

# **PART 1—STANDARD SPECIFICATIONS AND STANDARD PRACTICES**

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M 300-03 (2017)	Inorganic Zinc-Rich Primer
M 302-15	Slag Cement for Use in Concrete and Mortars
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M 304-11 (2015)	Poly(Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
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M 332-14	Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test
M 333-16	Detectable Warning Surfaces
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R 36-17	Evaluating Faulting of Concrete Pavements
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R 43-13 (2017)	Quantifying Roughness of Pavements
R 44-07 (2012)	Independent Assurance (IA) Programs
R 45-13 (2017)	Installing, Monitoring, and Processing Data of the Traveling Type Slope Inclinometer
R 46-08 (2017)	Designing Stone Matrix Asphalt (SMA)
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R 49-09 (2013)	Determination of Low-Temperature Performance Grade (PG) of Asphalt Binders
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R 52-10 (2015)	Compost for Erosion/Sediment Control (Compost Blankets)
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R 55-10 (2013)	Quantifying Cracks in Asphalt Pavement Surfaces
R 56-14	Certification of Inertial Profiling Systems
R 57-14	Operating Inertial Profiling Systems
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R 59-11 (2015)	Recovery of Asphalt Binder from Solution by Abson Method

<b>Number</b>	<b>Title</b>
R 60-12 (2016)	Sampling Freshly Mixed Concrete
R 61-12 (2016)	Establishing Requirements for Equipment Calibrations, Standardizations, and Checks
R 62-13 (2017)	Developing Dynamic Modulus Master Curves for Asphalt Mixtures
R 63-13 (2017)	Solid Wall High-Density Polyethylene (HDPE) Conduit for Non-Pressure Applications Used for the Protection of Power and Communications Cables
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R 74-16	Wet Preparation of Disturbed Soil Samples for Test
R 75-16	Developing a Family of Curves
R 76-16	Reducing Samples of Aggregate to Testing Size
R 77-16	Certifying Suppliers of Emulsified Asphalt
R 78-16	Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Techniques
R 79-16	Vacuum Drying Compacted Asphalt Specimens
R 80-17	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate
R 81-17	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders
R 82-17	Pipe Joint Selection for Highway Culvert and Storm Drains
R 83-17	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)
R 84-17	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)

#### **DELETED STANDARD**

M 92-10 (2015)	Wire-Cloth Sieves for Testing Purposes
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## List of Technical Changes—Part 1

The balloted technical changes listed below are also indicated in the specifications by a change bar in the left margin and by highlighted text (for additions) or struck-through text (for deletions). Unballoted editorial changes do not receive the change bar, highlighting, or strike-through; however, any standard that is neither revised nor reconfirmed but contains such changes does include an endnote stating that minor editorial revisions have been made.

### Release: Group 3 (August 2017)

Designation Number	Title	Technical Section Number	Balloted Revisions
M 57-80 (2017)	Materials for Embankments and Subgrades	1b	Reconfirmed.
M 80-13 (2017)	Coarse Aggregate for Hydraulic Cement Concrete	1c	Reconfirmed.
M 81-92 (2017)	Cutback Asphalt (Rapid-Curing Type)	2a	Reconfirmed.
M 82-17	Cutback Asphalt (Medium-Curing Type)	2a	Removed Note c from Table 1.
M 145-91 (2017)	Classification of Soils and Soil–Aggregate Mixtures for Highway Construction Purposes	1b	Reconfirmed.
M 146-91 (2017)	Terms Relating to Subgrade, Soil–Aggregate, and Fill Materials	1b	Reconfirmed.
M 147-17	Materials for Aggregate and Soil–Aggregate Subbase, Base, and Surface Courses	1b	Reconfirmed.
M 156-13 (2017)	Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures	2c	Reconfirmed.
M 226-80 (2017)	Viscosity-Graded Asphalt Cement	2b	Reconfirmed.
M 320-17	Performance-Graded Asphalt Binder	2b	Added Note 4 to allow for extended binder grades.
M 323-17	Superpave Volumetric Mix Design	2d	Extensively revised.
M 325-08 (2017)	Stone Matrix Asphalt (SMA)	2d	Reconfirmed.
R 5-17	Selection and Use of Emulsified Asphalts	2a	Extensively revised.

Designation Number	Title	Technical Section Number	Balloted Revisions
R 15-00 (2017)	Asphalt Additives and Modifiers	2b	Reconfirmed.
R 35-17	Superpave Volumetric Design for Asphalt Mixtures	2d	Sections 4.4 and 11 revised concerning moisture susceptibility.
R 45-13 (2017)	Installing, Monitoring, and Processing Data of the Traveling Type Slope Inclinometer	1b	Reconfirmed.
R 46-08 (2017)	Designing Stone Matrix Asphalt (SMA)	2d	Reconfirmed.
R 51-13 (2017)	Compost for Erosion/Sediment Control (Filter Berms and Filter Socks)	1a	Reconfirmed.
R 62-13 (2017)	Developing Dynamic Modulus Master Curves for Asphalt Mixtures	2d	Reconfirmed.
R 67-16	Sampling Asphalt Mixtures after Compaction (Obtaining Cores)	2c	Editorially revised.
R 68-15	Preparation of Asphalt Mixtures by Means of the Marshall Apparatus	2d	Editorially revised.
R 79-16	Vacuum Drying Compacted Asphalt Specimens	2c	Editorially revised.
R 83-17	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)	2d	Adopted AASHTO Provisional standard PP 60 as a full standard practice, R 83.
R 84-17	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2d	Adopted AASHTO Provisional standard PP 61 as a full standard practice, R 84.

**Release: Group 2 (June 2017)**

Designation Number	Title	Technical Section Number	Balloted Revisions
M 31M/M 31-17	Deformed and Plain Carbon and Low-Alloy Steel Bars for Concrete Reinforcement	4d	Extensively revised.
M 54M/M 54-07 (2017)	Welded Deformed Steel Bar Mats for Concrete Reinforcement	4f	Reconfirmed.
M 86M/M 86-17	Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe	4a	Added water quality requirements in Section 6.

Designation Number	Title	Technical Section Number	Balloted Revisions
M 153-06 (2016)	Preformed Sponge Rubber, Cork, and Recycled Rubber Expansion Joint Fillers for Concrete Paving and Structural Construction	4e	Editorially revised.
M 167M/M 167-17	Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches	4b	Incorporated a flanged joint connection for deep corrugated metal structures.
M 170-17	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe	4a	Added water quality requirements.
M 170M-17	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe [Metric]	4a	Added water quality requirements.
M 176M/M 176-17	Porous Concrete Pipe	4a	Added water quality requirements.
M 178M/M 178-17	Concrete Drain Tile	4a	Added water quality requirements.
M 180-12 (2017)	Corrugated Sheet Steel Beams for Highway Guardrail	4d	Reconfirmed.
M 190-04 (2017)	Asphalt-Coated Corrugated Metal Culvert Pipe and Pipe-Arches	4b	Reconfirmed with minor editorial revisions.
M 196-16	Corrugated Aluminum Pipe for Sewers and Drains	4b	Editorially revised.
M 199M/M 199-17	Precast Reinforced Concrete Manhole Sections	4a	Added water quality requirements.
M 206M/M 206-17	Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe	4a	Added water quality requirements in Section 6.
M 207M/M 207-17	Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe	4a	Added water quality requirements in Section 6.
M 219-92 (2017)	Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches	4b	Reconfirmed.
M 227M/M 227-13 (2017)	Steel Bars, Carbon, Merchant Quality, Mechanical Properties	4f	Reconfirmed.
M 242M/M 242-17	Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe	4a	Added water quality requirements in Section 6.
M 243-96 (2017)	Field-Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches	4b	Reconfirmed.
M 248-91 (2012)	Ready-Mixed White and Yellow Traffic Paints	4c	Discontinued.
M 252-09 (2017)	Corrugated Polyethylene Drainage Pipe	4b	Reconfirmed.

Designation Number	Title	Technical Section Number	Balloted Revisions
M 259-17	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers	4a	Added water quality requirements in Section 6.
M 259M-17	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 0.6 m of Cover Subjected to Highway Loadings [Metric]	4a	Added water quality requirements in Section 6.
M 273-17	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 2 ft of Cover Subjected to Highway Loadings	4a	Added water quality requirements in Section 6.
M 273M-17	Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 0.6 m of Cover Subjected to Highway Loadings [Metric]	4a	Added water quality requirements in Section 6.
M 274-87 (2017)	Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe	4b	Reconfirmed.
M 288-17	Geosynthetic Specification for Highway Applications	4e	Extensively revised.
M 289-91 (2017)	Aluminum-Zinc Alloy Coated Sheet Steel for Corrugated Steel Pipe	4b	Reconfirmed.
M 294-17	Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	4b	Extensively revised.
M 297-10 (2015)	Preformed Polychloroprene Elastomeric Joint Seals for Bridges	4e	Editorially revised.
M 300-03 (2017)	Inorganic Zinc-Rich Primer	4c	Reconfirmed.
M 304-11 (2015)	Poly(Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter	4b	Editorially revised.
M 326-08 (2017)	Polyethylene (PE) Liner Pipe, 300- to 1600-mm Diameter, Based on Controlled Outside Diameter	4b	Reconfirmed.
M 330-13 (2017)	Polypropylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	4b	Reconfirmed.
M 334M/M 334-17	Uncoated, Corrosion-Resistant, Deformed and Plain Chromium Alloyed, Billet-Steel Bars for Concrete Reinforcement and Dowels	4f	Adopted AASHTO Provisional standard MP 18M/M 18 (excluding annexes) as a full standard specification, M 334/M 334.
R 63-13 (2017)	Solid Wall High-Density Polyethylene (HDPE) Conduit for Non-Pressure Applications Used for the Protection of Power and Telecommunications Cables	4b	Reconfirmed.

