverse Pavement Profile.....	PP 70-1
PP 71-11	Certifying Suppliers of Emulsified Asphalt	PP 71-1
PP 72-11	Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Techniques	PP 72-1
PP 73-13	Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete	PP 73-1
PP 74-13	Determination of Size and Roundness of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method	PP 74-1
PP 75-13	Vacuum Drying Compacted Asphalt Specimens	PP 75-1
PP 76-13	Troubleshooting Asphalt Specimen Volumetric Differences between Superpave Gyrotory Compactors (SCGs) Used in the Design and the Field Management of Superpave Mixtures.....	PP 76-1
TP 59-00 (2007)	Determining Air Content of Hardened Portland Cement Concrete by High-Pressure Air Meter	TP 59-1
TP 64-03 (2007)	Predicting Chloride Penetration of Hydraulic Cement Concrete by the Rapid Migration Procedure.....	TP 64-1
TP 70-13	Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR).....	TP 70-1
TP 72-08 (2012)	Quantitative Determination of the Percentage of Lime in Hot Mix Asphalt (HMA)	TP 72-1
TP 76-13	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method.....	TP 76-1
TP 77-09 (2011)	Specific Gravity and Absorption of Aggregate by Volumetric Immersion Method.....	TP 77-1
TP 78-09	Detecting the Presence of Phosphorous in Asphalt Binder	TP 78-1
TP 79-13	Determining the Dynamic Modulus and Flow Number for Hot Mix Asphalt (HMA) Using the Asphalt Mixture Performance Tester (AMPT)	TP 79-1
TP 80-10	Visual Stability Index (VSI) for Self-Consolidating Concrete (SCC).....	TP 80-1
TP 81-12	Determining Aggregate Shape Properties by Means of Digital Image Analysis.....	TP 81-1
TP 82-10 (2012)	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor	TP 82-1
TP 83-10	Sampling and Fabrication of 50-mm (2-in.) Cube Specimens Using Grout (Non-Shrink) or Mortar	TP 83-1
TP 84-11	Evaluation of Adhesive Anchors in Concrete Under Sustained Loading Conditions	TP 84-1
TP 85-10 (2013)	Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument.....	TP 85-1
TP 86-10 (2013)	Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven	TP 86-1
TP 87-10 (2013)	Measure Low-Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)	TP 87-1

Number	Title	Page
TP 88-10 (2013)	Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test	TP 88-1
TP 89-10 (2013)	Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester	TP 89-1
TP 90-10 (2013)	Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test	TP 90-1
TP 91-11	Determining Asphalt Binder Bond Strength by Means of the Asphalt Bond Strength (ABS) Test	TP 91-1
TP 92-11	Determining the Cracking Temperature of Asphalt Binder Using the Asphalt Binder Cracking Device (ABCD)	TP 92-1
TP 93-12	Determining Formwork Pressure of Fresh Self-Consolidating Concrete Using Pressure Transducers	TP 93-1
TP 95-11	Surface Resistivity Indication of Concrete’s Ability to Resist Chloride Ion Penetration	TP 95-1
TP 96-13	Protective Sealers for Portland Cement Concrete	TP 96-1
TP 98-13	Determining the Influence of Road Surfaces on Vehicle Noise Using the Statistical Isolated Pass-By Method (SIP)	TP 98-1
TP 99-13	Determining the Influence of Road Surfaces on Traffic Noise Using the Continuous-Flow Traffic Time-Integrated Method (CTIM)	TP 99-1
TP 100-12	Deep Foundation Elements for Bi-Directional Static Axial Compressive Load	TP 100-1
TP 101-12	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep	TP 101-1
TP 102-12	Evaluation of Asphalt Release Agents	TP 102-1
TP 103-13	Detectable Warning Systems	TP 103-1
TP 104-13	Rapid Axial Compressive Load Testing of Deep Foundation Units	TP 104-1
TP 105-13	Determining the Fracture Energy of Asphalt Mixtures Using the Semicircular Bend Geometry (SCB)	TP 105-1
TP 106-13	Determination of Heavy Metal Content of Glass Beads Using X-Ray Fluorescence (XRF)	TP 106-1