Designation Number	Title	Technical Section Number	Balloted Revisions
R 82-17	Pipe Joint Selection for Highway Culvert and Storm Drains	4b	Adopted AASHTO Provisional standard PP 63 as a full standard practice, R 82.

**Release: Group 1 (April 2017)**

Designation Number	Title	Technical Section Number	Balloted Revisions
M 85-17	Portland Cement	3a	Revised Notes 2 and 3 to maintain equivalency with ASTM C150/C150M.
M 157-13 (2017)	Ready-Mixed Concrete	3b	Reconfirmed.
M 182-05 (2017)	Burlap Cloth Made from Jute or Kenaf and Cotton Mats	3b	Reconfirmed.
M 194M/M 194-13 (2017)	Chemical Admixtures for Concrete	3b	Reconfirmed.
M 216-13 (2017)	Quicklime and Hydrated Lime for Soil Stabilization	3a	Reconfirmed.
M 240M/M 240-17	Blended Hydraulic Cement	3a	Extensively revised.
M 241M/M 241-13 (2017)	Concrete Made by Volumetric Batching and Continuous Mixing	3b	Reconfirmed.
M 307-13 (2017)	Silica Fume Used in Cementitious Mixtures	3b	Reconfirmed.
M 321-04 (2017)	High-Reactivity Pozzolans for Use in Hydraulic-Cement Concrete, Mortar, and Grout	3b	Reconfirmed.
M 327-11 (2015)	Processing Additions for Use in the Manufacture of Hydraulic Cements	3a	Editorially revised.
M 331-17	Smoothness of Pavement in Weigh-in-Motion (WIM) Systems	5a	Extensively revised.
R 18-17	Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories	AR	Extensively revised.
R 20-99 (2017)	Procedures for Measuring Highway Noise	5a	Reconfirmed.
R 36-17	Evaluating Faulting of Concrete Pavements	5a	Minor revisions to Sections 5.24 and 5.25.

Designation Number	Title	Technical Section Number	Balloted Revisions
R 39-17	Making and Curing Concrete Test Specimens in the Laboratory	3c	Extensively revised.
R 43-13 (2017)	Quantifying Roughness of Pavements	5a	Reconfirmed.
R 64-17	Sampling and Fabrication of 50-mm (2-in.) Cube Specimens Using Grout (Non-Shrink) or Mortar	3b	Extensively revised.
R 70M/R 70-16	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete	3a	Editorially revised.
R 80-17	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction	3c	Adopted AASHTO Provisional standard PP 65 as a full standard.
R 81-17	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders	3c	Adopted AASHTO Provisional standard PP 58 as a full standard.

## PART 2—STANDARD TESTS

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T 320-07 (2016)	Determining the Permanent Shear Strain and Stiffness of Asphalt Mixtures Using the Superpave Shear Tester (SST)
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### **BOX CULVERT, CULVERT PIPE, AND DRAIN PIPE**

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T 249-03 (2016)	Helical Lock Seam Corrugated Pipe
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T 323-03 (2016)	Determining the Shear Strength at the Interface of Bonded Layers of Portland Cement Concrete
T 324-17	Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
T 325-04 (2016)	Estimating the Strength of Concrete in Transportation Construction by Maturity Tests
T 326-05 (2013)	Uncompacted Void Content of Coarse Aggregate (As Influenced by Particle Shape, Surface Texture, and Grading)
T 327-12 (2016)	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus
T 329-15	Moisture Content of Asphalt Mixtures by Oven Method
T 330-07 (2015)	The Qualitative Detection of Harmful Clays of the Smectite Group in Aggregates Using Methylene Blue
T 331-13 (2017)	Bulk Specific Gravity ( $G_{mb}$ ) and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method
T 332-07 (2016)	Determining Chloride Ions in Concrete and Concrete Materials by Specific Ion Probe
T 333-07 (2017)	Linear Coefficient of Shrinkage on Cure of Adhesive Systems
T 334-08 (2016)	Estimating the Cracking Tendency of Concrete
T 335-09 (2013)	Determining the Percentage of Fracture in Coarse Aggregate
T 336-15	Coefficient of Thermal Expansion of Hydraulic Cement Concrete
T 337-09 (2014)	Non-Instrumental Determination of Metallic Zinc in Zinc-Rich Primers
T 338-09 (2014)	Analysis of Structural Steel Coatings for Hindered Amine Light Stabilizer (HALS)
T 339-10 (2015)	Analysis of Structural Steel Coatings for Isocyanate Content

<b>Number</b>	<b>Title</b>
T 340-10 (2015)	Determining Rutting Susceptibility of Hot Mix Asphalt (HMA) Using the Asphalt Pavement Analyzer (APA)
T 341-10 (2014)	Determination of Compression Capacity for Profile Wall Plastic Pipe by Stub Compression Loading
T 342-11 (2015)	Determining Dynamic Modulus of Hot Mix Asphalt (HMA)
T 343-12 (2016)	Density of In-Place Hot Mix Asphalt (HMA) Pavement by Electronic Surface Contact Devices
T 344-12 (2016)	Evaluation of Superpave Gyratory Compactor (SGC) Internal Angle of Gyration Using Simulated Loading
T 345-12 (2016)	Passing Ability of Self-Consolidating Concrete (SCC) by J-Ring
T 346-13 (2017)	Glass Beads Used in Pavement Markings
T 347-13 (2017)	Slump Flow of Self-Consolidating Concrete (SCC)
T 348-13	Air-Void Characteristics of Freshly Mixed Concrete by Buoyancy Change
T 349-13 (2017)	Filling Capacity of Self-Consolidating Concrete Using the Caisson Test
T 350-14	Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)
T 351-14	Visual Stability Index (VSI) of Self-Consolidating Concrete (SCC)
T 352-14	Determining Formwork Pressure of Fresh Self-Consolidating Concrete (SCC) Using Pressure Transducers
T 353-14	Particle Size Analysis of Hydraulic Cement and Related Materials by Light Scattering
T 354-17	Specific Gravity and Absorption of Aggregate by Volumetric Immersion Method
T 355-16	In-Place Density of Asphalt Mixtures by Nuclear Methods
T 356-15	Determining Air Content of Hardened Portland Cement Concrete by High-Pressure Air Meter
T 357-15	Predicting Chloride Penetration of Hydraulic Cement Concrete by the Rapid Migration Procedure
T 358-17	Surface Resistivity Indication of Concrete's Ability to Resist Chloride Ion Penetration
T 359-16	Pavement Thickness by Magnetic Pulse Induction
T 360-16	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method
T 361-16	Determining Asphalt Binder Bond Strength by Means of the Binder Bond Strength (BBS) Test
T 362-17	Quantitative Determination of the Percentage of Lime in Asphalt Mixtures
T 363-17	Evaluating Stress Development and Cracking Potential due to Restrained Volume Change Using a Dual Ring Test

<b>Number</b>	<b>Title</b>
T 364-17	Determination of Composite Activation Energy of Aggregates due to Alkali-Silica Reaction (Chemical Method)
T 365-17	Quantifying Calcium Oxychloride Amounts in Cement Pastes Exposed to Deicing Salts
T 366-17	Apparent Viscosity of Hot-Poured Asphalt Crack Sealant Using Rotational Viscometer
T 367-17	Accelerated Aging of Hot-Poured Asphalt Crack Sealant Using a Vacuum Oven
T 368-17	Measuring Low-Temperature Flexural Creep Stiffness of Hot-Poured Asphalt Crack Sealant by Bending Beam Rheometer (BBR)
T 369-17	Evaluation of the Low-Temperature Tensile Property of Hot-Poured Asphalt Crack Sealant by Direct Tension Test
T 370-17	Measuring Adhesion of Hot-Poured Asphalt Crack Sealant Using Direct Adhesion Tester
T 371-17	Measuring Interfacial Fracture Energy of Hot-Poured Asphalt Crack Sealant Using a Blister Test
T 372M/T 372-17	Sensitivity of Stainless Steel to Intergranular Attack
T 373M/T 373-17	Comparative Qualitative Corrosion Characterization of Steel Bars Used for Concrete Reinforcement (Linear Polarization Resistance and Potentiodynamic Polarization Tests)
T 374M/T 374-17	Comparative Qualitative Corrosion Characterization of Uncoated Chromium-Alloyed Steel Bars Used for Concrete Reinforcement (Tombstone Test)
T 375M/T 375-17	Identification of Iron-Based Alloy Steel Bars for Concrete Reinforcement or Dowels by Handheld X-Ray Fluorescence (XRF) Spectrometer
T 376M/T 376-17	Microcell Slab Chloride Threshold
T 377-17	Detecting the Presence of Phosphorus in Asphalt Binder
T 378-17	Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)

#### **DELETED STANDARD**

No standard tests have been deleted from the 2017 Edition.