**AASHTO PROVISIONAL STANDARDS
CHRONOLOGICAL SUMMARY**

Prov Std.	Brief Title	Tech. Sec.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Remarks
			11/05	07/06	01/07	07/07	12/07	06/08	01/09	06/09	02/10	06/10	08/10	06/11	08/11	06/12	08/12	06/13	
MP 1	PG Binders	2b																	Full Std
MP 1a	PG Mod. Bndr. Crit. Lowtemp	2b																	Full Std
MP 2	Spec. Superpave Mix	2d																	Full Std
MP 5	Decks - Cathod. Protect.	4g																	Delete
MP 6	PE Pipe 1050 & 1200 mm	4b																	Full Std
MP 7	PE Pipe 1350 & 1500 mm	4b																	Full Std
MP 8	SMA	2d		✓	✓	✓	✓	M 325											Full Std
MP 9	Compost Filter Berms	1a	✓	✓		✓	Reconf.	✓		✓	✓	R 51							Full Std
MP 10	Compost Blankets	1a		✓		✓	Reconf.	✓		✓	✓	R 52							Full Std
MP 11	Inertial Profiler	5a	Reconf.	✓	✓	✓	✓	✓		✓	✓	M 328							Full Std
MP 12	Detectable Warning Surface	4d		✓		✓		✓		✓		✓		✓		✓	✓	✓	Extended
MP 13	Stainless Clad Rebar	4g		✓	Reconf.	✓		✓		✓		✓	✓	M 329					Full Std
MP 14	WIM Pavement Smoothness	5a		✓		✓	✓	✓		✓		✓		✓	✓	✓	✓	M 331	Full Std
MP 15	Reclaimed Asphalt Shingles	2d	✓	✓		✓		✓	✓	✓		✓		✓		✓	✓	✓	Extended
MP 16	RCA Used in Portland Cement	1c			✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	Revised
MP 17	Pavement Ride Quality	5a	Reconf.	✓	✓	PP 51	✓	✓	Reconf.	✓	✓	R 54							Full Std
MP 18	Uncoated Billet-Steel Rebar	4g							✓	✓	✓	✓	✓	Reconf.		✓	✓	✓	
MP 19	PG Asphalt Binder Using MSCR	2b									✓	✓	✓	✓		✓	✓	✓	Revised
MP 20	Steel-Reinforced PE, 12-36 in.	4b									✓	✓	✓	✓		✓	✓	✓	Revised
MP 21	PP Pipe, 330- to 1500-mm diam.	4b											✓	✓		✓	✓	M 330	Full Std
MP 22	Fiber-Reinforced Polymer Comp.	4f														✓	✓		New
PP 1	PAV Aging	2b																	Full Std
PP 2	Aging Long/Short Term	2d																	Full Std
PP 3	Rolling Wheel Comp.	2d																	Delete
PP 5	Eval. Modf. Asph. System	2d																	Delete
PP 6	PG Binders Verification	2b																	Full Std
PP 7	Def. Calib. Load Cells FWD	5a																	Full Std
PP 8	Ref. Calib. Load Cells FWD	5a																	Full Std

XIX

AASHTO PROVISIONAL STANDARDS CHRONOLOGICAL SUMMARY

XX

Prov Std.	Brief Title	Tech. Sec.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Remarks
			11/05	07/06	01/07	07/07	12/07	06/08	01/09	06/09	02/10	06/10	08/10	06/11	08/11	06/12	08/12	06/13	
PP 10	Test Pits Eval. Pavt. Perf.	1b																	Delete
PP 19	Vol. Design HMA	2d																	Delete
PP 20	Crack Sealant Pavement	5a																	Delete
PP 21	Eval. Cold Mixes	2a																	Delete
PP 22	Spec. Crack Sealants	2a																	Delete
PP 23	Cond. of Bridges Eval.	3c																	Delete
PP 25	Joint Seals in Conc. Pave.	3c																	Delete
PP 26	Certif. Binder Suppliers	2b																	Full Std
PP 28	Design Superpav. Mix	2d																	Full Std
PP 29	Deicing Chem. Eval.	5b																	Full Std
PP 30	Coatings Zinc Primer	4c																	Full Std
PP 31	Profile Rod/Level Pave.	5a																	Full Std
PP 32	Profile Dipstick Pave.	5a																	Full Std
PP 33	Boring Hole Decomm.	5b																	Full Std
PP 34	Crack Tendency Conc.	3c	✓	✓		✓	✓		T 334										Full Std
PP 35	Eval. Gyr. Compactors	2d	✓	✓	✓														Delete
PP 36	Steel Pile Corr.	1a																	Full Std
PP 37	Roughness Pavmnts	5a		✓	✓	/R 43													Combined
PP 37M	Roughness Pavmnts (Metric)	5a	✓	✓	✓	R 43M/													Full Std
PP 38	Rut Depth Measurmnts	5a	✓	✓	✓	✓	✓		R 48										Full Std
PP 39	Faulting Conc. Pavts.	5a																	Full Std
PP 40	Ground Pen. Radar	5a																	Full Std
PP 41	SMA	2d		✓	✓	✓	✓		R 46										Full Std
PP 42	Low Temp Props-Binders	2b	Reconf.	✓	✓	✓		✓		R 49									Full Std
PP 44	Cracks AC Pavmts	5a	Reconf.	✓		✓	✓	✓	✓	✓	✓	R 55							Full Std
PP 45	Qualif. Rebar mills	4g	✓	✓	✓	✓		✓		✓	✓	R 53							Full Std
PP 46	Geo. Reinf. Bases AC Pavt	4e	Reconf.	✓		✓	✓	✓	✓	R 50									Full Std
PP 47	Comparing 2 Gyrotories	2d		✓															Delete
PP 48	Gyratory Internal Angle	2d	✓	✓		✓		✓	✓										Delete

**AASHTO PROVISIONAL STANDARDS
CHRONOLOGICAL SUMMARY**

Prov Std.	Brief Title	Tech. Sec.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Remarks
			11/05	07/06	01/07	07/07	12/07	06/08	01/09	06/09	02/10	06/10	08/10	06/11	08/11	06/12	08/12	06/13	
PP 49	Cert. Inertial Profilers	5a	Reconf.	✓	✓	✓	✓	✓	✓	✓	✓	R 56							Full Std
PP 50	Operating Inertial Profilers	5a	Reconf.	✓	✓	✓		✓	✓	✓	✓	R 57							Full Std
PP 51	Pavement Ride Quality	5a	Reconf.	✓	✓	MP 17	✓	✓	Reconf.	✓	✓	R 54							Full Std
PP 52	Develop QA Plan for HMA	5c	✓	R 42					✓										Full Std
PP 53	Reclaimed Asphalt Shingles	2d	✓	✓		✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	Extended
PP 54	Match Curing of Concrete	3c	✓	✓		✓		✓		✓		✓		✓	✓	✓	✓	✓	
PP 55	Overcoating Field Test Program	4c	✓	✓		✓		✓		✓		✓		✓	Reconf.	✓	✓		Delete
PP 56	Suitability of Recycled Materials	5b	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
PP 57	Equipment Calibration	5c	✓	✓		✓	✓	✓		✓	✓	✓		✓	✓	R 61			Full Std
PP 58	Static Segr. of SCC Cylinders	3c					✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
PP 59	Coal Fly Ash for Embankments	1a							✓	✓	✓	✓		✓	✓	✓	✓	✓	
PP 60	Cyl. Performance Tests/SGC	2d							✓	✓	✓	✓		✓	✓	✓	✓	✓	Revised
PP 61	Dyn. Mod. Master Curves/AMPT	2d							✓	✓	✓	✓		✓	✓	✓	✓	✓	Revised
PP 62	Dyn. Mod. Master Curves/HMA	2d							✓	✓	✓	✓		✓		✓	✓	R 62	Full Std
PP 63	Pipe Joint Selection	4b							✓	✓	✓	✓	Reconf.	✓		✓	✓	✓	
PP 64	Agg Shape from DI Analysis	1b									✓	✓	✓	✓		✓	✓	✓	
PP 65	Reactivity of Concr. Agg. & Exp.	3c									✓	✓	✓	✓		✓	✓	✓	
PP 66	Long-Term Strength Geo Reinf	4e									✓	✓		✓		✓	✓	✓	Revised
PP 67	Quant. Cracks in Asphalt Surf	5a									✓	✓		✓		✓	✓	✓	
PP 68	Collect Images for Distress Det	5a									✓	✓		✓		✓	✓	✓	
PP 69	Pave. Deformation Parameters	5a									✓	✓		✓		✓	✓	✓	
PP 70	Transverse Pavement Profile	5a									✓	✓		✓		✓	✓	✓	
PP 71	Suppliers of Emulsified Asphalt	2a											✓	✓		✓	✓	✓	
PP 72	Residue from Emulsified Asphalt	2a											✓	✓		✓	✓	✓	
PP 73	Sealers Port. Cem. Concrete	4c											✓	✓		✓	✓	✓	Revised
PP 74	Glass Beads Traff. Mark.	4c											✓	✓	✓	✓	✓	✓	Revised
PP 75	Vacuum Drying Comp. Asphalt	2c															✓	✓	New
PP 76	Troubleshooting Ashp. Specim.	2d															✓	✓	New
TP 1	Flex. Creep-Binders-BBR	2b																	Full Std