## List of Technical Changes—Part 2

### Release: Group 3 (August 2017)

The balloted technical changes listed below are also indicated in the specifications by a change bar in the left margin and highlighted (for additions) or struck-through (for deletions) text. Unballoted editorial changes do not receive the change bar, highlighting, or strike-through; however, any standard that is neither revised nor reconfirmed but contains such changes does include an endnote stating that minor editorial revisions have been made.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 48-17	Flash Fire Point of Asphalt Binder by Cleveland Open Cup	2b	Rewritten to make this standard specific to asphalt binder.
T 71-08 (2017)	Effect of Organic Impurities in Fine Aggregate on Strength of Mortar	1c	Reconfirmed for 2017 publication.
T 84-13 (2017)	Specific Gravity and Absorption of Fine Aggregate	1c	Reconfirmed for 2017 publication and editorially revised.
T 88-13 (2017)	Particle Size Analysis of Soils	1a	Reconfirmed for 2017 publication.
T 89-13 (2017)	Determining the Liquid Limit of Soils	1a	Reconfirmed for 2017 publication.
T 99-17	Moisture–Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop	1b	Revised to clarify the application of the oversized particle correction.
T 103-08 (2017)	Soundness of Aggregates by Freezing and Thawing	1c	Reconfirmed for 2017 publication and editorially revised.
T 112-00 (2017)	Clay Lumps and Friable Particles in Aggregate	1c	Reconfirmed for 2017 publication and editorially revised.
T 135-13 (2017)	Wetting-and-Drying Test of Compacted Soil–Cement Mixtures	1b	Reconfirmed for 2017 publication.
T 136-13 (2017)	Freezing-and-Thawing Tests of Compacted Soil–Cement Mixtures	1b	Reconfirmed for 2017 publication.
T 176-17	Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test	1a	Revised Section 4.9 to add a defined process for mixing the working solution.
T 180-17	Moisture–Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop	1b	Revised to clarify the application of the oversized particle correction.
T 193-13 (2017)	The California Bearing Ratio	1a	Reconfirmed for 2017 publication.
T 211-90 (2017)	Determination of Cement Content in Cement-Treated Aggregate by the Method of Titration	1c	Reconfirmed for 2017 publication.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 221-90 (2017)	Repetitive Static Plate Load Tests of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements	1b	Reconfirmed for 2017 publication.
T 222-81 (2017)	Nonrepetitive Static Plate Load Test of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements	1b	Reconfirmed for 2017 publication.
T 223-96 (2017)	Field Vane Shear Test in Cohesive Soil	1b	Reconfirmed for 2017 publication.
T 240-13 (2017)	Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin-Film Oven Test)	2b	Reconfirmed for 2017 publication.
T 255-00 (2017)	Total Evaporable Moisture Content of Aggregate by Drying	1c	Reconfirmed for 2017 publication and editorially revised.
T 275-17	Bulk Specific Gravity ( $G_{mb}$ ) of Compacted Asphalt Mixtures Using Paraffin-Coated Specimens	2c	Revised to allow vacuum-drying of specimens as an option to oven-drying the specimens.
T 295-13 (2017)	Specific Gravity or API Gravity of Liquid Asphalts by Hydrometer Method	2a	Reconfirmed for 2017 publication.
T 297-94 (2016)	Consolidated, Undrained Triaxial Compression Test on Cohesive Soils	1a	Discontinued.
T 301-13 (2017)	Elastic Recovery Test of Asphalt Materials by Means of a Ductilometer	2a	Reconfirmed for 2017 publication and editorially revised.
T 303-00 (2017)	Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction	1c	Reconfirmed for 2017 publication.
T 304-17	Uncompacted Void Content of Fine Aggregate	1c	Revised Section 6.1 and Figure 1 to allow additional types of metal to be used for the cylindrical measure.
T 307-99 (2017)	Determining the Resilient Modulus of Soils and Aggregate Materials	1a	Reconfirmed for 2017 publication.
T 310-13 (2017)	In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)	1b	Reconfirmed for 2017 publication.
T 316-13 (2017)	Viscosity Determination of Asphalt Binder Using Rotational Viscometer	2b	Reconfirmed for 2017 publication.
T 321-17	Determining the Fatigue Life of Compacted Asphalt Mixtures Subjected to Repeated Flexural Bending	2d	Revised extensively to reflect the advances made in capturing data.
T 324-17	Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures	2c	Revised extensively to incorporate findings from the NCHRP 20-07, Task 361 study as well as other recommendations from Task Force 2c-2012-01.

E:

Designation Number	Title	Technical Section Number	Balloted Revisions
T 331-13 (2017)	Bulk Specific Gravity ( $G_{mb}$ ) and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method	2c	Reconfirmed for 2017 publication and editorially revised.
T 354-17	Specific Gravity and Absorption of Aggregate by Volumetric Immersion Method	1c	Revisions pertain to adjusting and utilizing specific gravity results obtained from this test method compared to T 84 and T 85.
T 362-17	Quantitative Determination of the Percentage of Lime in Asphalt Mixtures	2c	Revised Section 6 to include the determination of binder in the mix and calcium hydroxide in the lime.
T 377-17	Detecting the Presence of Phosphorous in Asphalt Binder	2b	Adopted Provisional standard TP 78 as a new standard.
T 378-17	Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2d	Adopted Provisional standard TP 79 as a new standard.

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**Release: Group 2 (June 2017)**

Designation Number	Title	Technical Section Number	Balloted Revisions
T 65M/T 65-13 (2017)	Mass [Weight] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings	4f	Reconfirmed for 2017 publication.
T 143-13 (2017)	Sampling and Testing Calcium Chloride for Roads and Structural Applications	4c	Reconfirmed for 2017 publication.
T 241-95 (2017)	Helical Continuously Welded Seam Corrugated Steel Pipe	4b	Reconfirmed for 2017 publication and editorially revised.
T 243M/T 243-08 (2017)	Sampling Procedure for Impact Testing of Structural Steel	4f	Reconfirmed for 2017 publication.
T 333-07 (2017)	Linear Coefficient of Shrinkage on Cure of Adhesive Systems	4c	Reconfirmed for 2017 publication.
T 346-13 (2017)	Glass Beads Used in Pavement Markings	4c	Reconfirmed for 2017 publication.
T 366-17	Apparent Viscosity of Hot-Poured Asphalt Crack Sealant Using Rotational Viscometer	4e	Adopted Provisional standard TP 85 as a new standard.
T 367-17	Accelerated Aging of Hot-Poured Asphalt Crack Sealant Using a Vacuum Oven	4e	Adopted Provisional standard TP 86 as a new standard.
T 368-17	Measuring Low-Temperature Flexural Creep Stiffness of Hot-Poured Asphalt Crack Sealant by Bending Beam Rheometer (BBR)	4e	Adopted Provisional standard TP 87 as a new standard.
T 369-17	Evaluation of the Low-Temperature Tensile Property of Hot-Poured Asphalt Crack Sealant by Direct Tension Test	4e	Adopted Provisional standard TP 88 as a new standard.
T 370-17	Measuring Adhesion of Hot-Poured Asphalt Crack Sealant Using Direct Adhesion Tester	4e	Adopted Provisional standard TP 89 as a new standard.
T 371-17	Measuring Interfacial Fracture Energy of Hot-Poured Asphalt Crack Sealant Using a Blister Test	4e	Adopted Provisional standard TP 90 as a new standard.
T 372M/T 372-17	Sensitivity of Stainless Steel to Intergranular Attack	4f	Adopted Annex A1 of former Provisional standard MP 18M/MP 18 as a full standard.
T 373M/T 373-17	Comparative Qualitative Corrosion Characterization of Steel Bars Used for Concrete Reinforcement (Linear Polarization Resistance and Potentiodynamic Polarization Tests)	4f	Adopted Annex A2 of former Provisional standard MP 18M/MP 18 as a full standard.
T 374M/T 374-17	Comparative Qualitative Corrosion Characterization of Uncoated Chromium-Alloyed Steel Bars Used for Concrete Reinforcement (Tombstone Test)	4f	Adopted Annex A3 of former Provisional standard MP 18M/MP 18 as a full standard.

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Designation Number	Title	Technical Section Number	Balloted Revisions
T 375M/T 375-17	Identification of Iron-Based Alloy Steel Bars for Concrete Reinforcement or Dowels by Handheld X-Ray Fluorescence (XRF) Spectrometer	4f	Adopted Annex B1 of former Provisional standard MP 18M/MP 18 as a full standard.
T 376M/T 376-17	Macrocell Slab Chloride Threshold	4f	Adopted as a new standard.

A

**Release: Group 1 (April 2017)**

Designation Number	Title	Technical Section Number	Balloted Revisions
T 22-17	Compressive Strength of Cylindrical Concrete Specimens	3c	Added tolerances and revised to maintain equivalency with ASTM C39/C39M-16.
T 23-17	Making and Curing Concrete Test Specimens in the Field	3c	Revised to maintain equivalency with ASTM C31-15a and WAQTC's changes on tapping.
T 97-17	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	3c	Revised to maintain equivalency with ASTM C78-15b.
T 107M/T 107-17	Autoclave Expansion of Hydraulic Cement	3a	Revised Section 7.6 to maintain equivalency with ASTM C151/C151M-15.
T 119M/T 119-13 (2017)	Slump of Hydraulic Cement Concrete	3b	Reconfirmed for 2017 publication.
T 121M/T 121-17	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	3b	Revised to include testing of self-consolidating concrete.
T 152-17	Air Content of Freshly Mixed Concrete by the Pressure Method	3b	Revised to include testing of self-consolidating concrete.
T 153-13 (2017)	Fineness of Hydraulic Cement by Air Permeability Apparatus	3a	Reconfirmed for 2017 publication.
T 155-13 (2017)	Water Retention by Liquid Membrane-Forming Curing Compounds for Concrete	3b	Reconfirmed for 2017 publication.
T 160-17	Length Change of Hardened Hydraulic Cement Mortar and Concrete	3c	Revised to maintain equivalency with ASTM C157/C157M-14.
T 161-17	Resistance of Concrete to Rapid Freezing and Thawing	3c	Revised to maintain equivalency with ASTM C666/666M-15.
T 177	Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)	3c	Revised to maintain equivalency with ASTM C293-16.
T 188-05 (2017)	Evaluation by Freezing and Thawing of Air-Entraining Additions to Hydraulic Cement	3b	Reconfirmed for 2017 publication and editorially revised.
T 231-17	Capping Cylindrical Concrete Specimens	3c	Revised to maintain equivalency with ASTM C617-15.
T 259-02 (2017)	Resistance of Concrete to Chloride Ion Penetration	3c	Reconfirmed for 2017 publication.
T 276-17	Measuring Early-Age Compression Strength and Projecting Later-Age Strength	3c	Revised to maintain equivalency with ASTM C918-13.

1A

Designation Number	Title	Technical Section Number	Balloted Revisions
T 278-90 (2017)	Surface Frictional Properties Using the British Pendulum Tester	5a	Reconfirmed for 2017 publication.
T 347-13 (2017)	Slump Flow of Self-Consolidating Concrete (SCC)	3b	Reconfirmed for 2017.Reconfirmed for 2017.
T 349-13 (2017)	Filling Capacity of Self-Consolidating Concrete Using the Caisson Test	3b	Reconfirmed for 2017 publication and editorially revised.
T 358-17	Surface Resistivity Indication of Concrete's Ability to Resist Chloride Ion Penetration	3c	Revised Note 2 and Section 10.2.
T 363-17	Evaluating Stress Development and Cracking Potential due to Restrained Volume Change Using a Dual Ring Test	3c	Adopted as a new standard.
T 364-17	Determination of Composite Activation Energy of Aggregates due to Alkali-Silica Reaction (Chemical Method)	3c	Adopted as a new standard.
T 365-17	Quantifying Calcium Oxychloride Amounts in Cement Pastes Exposed to Deicing Salts	3c	Adopted as a new standard.

## PART 3—AASHTO PROVISIONAL STANDARDS

### SUBJECT SEQUENCE TABLE OF CONTENTS

Number	Title
<b>AGGREGATES</b>	
PP 64-11 (2017)	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties
TP 81-12 (2017)	Determining Aggregate Shape Properties by Means of Digital Image Analysis
TP 110-14 (2016)	Potential Alkali Reactivity of Aggregates and Effectiveness of ASR Mitigation Measures (Miniature Concrete Prism Test, MCPT)
TP 120-16	Pore Index for Carbonate Coarse Aggregate
<b>BITUMINOUS MATERIALS</b>	
MP 23-15 (2016)	Reclaimed Asphalt Shingles for Use in Asphalt Mixtures
MP 25-17	Performance-Graded Hot-Poured Asphalt Crack Sealant
MP 26-15 (2017)	Cotton Duck Fabric Bridge Bearings
MP 27-16	Materials for Emulsified Asphalt Chip Seals
MP 28-17	Materials for Micro Surfacing
MP 31-17	Materials for Cold Recycled Mixtures with Emulsified Asphalt
MP 32-17	Materials for Slurry Seal
MP 33-17	Materials for Emulsified Asphalt Fog Seal
PP 60-14 (2016)	<i>Adopted</i> —Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)
PP 61-13 (2016)	<i>Adopted</i> —Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)
PP 76-13 (2015)	Troubleshooting Asphalt Specimen Volumetric Differences between Superpave Gyrotory Compactors (SCGs) Used in the Design and the Field Management of Superpave Mixtures
PP 77-14 (2016)	Materials Selection and Mixture Design of Permeable Friction Courses (PFCs)
PP 78-17	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in Asphalt Mixtures
PP 82-16	Emulsified Asphalt Chip Seal Design
PP 83-16	Micro Surfacing Design
PP 85-17	Grading or Verifying the Sealant Grade (SG) of a Hot-Poured Asphalt Crack Sealant



Number	Title
PP 86-17	Emulsified Asphalt Content of Cold Recycled Mixture Designs
PP 87-17	Slurry Seal Design
PP 88-17	Emulsified Asphalt Fog Seal Design
TP 78-09 (2013)	<i>Adopted</i> —Detecting the Presence of Phosphorous in Asphalt Binder
TP 79-15 (2016)	<i>Adopted</i> —Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)
TP 82-10 (2017)	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor
TP 85-10 (2016)	<i>Adopted</i> —Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument
TP 86-10 (2016)	<i>Adopted</i> —Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven
TP 87-10 (2016)	<i>Adopted</i> —Measure Low-Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)
TP 88-10 (2016)	<i>Adopted</i> —Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test
TP 89-10 (2016)	<i>Adopted</i> —Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester
TP 90-16	<i>Adopted</i> —Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test
TP 92-14	Determining the Cracking Temperature of Asphalt Binder Using the Asphalt Binder Cracking Device (ABCD)
TP 101-12 (2016)	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep
TP 102-16	Evaluation of Asphalt Release Agents (ARAs)
TP 105-13 (2015)	Determining the Fracture Energy of Asphalt Mixtures Using the Semicircular Bend Geometry (SCB)
TP 107-14 (2016)	Determining the Damage Characteristic Curve of Asphalt Mixtures from Direct Tension Cyclic Fatigue Tests
TP 108-14 (2016)	Abrasion Loss of Asphalt Mixture Specimens
TP 113-15	Determination of Asphalt Binder Resistance to Ductile Failure Using Double-Edge-Notched Tension (DENT) Test
TP 114-17	Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers
TP 115-16 (2017)	Determining the Quality of Tack Coat Adhesion to the Surface of an Asphalt Pavement in the Field or Laboratory
TP 116-15	Rutting Resistance of Asphalt Mixtures Using Incremental Repeated Load Permanent Deformation (iRLPD)
TP 117-15	Determination of the Voids of Dry Compacted Filler

<b>Number</b>	<b>Title</b>
TP 121-16	Determining the Viscosity of Emulsified Asphalt by a Rotational Paddle Viscometer
TP 122-16	Determination of Performance Grade of Physically Aged Asphalt Binder Using Extended Bending Beam Rheometer (BBR) Method
TP 123-16	Measuring Asphalt Binder Yield Energy and Elastic Recovery Using the Dynamic Shear Rheometer
TP 124-16	Determining the Fracture Potential of Asphalt Mixtures Using Semicircular Bend Geometry (SCB) at Intermediate Temperature
TP 125-16	Determining the Flexural Creep Stiffness of Asphalt Mixtures Using the Bending Beam Rheometer (BBR)
TP 126-17	Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)
TP 127-17	Determining the Fracture Energy Density of Asphalt Binder Using the Binder Fracture Energy (BFE) Test
TP 128-17	Evaluation of Oxidation Level of Asphalt Mixtures by a Portable Infrared Spectrometer

#### **BOX CULVERT, CULVERT PIPE, AND DRAIN TILE**

MP 20-13 (2017)	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
MP 22-13 (2017)	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures
PP 63-09 (2014)	<i>Adopted</i> —Pipe Joint Selection for Highway Culvert and Storm Drains

#### **CONCRETE**

PP 58-12 (2015)	<i>Adopted</i> —Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders
PP 65-11 (2016)	<i>Adopted</i> —Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction
PP 84-17	Performance Engineered Concrete Pavement Mixtures
TP 109-14 (2016)	Nonlinear Impact Resonance Acoustic Spectroscopy (NIRAS) for Concrete Specimens with Damage from the Alkali-Silica Reaction (ASR)
TP 118-17	Characterization of the Air-Void System of Freshly Mixed Concrete by the Sequential Pressure Method
TP 119-15 (2017)	Electrical Resistivity of a Concrete Cylinder Tested in a Uniaxial Resistance Test

#### **METALLIC MATERIALS AND COATINGS FOR BRIDGES**

MP 18M/MP 18-15	<i>Adopted</i> —Uncoated, Corrosion-Resistant, Deformed and Plain Alloy, Billet-Steel Bars for Concrete Reinforcement and Dowels
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<b>Number</b>	<b>Title</b>
MP 30M/MP 30-17	Steel Wire and Welded Wire, Plain and Deformed, for Concrete Reinforcement
TP 84-11 (2017)	Evaluation of Adhesive Anchors in Concrete Under Sustained Loading Conditions

#### **MISCELLANEOUS**

PP 80-17	Continuous Thermal Profile of Asphalt Mixture Construction
PP 81-17	Intelligent Compaction Technology for Embankment and Asphalt Pavement Applications
TP 96-13 (2015)	Protective Sealers for Portland Cement Concrete
TP 103-13 (2015)	Detectable Warning Systems

#### **PAINTING AND TRAFFIC MARKING AND SIGNING**

MP 24-15 (2016)	Waterborne White and Yellow Traffic Paints
PP 74-13 (2015)	Determination of Size and Roundness of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method
TP 106-13 (2015)	Determination of Heavy Metal Content of Glass Beads Using X-Ray Fluorescence (XRF)
TP 111-14 (2016)	Measuring Retroreflectivity of Pavement Marking Materials Using a Mobile Retroreflectivity Unit

#### **PAVEMENT STRUCTURES**

PP 67-16 (2017)	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Pavement Images Utilizing Automated Methods
PP 68-14 (2017)	Collecting Images of Pavement Surfaces for Distress Detection
PP 69-14 (2017)	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles
PP 70-14 (2017)	Collecting the Transverse Pavement Profile