IXX

**AASHTO PROVISIONAL STANDARDS
CHRONOLOGICAL SUMMARY**

ii:xx

Prov Std.	Brief Title	Tech. Sec.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Remarks
			11/05	07/06	01/07	07/07	12/07	06/08	01/09	06/09	02/10	06/10	08/10	06/11	08/11	06/12	08/12	06/13	
TP 2	Asphalt Extraction	2c																	Full Std
TP 3	Direct Ten. DT Binders	2b																	Full Std
TP 4	Gyr. Comp. HMA	2d																	Full Std
TP 5	Dynamic Shear-DSR	2b																	Full Std
TP 6	Absorb. & Desorb. Bind.	2b																	Delete
TP 7	Simple Shear SST	2d																	Full Std
TP 8	Fatigue-Beam Flex. HMA	2d																	Full Std
TP 9	Creep-IDT HMA	2d																	Full Std
TP 10	Therm. Stress Restr.	2d																	Delete
TP 11	Steel Corr. Rate in Conc.	4g																	Delete
TP 12	Hyd. Fract. C. Agg.	1c																	Delete
TP 14	ASR Mortar Bars	1c																	Full Std
TP 17	Rapid F/T Conc.	3c																	Delete
TP 18	Fund. Travers. Frequen.	3c																	Delete
TP 19	3rd Pt. Load Flex. Conc.	3c																	Delete
TP 20	Comp. Strength Conc.	3c																	Full Std
TP 22	Penet. AC Imped. Conc.	3c																	Delete
TP 23	% Water Microw Conc	3c																	Full Std
TP 24	N. Gage Den. Place Conc.	3c																	Delete
TP 26	Permb. Surf. Airflow	3c																	Delete
TP 28	Voids in Concrete	5a																	Delete
TP 29	Bond St. Old/New Conc.	3c																	Full Std
TP 31	Mr. HMA	2d																	Delete
TP 33	Voids Fine Agg.	1c																	Full Std
TP 34	Moist. Sensy. HMA	2d																	Delete
TP 35	Elect. Resis. Pen. Sealer	3b																	Delete
TP 36	Pulse Radar AC/Decks	3c																	Delete
TP 37	Puls. Veloct. Prefor. Mem.	3c																	Delete
TP 39	Modified Rice SG	2c																	Full Std