#### **PAVEMENT SURFACE CHARACTERISTICS**

PP 79-14 (2016)	High-Friction Surface Treatment for Asphalt and Concrete Pavements
TP 98-13 (2015)	Determining the Influence of Road Surfaces on Vehicle Noise Using the Statistical Isolated Pass-By Method (SIP)
TP 99-13 (2015)	Determining the Influence of Road Surfaces on Traffic Noise Using the Continuous-Flow Traffic Time-Integrated Method (CTIM)

**Number**

**Title**

**QUALITY ASSURANCE**

PP 73-13 (2015)            Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete

**SOILS**

TP 100-12 (2016)            Deep Foundation Elements for Bi-Directional Static Axial Compressive Load

TP 104-13 (2015)            Rapid Axial Compressive Load Testing of Deep Foundation Units

TP 112-14 (2016)            Determining In-Place Density and Moisture Content of Soil and Soil–Aggregate Using Complex Impedance Methodology

## PART 3—AASHTO PROVISIONAL STANDARDS

### NUMERICAL SEQUENCE TABLE OF CONTENTS

Number	Title
MP 18M/ MP 18-15	<i>Adopted</i> —Uncoated, Corrosion-Resistant, Deformed and Plain Alloy, Billet-Steel Bars for Concrete Reinforcement and Dowels
MP 20-13 (2017)	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
MP 22-13 (2017)	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures
MP 23-15 (2016)	Reclaimed Asphalt Shingles for Use in Asphalt Mixtures
MP 24-15 (2016)	Waterborne White and Yellow Traffic Paints
MP 25-17	Performance-Graded Hot-Poured Asphalt Crack Sealant
MP 26-15 (2017)	Cotton Duck Fabric Bridge Bearings
MP 27-16	Materials for Emulsified Asphalt Chip Seals
MP 28-17	Materials for Micro Surfacing
MP 30M/MP 30-17	Steel Wire and Welded Wire, Plain and Deformed, for Concrete
MP 31-17	Materials for Cold Recycled Mixtures with Emulsified Asphalt
MP 32-17	Materials for Slurry Seal
MP 33-17	Materials for Emulsified Asphalt Fog Seal
PP 58-12 (2015)	<i>Adopted</i> —Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders
PP 60-14 (2016)	<i>Adopted</i> —Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)
PP 61-13 (2016)	<i>Adopted</i> —Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)
PP 63-09 (2014)	<i>Adopted</i> —Pipe Joint Selection for Highway Culvert and Storm Drains
PP 64-11 (2017)	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties
PP 65-11 (2016)	<i>Adopted</i> —Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction
PP 67-16 (2017)	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Pavement Images Utilizing Automated Methods
PP 68-14 (2017)	Collecting Images of Pavement Surfaces for Distress Detection

Number	Title
PP 69-14 (2017)	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles
PP 70-14 (2017)	Collecting the Transverse Pavement Profile
PP 73-13 (2015)	Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete
PP 74-13 (2015)	Determination of Size and Roundness of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method
PP 76-13 (2015)	Troubleshooting Asphalt Specimen Volumetric Differences between Superpave Gyrotory Compactors (SCGs) Used in the Design and the Field Management of Superpave Mixtures
PP 77-14 (2016)	Materials Selection and Mixture Design of Permeable Friction Courses (PFCs)
PP 78-17	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in Asphalt Mixtures
PP 79-14 (2016)	High-Friction Surface Treatment for Asphalt and Concrete Pavements
PP 80-17	Continuous Thermal Profile of Asphalt Mixture Construction
PP 81-17	Intelligent Compaction Technology for Embankment and Asphalt Pavement Applications
PP 82-16	Emulsified Asphalt Chip Seal Design
PP 83-16	Micro Surfacing Design
PP 84-17	Performance Engineered Concrete Pavement Mixtures
PP 85-17	Grading or Verifying the Sealant Grade (SG) of a Hot-Poured Asphalt Crack Sealant
PP 86-17	Emulsified Asphalt Content of Cold Recycled Mixture Designs
PP 87-17	Slurry Seal Design
PP 88-17	Emulsified Asphalt Fog Seal Design
TP 78-09 (2013)	<i>Adopted</i> —Detecting the Presence of Phosphorous in Asphalt Binder
TP 79-15 (2016)	<i>Adopted</i> —Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)
TP 81-12 (2017)	Determining Aggregate Shape Properties by Means of Digital Image Analysis
TP 82-10 (2017)	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor
TP 84-11 (2017)	Evaluation of Adhesive Anchors in Concrete Under Sustained Loading Conditions
TP 85-10 (2016)	<i>Adopted</i> —Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument
TP 86-10 (2016)	<i>Adopted</i> —Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven
TP 87-10 (2016)	<i>Adopted</i> —Measure Low-Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)

Number	Title
TP 88-10 (2016)	<i>Adopted</i> —Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test
TP 89-10 (2016)	<i>Adopted</i> —Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester
TP 90-16	<i>Adopted</i> —Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test
TP 92-14	Determining the Cracking Temperature of Asphalt Binder Using the Asphalt Binder Cracking Device (ABCD)
TP 96-13 (2015)	Protective Sealers for Portland Cement Concrete
TP 98-13 (2015)	Determining the Influence of Road Surfaces on Vehicle Noise Using the Statistical Isolated Pass-By Method (SIP)
TP 99-13 (2015)	Determining the Influence of Road Surfaces on Traffic Noise Using the Continuous-Flow Traffic Time-Integrated Method (CTIM)
TP 100-12 (2016)	Deep Foundation Elements for Bi-Directional Static Axial Compressive Load
TP 101-12 (2016)	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep
TP 102-16	Evaluation of Asphalt Release Agents (ARAs)
TP 103-13 (2015)	Detectable Warning Systems
TP 104-13 (2015)	Rapid Axial Compressive Load Testing of Deep Foundation Units
TP 105-13 (2015)	Determining the Fracture Energy of Asphalt Mixtures Using the Semicircular Bend Geometry (SCB)
TP 106-13 (2015)	Determination of Heavy Metal Content of Glass Beads Using X-Ray Fluorescence (XRF)
TP 107-14 (2016)	Determining the Damage Characteristic Curve of Asphalt Mixtures from Direct Tension Cyclic Fatigue Tests
TP 108-14 (2016)	Abrasion Loss of Asphalt Mixture Specimens
TP 109-14 (2016)	Nonlinear Impact Resonance Acoustic Spectroscopy (NIRAS) for Concrete Specimens with Damage from the Alkali-Silica Reaction (ASR)
TP 110-14 (2016)	Potential Alkali Reactivity of Aggregates and Effectiveness of ASR Mitigation Measures (Miniature Concrete Prism Test, MCPT)
TP 111-14 (2016)	Measuring Retroreflectivity of Pavement Marking Materials Using a Mobile Retroreflectivity Unit
TP 112-14 (2016)	Determining In-Place Density and Moisture Content of Soil and Soil–Aggregate Using Complex Impedance Methodology
TP 113-15	Determination of Asphalt Binder Resistance to Ductile Failure Using Double-Edge-Notched Tension (DENT) Test
TP 114-17	Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers

Number	Title
TP 115-16 (2017)	Determining the Quality of Tack Coat Adhesion to the Surface of an Asphalt Pavement in the Field or Laboratory
TP 116-15	Rutting Resistance of Asphalt Mixtures Using Incremental Repeated Load Permanent Deformation (iRLPD)
TP 117-15	Determination of the Voids of Dry Compacted Filler
TP 118-17	Characterization of the Air-Void System of Freshly Mixed Concrete by the Sequential Pressure Method
TP 119-15 (2017)	Electrical Resistivity of a Concrete Cylinder Tested in a Uniaxial Resistance Test
TP 120-16	Pore Index for Carbonate Coarse Aggregate
TP 121-16	Determining the Viscosity of Emulsified Asphalt by a Rotational Paddle Viscometer
TP 122-16	Determination of Performance Grade of Physically Aged Asphalt Binder Using Extended Bending Beam Rheometer (BBR) Method
TP 123-16	Measuring Asphalt Binder Yield Energy and Elastic Recovery Using the Dynamic Shear Rheometer
TP 124-16	Determining the Fracture Potential of Asphalt Mixtures Using Semicircular Bend Geometry (SCB) at Intermediate Temperature
TP 125-16	Determining the Flexural Creep Stiffness of Asphalt Mixtures Using the Bending Beam Rheometer (BBR)
TP 126-17	Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)
TP 127-17	Determining the Fracture Energy Density of Asphalt Binder Using the Binder Fracture Energy (BFE) Test
TP 128-17	Evaluation of Oxidation Level of Asphalt Mixtures by a Portable Infrared Spectrometer



## List of Technical Changes—Part 3

The balloted technical changes listed below are also indicated in the specifications by a change bar in the left margin and by highlighted text (for additions) or struck-through text (for deletions). Unballoted editorial changes do not receive the change bar, highlighting, or strike-through; however, any standard that is neither revised nor reconfirmed but contains such changes does include an endnote stating that minor editorial revisions have been made.

### Release: Group 3 (August 2017)

Designation Number	Title	Technical Section Number	Balloted Revisions
MP 28-17	Materials for Micro Surfacing	2a	Extensively revised.
MP 31-17	Materials for Cold Recycled Mixtures with Emulsified Asphalt	2d	New.
MP 32-17	Materials for Slurry Seal	2a	New.
MP 33-17	Materials for Emulsified Asphalt Fog Seal	2a	New.
PP 60-14 (2016)	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)	2d	PP 60 was adopted as R 83.
PP 61-13 (2016)	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2d	PP 61 was adopted as R 84.
PP 64-11 (2017)	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties	1c	Extended.
PP 78-17	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in Asphalt Mixtures	2d	Extensively revised.
PP 86-17	Emulsified Asphalt Content of Cold Recycled Mixture Designs	2a	New.
PP 87-17	Slurry Seal Design	2a	New.
PP 88-17	Emulsified Asphalt Fog Seal Design	2a	New.
TP 78-09 (2013)	Detecting the Presence of Phosphorous in Asphalt Binder	2b	TP 78 was adopted as T 377.

TP 79-15 (2016)	Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2d	TP 79 was adopted as T 378.
TP 81-12 (2017)	Determining Aggregate Shape Properties by Means of Digital Image Analysis	1c	Extended.
TP 82-10 (2017)	Bulk Specific Gravity (Gmb) of Compacted Asphalt Mixtures Using Water Displacement Measured by Pressure Sensor	2c	Extended.
TP 114-17	Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers	2c	Revised Section 8.
TP 115-16 (2017)	Determining the Quality of Tack Coat Adhesion to the Surface of an Asphalt Pavement in the Field or Laboratory	2c	Reconfirmed.
TP 127-17	Determining the Fracture Energy Density of Asphalt Binder Using the Binder Fracture Energy (BFE) Test	2b	New.
TP 128-17	Evaluation of Oxidation Level of Asphalt Mixtures by a Portable Infrared Spectrometer	2c	New.

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**Release: Group 2 (June 2017)**

Designation Number	Title	Technical Section Number	Balloted Revisions
MP 18M/MP 18-15	Uncoated, Corrosion-Resistant, Deformed and Plain Alloy, Billet-Steel Bars for Concrete Reinforcement and Dowels	4f	MP 18M/MP 18 (excluding annexes) was adopted as M 334M/M 334. Annexes were adopted as the following: A1—T 372M/T 372 A2—T 373M/T 373 A3—T 374M/T 374 B1—T 375M/T 375
MP 20-13 (2014)	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	4b	Extended.
MP 22-13 (2015)	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures	4f	Reconfirmed.

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MP 25-17	Performance-Graded Hot-Poured Asphalt Crack Sealant	4e	Revised.
MP 26-15 (2017)	Cotton Duck Fabric Bridge Bearings	4e	Reconfirmed.
MP 30M/MP30-17	Steel Wire and Welded Wire, Plain and Deformed, for Concrete	4f	New.
PP 63-09 (2014)	Pipe Joint Selection for Highway Culvert and Storm Drains	4b	PP 63 was adopted as R 82.
PP 85-17	Grading or Verifying the Sealant Grade (SG) of a Hot-Poured Asphalt Crack Sealant	4e	New.
TP 84-11 (2017)	Evaluation of Adhesive Anchors in Concrete Under Sustained Loading Conditions	4c	Extended.
TP 85-10 (2015)	Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument	4e	TP 85 was adopted as T 366.
TP 86-10 (2015)	Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven	4e	TP 86 was adopted as T 367.
TP 87-10 (2015)	Measure Low-Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)	4e	TP 87 was adopted as T 368.
TP 88-10 (2015)	Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test	4e	TP 88 was adopted as T 369.
TP 89-10 (2015)	Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester	4e	TP 89 was adopted as T 370.
TP 90-16	Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test	4e	TP 90 was adopted as T 371.
TP 126-17	Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)	4e	New.

**Release: Group 1 (April 2017)**

Designation Number	Title	Technical Section Number	Balloted Revisions
PP 65-11 (2016)	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction	3c	PP 65 was adopted as R 80.
PP 67-16 (2017)	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Images Utilizing Automated Methods	5a	Extended.
PP 68-14 (2017)	Collecting Images of Pavement Surfaces for Distress Detection	5a	Extended.
PP 69-14 (2017)	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles	5a	Extended.
PP 70-14 (2017)	Collecting the Transverse Pavement Profile	5a	Extended.
PP 80-17	Continuous Thermal Profile of Asphalt Mixture Construction	5c	Extensively revised.
PP 81-17	Intelligent Compaction Technology for Embankment and Asphalt Pavement Applications	5c	Extensively revised.
PP 84-17	Performance Engineered Concrete Pavement Mixtures	3c	New.
TP 118-17	Characterization of the Air-Void System of Freshly Mixed Concrete by the Sequential Pressure Method	3b	Extensively revised.
TP 119-15 (2017)	Electrical Resistivity of a Concrete Cylinder Tested in a Uniaxial Resistance Test	3c	Reconfirmed.

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**Provisional Standards—Current and Former**

A searchable, comprehensive history of current and former provisional standards is provided, including:

- when first published;
- number of years into 8-year life cycle, if in use;
- final disposition, if no longer in use; and
- full standard number, if adopted.

# COMPREHENSIVE HISTORY OF CURRENT AND FORMER AASHTO PROVISIONAL MATERIALS STANDARDS AND TEST METHODS

**AUGUST 2017**

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
MP 1	Performance Graded Asphalt Binder	1994	Adopted	2002	M 320
MP 1a	Performance Graded Asphalt Binder	1996	Adopted	2005	
MP 2	Superpave Volumetric Mix Design	1996	Adopted	2004	M 323
MP 5	Bridge Deck Cathodic Protection	1996	Deleted	1999	—
MP 6	Corrugated Polyethylene Pipe, 1050 and 1200 mm Diameter	1996	Adopted	1999	M 294
MP 7	Corrugated Polyethylene Pipe, 1350 and 1500 mm Diameter	1998	Adopted	2003	
MP 8	Designing Stone Matrix Asphalt (SMA)	2000	Adopted	2008	M 325
MP 9	Compost for Erosion/Sediment Control (Filter Berms)	2003	Adopted	2010	R 51
MP 10	Compost for Erosion/Sediment Control (Compost Blankets)	2003	Adopted	2010	R 52
MP 11	Inertial Profiler	2003	Adopted	2010	M 328
MP 12	Detectable Warning Surfaces	2004	Adopted	2015	M 333
MP 13	Stainless Clad Deformed and Plain Round Steel Bars for Concrete Reinforcement	2004	Adopted	2011	M 329
MP 14	Smoothness of Pavement at the Approaches to Weight-in-Motion (WIM) Scales	2005	Adopted	2013	M 331
MP 15	Use of Reclaimed Asphalt Shingles as an Additive in Hot-Mix Asphalt	2006	Deleted	2014	—
MP 16	Reclaimed Concrete Aggregate for Use as Coarse Aggregate in Hydraulic Cement	2007	Deleted	2016 (August)	—
MP 17	Pavement Ride Quality When Measured Using Inertial Profiling Systems	2004	Adopted	2010	R 54
MP 18	Uncoated, Corrosion-Resistant, Deformed and Plain Chromium Alloyed, Billet-Steel Bars for Concrete Reinforcement and Dowels	2009	Adopted	2017 (June)	M 334M/M 334 and T 372M/T 372 through T 376M/T 376
MP 19	Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test	2010	Adopted	2014	M 332

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
MP 20	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	2010			
MP 21	Polypropylene Pipe, 300- to 500-mm (12- to 60-in.)	2011	Adopted	2013	M 330
MP 22	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures	2013			
MP 23	Reclaimed Asphalt Shingles for Use in Asphalt Mixtures	2014			
MP 24	Waterborne White and Yellow Traffic Paints	2014			
MP 25	Performance-Graded Bituminous Sealants	2015			
MP 26	Cotton Duck Fabric Bridge Bearings	2015			
MP 27	Materials for Emulsified Asphalt Chip Seals	2016			
MP 28	Materials for Micro Surfacing	2016			
MP 29	<i>This standard number was inadvertently skipped.</i>				
MP 30	Steel Wire and Welded Wire, Plain and Deformed, for Concrete Reinforcement	2017			
MP 31	Materials for Cold Recycled Mixtures with Emulsified Asphalt	2017			
MP 32	Materials for Slurry Seal	2017			
MP 33	Materials for Emulsified Asphalt Fog Seal	2017			
PP 1	Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)	1994	Adopted	2002	R 28
PP 2	Mixture Conditioning of Hot-Mix Asphalt (HMA)	1995	Adopted	2002	R 30
PP 3	Preparing Hot Mix Asphalt (HMA) Specimens by Means of the Rolling Wheel Compactor	1995	Deleted	2003	—
PP 5	Laboratory Evaluation of Modified Asphalt Systems	1994	Deleted	1998	—
PP 6	Grading or Verifying the Performance Grade of an Asphalt Binder	1994	Adopted	2002	R 29
PP 7	Calibrating the Load Cell and Deflection Sensors for a Falling Weight Deflectometer	1995	Adopted	2003	R 32
PP 8	Calibrating the Reference Load Cell Used for reference Calibrations for Falling Weight Deflectometer	1995	Adopted	2003	R 33