AASHTO PROVISIONAL STANDARDS CHRONOLOGICAL SUMMARY

LXX

Prov Std.	Brief Title	Tech. Sec.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Remarks
			11/05	07/06	01/07	07/07	12/07	06/08	01/09	06/09	02/10	06/10	08/10	06/11	08/11	06/12	08/12	06/13	
TP 40	% Asphalt HMA	2a																	Delete
TP 41	% Asphalt Cold Mix Strip.	2a																	Delete
TP 42	% Asphalt Cold Mix Drain	2a																	Delete
TP 43	Workability Cold Mixes	2a																	Delete
TP 44	Cohesion Cold Mixes	2a																	Delete
TP 46	Mr. Soils & Agg.	1a																	Full Std
TP 47	Ecology-Deicing Chem.	5b																	Delete
TP 48	Brookfld Vis.	2b																	Full Std
TP 50	Pen. Sealr by Water Abs.	3b																	Delete
TP 51	Cath. Systm Tests/Decks	4g																	Delete
TP 52	St. Maturity Test Conc.	3b																	Full Std
TP 53	AC by Ignition Method	2c																	Full Std
TP 54	Cement Paste Stiffness	3a																	Delete
TP 55	Chlorides- Sp. Ion Probe	3c	✓	✓	✓	T 332													Full Std
TP 56	Void Cont. C. Agg.	1c																	Full Std
TP 57	Methy. Blue Value Clays	1c		✓	✓	T 330													Full Std
TP 58	CA Degradation-Deval.	1c																	Full Std
TP 59	Air Cont. Hardened Conc.	3c		✓	✓	✓	✓	✓		✓		✓		✓		✓	✓	✓	
TP 60	Thermal Expan of Conc.	3c		✓	✓	✓	✓		T 336										Full Std
TP 61	% Fract. Coarse Agg.	1c		✓	Reconf.	✓	✓		T 335										Full Std
TP 62	Dynamic Mod. of HMA	2d		✓	✓	✓	✓		✓	✓	✓	✓	T 342						Full Std
TP 63	Asphalt Pvmt. Analyzer	2d		✓	✓	✓	✓	✓	✓	✓	✓	T 340							Full Std
TP 64	Rapid Chloride Migration	3c		✓	Reconf.	✓	✓	✓		✓		✓		✓		✓	✓	✓	
TP 65	Detection of Metallic Zinc	4c		✓	Reconf.	✓	✓		T 337										Full Std
TP 66	Hindered Amine Lt. Stabs.	4c	✓	✓		✓	✓	✓	T 338										Full Std
TP 67	Isocyanate Content	4c	✓	✓	✓	✓	✓	✓	T 339										Full Std
TP 68	Density by Elect.Surf.Cont.	2c		✓	Reconf.	✓	✓		✓		✓	Reconf.	✓	✓	T 343				Full Std
TP 69	BSG by Vacuum Sealing	2c	✓	✓	✓	T 331													Full Std
TP 70	MSCR Test Using DSR	2b			✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Revised