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
PP 10	Operational Guidelines on Test Pits for Evaluating Pavement Performance	1994	Deleted	1995	— <sup>a</sup>
PP 19	Volumetric Analysis of Compacted Hot Mix Asphalt (HMA)	1994	Deleted	2002	—
PP 20	Evaluating the Performance of Crack Sealing Treatments on Asphalt Surfaced Pavement	1995	Deleted	2004	—
PP 21	Testing and Evaluating Cold Mix Patching Materials	1995	Deleted	2002	—
PP 22	Selecting and Specifying Crack Sealants for Asphalt Surfaced Pavement	1996	Deleted	2002	—
PP 23	Evaluating the Condition of Portland Cement Concrete Bridge Components	1996	Deleted	2003	—
PP 25	Evaluating the Performance of Joint Seals in Portland Cement Concrete Pavement	1996	Deleted	2002	—
PP 26	Certifying Suppliers of Performance Graded Asphalt Binders	1997	Adopted	2001	R 26
PP 28	Superpave Volumetric Design for Hot-Mix Asphalt (HMA)	1996	Adopted	2004	R 35
PP 29	Evaluating Deicing Chemicals	1996	Adopted	2003	R 34
PP 30	Evaluation of Coating Systems with Zinc Rich Primers	1996	Adopted	2002	R 31
PP 31	Measuring Pavement Profile Using a Rod and Level	1997	Adopted	2005	R 40
PP 32	Measuring Pavement Profile Using a Dipstick®	1997	Adopted	2005	R 41
PP 33	Decommissioning Geotechnical Exploratory Boreholes	1997	Adopted	1998	R 22
PP 34	Estimating the Cracking Tendency of Concrete	1998	Adopted	2008	T 334
PP 35	Evaluation of Superpave™ Gyrotory Compactors (SGCs)	1998	Deleted	2007	—
PP 36	Assessment of Corrosion of Steel Piling for Non-Marine Applications	1998	Adopted	2002	R 27
PP 37	Determination of International Roughness Index (IRI) to Quantify Roughness of Pavements	1999	Combined and Adopted	2007	R 43M/ R 43
PP 37M	Quantifying Roughness of Pavements	1999			
PP 38	Determining Maximum Rut Depth in Asphalt Pavements	1999	Adopted	2008	R 48
PP 39	Estimating Faulting of Concrete Pavements	1999	Adopted	2004	R 36
PP 40	Application of Ground Penetrating Radar (GPR) to Highways	2000	Adopted	2004	R 37
PP 41	Designing Stone Matrix Asphalt (SMA)	2000	Adopted	2008	R 46

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
PP 42	Determination of Low-Temperature Performance Grade (PG) of Asphalt Binders	2001	Adopted	2009	R 49
PP 44	Quantifying Cracks in Asphalt Pavement Surface	2001	Adopted	2010	R 55
PP 45	Qualification of Deformed and Plain Steel Bar Producing Mills	2001	Adopted	2010	R 53
PP 46	Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures	2001	Adopted	2009	R 50
PP 47	Evaluation of Different Superpave™ Gyrotory Compactors (SGCs) Used in the Design and the Field Management of Superpave™ Mixtures	2002	Deleted	2009	—
PP 48	Evaluation of the Superpave™ Gyrotory Compactor (SGC) Internal Angle of Gyration	2003	Deleted	2010	—
PP 49	Certification of Inertial Profiling Systems	2003	Adopted	2010	R 56
PP 50	Operating Inertial Profilers and Evaluating Pavement Profiles	2003	Adopted	2010	R 57
PP 51	Pavement Ride Quality When Measured Using Inertial Profiling Systems	2003	Adopted	2010	R 54 <sup>b</sup>
PP 52	Developing a Quality Assurance Plan for Hot-Mix Asphalt (HMA)	2005	Adopted	2006	R 42
PP 53	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in New Hot Mix Asphalt (HMA)	2006	Deleted	2014	—
PP 54	Match Curing of Concrete Test Specimens	2006	Adopted	2016 (April)	R 72
PP 55	Overcoating Field Test Program for Evaluating Protective Coatings on Existing Bridges or Salvaged Beams	2006	Deleted	2012	—
PP 56	Evaluating the Engineering and Environmental Suitability of Recycled Materials	2006	Adopted	2014	R 65
PP 57	Establishing Requirements for and Performing Equipment Calibrations, Standardizations, and Checks	2006	Adopted	2012	R 61
PP 58	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders	2008	Adopted	2017 (April)	R 81 <sup>c</sup>
PP 59	Coal Combustion Fly Ash for Embankments	2009	Deleted	2016 (August)	—
PP 60	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC)	2009	Adopted	2017 (August)	R 83



Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
PP 61	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2009	Adopted	2017 (August)	R 84
PP 62	Developing Dynamic Modulus Master Curves for Hot Mix Asphalt (HMA)	2009	Adopted	2013	R 62
PP 63	Pipe Joint Selection for Highway Culvert and Storm Drains	2009	Adopted	2017 (June)	R 82
PP 64	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties	2010			
PP 65	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction	2010			
PP 66	Determination of Long-Term Strength for Geosynthetic Reinforcement	2010	Adopted	2015	R 69
PP 67	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Images Utilizing Automated Methods	2010			
PP 68	Collecting Images of Pavement Surfaces for Distress Detection	2010			
PP 69	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles	2010			
PP 70	Collecting the Transverse Pavement Profile	2010			
PP 71	Certifying Suppliers of Emulsified Asphalt	2011	Adopted	2016 (August)	R 77
PP 72	Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Techniques	2011	Adopted	2016 (August)	R 78
PP 73	Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete	2011			
PP 74	Determination of Size and Roundness of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method	2011			
PP 75	Vacuum Drying Compacted Asphalt Specimens	2013	Adopted	2016 (August)	R 79
PP 76	Troubleshooting Asphalt Specimen Volumetric Differences between Superpave Gyratory Compactors (SGCs) Used in the Design and the Field Management of Superpave Mixtures	2013			
PP 77	Materials Selection and Mixture Design of Permeable Friction Courses (PFCs)	2014			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
PP 78	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in Asphalt Mixtures	2014			
PP 79	High Friction Surface Treatment for Asphalt and Concrete Pavements	2014			
PP 80	Continuous Thermal Profile of Asphalt Mixture Construction	2014			
PP 81	Intelligent Compaction Technology for Embankment and Asphalt Pavement Applications	2014			
PP 82	Emulsified Asphalt Chip Seal Design	2016			
PP 83	Micro Surfacing Design	2016			
PP 84	Performance Engineered Concrete Pavement Mixtures	2017			
PP 85	Grading or Verifying the Sealant Grade (SG) of a Hot-Poured Asphalt Crack Sealant	2017			
PP 86	Emulsified Asphalt Content of Cold Recycled Mixture Designs	2017			
PP 87	Slurry Seal Design	2017			
PP 88	Emulsified Asphalt Fog Seal Design	2017			
TP 1	Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	1994	Adopted	2002	T 313
TP 2	Quantitative Extraction and Recovery of Asphalt Binder from Hot Mix Asphalt HMA	1995	Adopted	2003	T 319
TP 3	Determining the Fracture Properties of Asphalt Binder in Direct Tension (DT)	1994	Adopted	2002	T 314
TP 4	Preparing and Determining the Density of Hot-Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor	1994	Adopted	2001	T 312
TP 5	Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	1995	Adopted	2002	T 315
TP 6	Measurement of Initial Asphalt Adsorption and Desorption in the Presence of Moisture	1994	Deleted	1999	—
TP 7	Determining the Permanent Deformation and Fatigue Cracking Characteristics of Hot Mix Asphalt (HMA) Using the Simple Shear Test (SST) Device	1995	Adopted	2003	T 320
TP 8	Determining the Fatigue Life of Compacted Hot Mix Asphalt (HMA) Subjected to Repeated Flexural Bending	1995	Adopted	2003	T 321

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 9	Determining the Creep Compliance and Strength of Hot Mix Asphalt (HMA) Using the Indirect Tensile Test Device	1995	Adopted	2003	T 322
TP 10	Thermal Stress Restrained Specimen Tensile Strength	1994	Deleted	2002	—
TP 11	Rapid Determination of Corrosion Rate of Uncoated Steel in Reinforced Concrete	1996	Deleted	2004	—
TP 12	Determining the Hydraulic Fracture of Coarse Aggregate	1994	Deleted	2001	—
TP 14	Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction	1994	Adopted	1996	T 303
TP 17	Resistance of Concrete to Rapid Freezing and Thawing	1994	Deleted	2002	—
TP 18	Method for Determining the Fundamental Transverse Frequency and Quality Factor of Concrete Prism Specimens	1995	Deleted	2003	—
TP 19	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	1994	Deleted	2002	—
TP 20	Compressive Strength of Cylindrical Concrete Specimens	1994	Adopted	1997	T 22
TP 22	Rapid Determination of the Chloride Penetrability of Concrete Using AC Impedance	1995	Deleted	2003	—
TP 23	Water Content of Freshly Mixed Concrete Using Microwave Oven Drying	1994	Adopted	2002	T 318
TP 24	Determining the Density of Freshly Mixed Concrete in Place Using a Twin-Probe Nuclear Density Gauge	1995	Deleted	2003	—
TP 26	Determining the Relative Permeability of Concrete by Surface Air Flow	1995	Deleted	2003	—
TP 28	Detection of Voids Under Rigid Pavement	1995	Deleted	2003	—
TP 29	Determining the Shear Strength at the Interface of Bonded Layers of Portland Cement Concrete	1995	Adopted	2003	T 323
TP 31	Determining the Resilient Modulus of Bituminous Mixtures by Indirect Tension	1995	Deleted	2003	—
TP 33	Uncompacted Void Content of Fine Aggregate (As Influenced by Particle Shape, Surface Texture, and Grading)	1994	Adopted	1996	T 304
TP 34	Determining Moisture Sensitivity Characteristics of Compacted Bituminous Mixtures Subjected to Hot and Cold Climate Conditions	1994	Deleted	1999	—
TP 35	Determining the Relative Effectiveness of Penetrating Concrete Sealers by Electrical Resistance	1994	Deleted	2002	—