AASHTO PROVISIONAL STANDARDS CHRONOLOGICAL SUMMARY

Prov Std.	Brief Title	Tech. Sec.	Ballot 11/05	Pub. 07/06	Ballot 01/07	Pub. 07/07	Ballot 12/07	Pub. 06/08	Ballot 01/09	Pub. 06/09	Ballot 02/10	Pub. 06/10	Ballot 08/10	Pub. 06/11	Ballot 08/11	Pub. 06/12	Ballot 08/12	Pub. 06/13	Remarks
TP 71	SGC Internal Angle—Loading	2d			✓	✓		✓	✓	✓		✓		✓	✓	T 344			Full Std
TP 72	Percentage of Lime in HMA	2c					✓	✓		✓		✓	Reconf.	✓		✓	✓	✓	Extended
TP 73	Slump Flow of SCC	3b					✓	✓	✓	✓		✓				✓	✓	T 347	Full Std
TP 74	Passing Ability SCC by J-Ring	3b					✓	✓	✓	✓		✓				T 345			Full Std
TP 75	AV Charc. Fresh Mixed Conc.	3b					✓	✓		✓		✓				✓	✓	T 348	Full Std
TP 76	Tire/Pave. Noise Using OBSI	5a					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Revised
TP 77	SpGr&Absorption of Agg by VIM	1c							✓	✓		✓		✓	✓	✓	✓	✓	
TP 78	Detect P in Asphalt Binder	2b							✓	✓		✓		✓		✓	✓	✓	
TP 79	Dynamic Modulus and Flow No.	2d							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
TP 80	VSI for SCC	3b							✓	✓	✓	✓		✓		✓	✓	✓	Revised
TP 81	Det Agg Shape by DI Analysis	1c									✓	✓	✓	✓		✓	✓	✓	
TP 82	SPGr of Agg by Water Displace.	2c									✓	✓		✓		✓	✓	✓	Extended
TP 83	Fabr. of 2-in. Cubes Using Grout	3b									✓	✓		✓		✓	✓	✓	
TP 84	Adh. Anchors/Sustained Load	4c									✓	✓	✓	✓		✓	✓	✓	
TP 85	Visc. of Crack Seal./Brook. RV	4e									✓	✓		✓		✓		✓	Extended
TP 86	Aging Seal/Fillers w/Vac Ov.	4e									✓	✓		✓		✓		✓	Extended
TP 87	Flex. Creep Stiffness by BBR	4e									✓	✓		✓		✓		✓	Extended
TP 88	Tensile Prop. of Seal. by DTT	4e									✓	✓		✓		✓		✓	Extended
TP 89	Adh of Crack Seal. by DAT	4e									✓	✓		✓		✓		✓	Extended
TP 90	Measuring Inertial Fracture	4e									✓	✓		✓		✓		✓	Extended
TP 91	Binder Bond Strength Test	2a											✓	✓		✓	✓	✓	
TP 92	Cracking Temp. Using ABCD	2b											✓	✓		✓	✓	✓	
TP 93	SSC Frmwk. Press. Transducers	3b											✓	✓	✓	✓	✓	✓	
TP 94	SSC Fill Capac. Caisson Test	3b											✓	✓		✓	✓	T 349	Full Std
TP 95	Surf. Resist. Chloride Ion	3c											✓	✓		✓	✓	✓	
TP 96	Prot Sealers Port Cem Concrete	4c											✓	✓		✓	✓	✓	Revised
TP 97	Glass Beads in Pavemt Markgs	4c											✓	✓	✓	T 346			Full Std
TP 98	Rd Surf Veh Noise SIP	5a											✓	✓	✓	✓	✓	✓	Revised

A1XX

AASHTO PROVISIONAL STANDARDS CHRONOLOGICAL SUMMARY

Prov Std.	Brief Title	Tech. Sec.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Ballot	Pub.	Remarks	
			11/05	07/06	01/07	07/07	12/07	06/08	01/09	06/09	02/10	06/10	08/10	06/11	08/11	06/12	08/12	06/13		
TP 99	Rd Surf Traff Noise CTIM	5a											✓	✓	✓	✓	✓	✓	✓	Revised
TP 100	Deep Foundation Elements	1b													✓	✓	✓	✓		
TP 101	Estimating Fatigue Resistance	2b													✓	✓	✓	✓		
TP 102	Eval. of Asphalt Release Agents	2b													✓	✓	✓	✓		
TP 103	Detectable Warning Systems	4d													✓	✓	✓	✓		Revised
TP 104	Rapid Axial Compressive Load	1b															✓	✓		New
TP 105	Determining Fracture Energy	2d															✓	✓		New
TP 106	Determin. of Hvy Metal Content	4c															✓	✓		New

The following Standards were balloted in 2013: MP 12, TP 85, TP 86, TP 87, TP 88, TP 89, and TP 90.