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 36	Evaluating Asphalt-Covered Concrete Bridge Decks Using Pulsed Radar	1994	Deleted	2002	—
TP 37	Determining the Condition Rating of Preformed Membranes on Concrete Bridge Decks Using Pulse Velocity	1994	Deleted	2002	—
TP 39	Determining the Maximum Specific Gravity of Bituminous Paving Mixtures	1995	Adopted	1999	T 209
TP 40	Determining the Percent Asphalt Required for Coating Aggregates Used in Cold Mix Patching Materials	1995	Deleted	2002	—
TP 41	Determining the Percent Asphalt Required Based on Stripping of Aggregates Used in Cold Mix Patching Materials	1995	Deleted	2002	—
TP 42	Percent Asphalt Based on Drainability of Aggregates Used in Cold Mix Patching Materials	1995	Deleted	2002	—
TP 43	Workability of Cold Mix Patching Materials	1995	Deleted	2002	—
TP 44	Cohesion of Cold Mix Patching Materials	1995	Deleted	2002	—
TP 46	Determining the Resilient Modulus of Soils and Aggregate Materials	1995	Adopted	1999	T 307
TP 47	Determining the Ecological Effects of Deicing Chemicals	1995	Deleted	2002	—
TP 48	Viscosity Determination of Asphalt Binder Using Rotational Viscometer	1995	Adopted	2002	T 316
TP 50	Determining the Relative Effectiveness of Penetrating Concrete Sealers by Water Absorption	1996	Deleted	2004	—
TP 51	Testing Cathodic Protection Materials and Systems for Bridge Decks	1996	Deleted	2004	—
TP 52	Estimating the Strength of Concrete in Transportation Construction by Maturity Tests	1996	Adopted	2004	T 325
TP 53	Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method	1996	Adopted	1999	T 308
TP 54	Determining Early Stiffening Characteristics of Portland Cement Paste (Mini Slump Cone Method)	1997	Deleted	2004	—
TP 55	Determining Chloride Ions in Concrete and Concrete Materials by Specific Ion Probe	1998	Adopted	2007	T 332
TP 56	Uncompacted Void Content of Coarse Aggregate (As Influenced by Particle Shape, Surface Texture, and Grading)	1998	Adopted	2005	T 326
TP 57	Methylene Blue Value of Clays, Mineral Fillers, and Fines	1998	Adopted	2007	T 330

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 58	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	1999	Adopted	2005	T 327
TP 59	Determining Air Content of Hardened Portland Cement Concrete by High-Pressure Air Meter	1999	Adopted	2015	T 356
TP 60	Coefficient of Thermal Expansion of Hydraulic Cement Concrete	2000	Adopted	2009	T 336
TP 61	Determining the Percentage of Fracture in Coarse Aggregate	2002	Adopted	2009	T 335
TP 62	Determining Dynamic Modulus of Hot-Mix Asphalt Concrete Mixtures	2003	Adopted	2011	T 342
TP 63	Determining Rutting Susceptibility of Asphalt Paving Mixtures Using the Asphalt Pavement Analyzer (APA)	2003	Adopted	2010	T 340
TP 64	Predicting Chloride Penetration of Hydraulic Cement Concrete by the Rapid Migration Procedure	2003	Adopted	2015	T 357
TP 65	Non-Instrumental Determination of Metallic Zinc in Zinc-Rich Primers	2003	Adopted	2009	T 337
TP 66	Analysis of Structural Steel Coatings for Hindered Amine Light Stabilizer (HALS)	2003	Adopted	2009	T 338
TP 67	Analysis of Structural Steel Coatings for Isocyanate Content	2003	Adopted	2009	T 339
TP 68	Density of In-Place Hot-Mix Asphalt (HMA) Pavement by Electronic Surface Contact Devices	2004	Adopted	2012	T 343
TP 69	Bulk Specific Gravity and Density of Compacted Asphalt Mixtures Using Automatic Vacuum Sealing Method	2004	Adopted	2007	T 331
TP 70	Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	2007	Adopted	2014	T 350
TP 71	Evaluation of Superpave Gyrotory Compactor (SGC) Internal Angle of Gyration Using Simulated Loading	2007	Adopted	2012	T 344
TP 72	Quantitative Determination of the Percentage of Lime in Hot Mix Asphalt (HMA)	2008	Adopted	2016 (August)	T 362
TP 73	Slump Flow of Self-Consolidating Concrete (SCC)	2008	Adopted	2013	T 347
TP 74	Passing Ability of Self-Consolidating Concrete (SCC) by J-Ring	2008	Adopted	2012	T 345
TP 75	Air-Void Characteristics of Freshly Mixed Concrete by Buoyancy Change	2008	Adopted	2013	T 348
TP 76	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method	2008	Adopted	2016 (April)	T 360

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 77	Specific Gravity and Absorption of Aggregate by Volumetric Immersion Method	2009	Adopted	2015	T 354
TP 78	Detecting the Presence of Phosphorous in Asphalt Binder	2009	Adopted	2017 (August)	T 377 <sup>c</sup>
TP 79	Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2009	Adopted	2017 (August)	T 378
TP 80	Visual Stability Index (VSI) of Self-Consolidating Concrete (SCC)	2009	Adopted	2014	T 351
TP 81	Determining Aggregate Shape Properties by Means of Digital Image Analysis	2010			
TP 82	Bulk Specific Gravity (Gmb) of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor	2010			
TP 83	Sampling and Fabrication of 50-mm (2-in.) Cube Specimens Using Grout (Non-Shrink) or Mortar	2010	Adopted	2014	R 64
TP 84	Evaluation of Adhesive Anchors in Concrete Under Sustained Loading Conditions	2010			
TP 85	Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument	2010	Adopted	2017 (June)	T 366
TP 86	Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven	2010	Adopted	2017 (June)	T 367
TP 87	Measure Low Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)	2010	Adopted	2017 (June)	T 368
TP 88	Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test	2010	Adopted	2017 (June)	T 369
TP 89	Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester	2010	Adopted	2017 (June)	T 370
TP 90	Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test	2010	Adopted	2017 (June)	T 371
TP 91	Determining Asphalt Binder Bond Strength by Means of the Asphalt Bond Strength (ABS) Test	2011	Adopted	2016 (August)	T 361
TP 92	Determining the Cracking Temperature of Asphalt Binder Using the Asphalt Binder Cracking Device (ABCD)	2011			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 93	Determining Formwork Pressure of Fresh Self-Consolidating Concrete Using Pressure Transducers	2011	Adopted	2014	T 352
TP 94	Filling Capacity of Self-Consolidating Concrete Using the Caisson Test	2011	Adopted	2013	T 349
TP 95	Surface Resistivity Indication of Concrete's Ability to Resist Chloride Ion Penetration	2011	Adopted	2015	T 358
TP 96	Protective Sealers for Portland Cement Concrete	2011			
TP 97	Glass Beads Used in Pavement Markings	2011	Adopted	2012	T 346
TP 98	Determining the Influence of Road Surfaces on Vehicle Noise Using the Statistical Isolated Pass-By (SIP) Method	2011			
TP 99	Determining the Influence of Road Surfaces on Traffic Noise Using the Continuous-Flow Traffic Time-Integrated Method (CTIM)	2011			
TP 100	Deep Foundation Elements under Bidirectional Static Axial Compressive Load	2012			
TP 101	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep	2012			
TP 102	Evaluation of Asphalt Release Agents	2012			
TP 103	Detectable Warning Systems	2012			
TP 104	Rapid Axial Compressive Load Testing of Deep Foundation Units	2013			
TP 105	Determining the Fracture Energy of Asphalt Mixtures Using the Semicircular Bend Geometry (SCB)	2013			
TP 106	Determination of Heavy Metal Content of Glass Beads Using X-Ray Fluorescence (XRF)	2013			
TP 107	Determining the Damage Characteristic Curve of Asphalt Mixtures from Direct Tension Cyclic Fatigue Tests	2014			
TP 108	Determining the Abrasion Loss of Asphalt Mixture Specimens	2014			
TP 109	Nonlinear Impact Resonance Acoustic Spectroscopy (NIRAS) for Concrete Specimens with Damage from the Alkali-Silica Reaction (ASR)	2014			
TP 110	Potential Alkali Reactivity of Aggregates and Effectiveness of ASR Mitigation Measures (Miniature Concrete Prism Test, MCPT)	2014			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 111	Measuring Retroreflectivity of Pavement Marking Materials Using a Mobile Retroreflectivity Unit	2014			
TP 112	Determining In-Place Density and Moisture Content of Soil and Soil-Aggregate Using Complex Impedance Methodology	2014			
TP 113	Determination of Asphalt Binder Resistance to Ductile Failure Using Double-Edge-Notched Tension (DENT) Test	2015			
TP 114	Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers	2015			
TP 115	Determining the Quality of Tack Coat Adhesion to the Surface of an Asphalt Pavement in the Field or Laboratory	2015			
TP 116	Rutting Resistance of Asphalt Mixtures Using Incremental Repeated Load Permanent Deformation (iRLPD)	2015			
TP 117	Determination of the Voids of Dry Compacted Filler	2015			
TP 118	Characterization of the Air-Void System of Freshly Mixed Concrete by the Sequential Pressure Method	2015			
TP 119	Electrical Resistivity of a Concrete Cylinder Tested in a Uniaxial Resistance Test	2015			
TP 120	Pore Index for Carbonate Coarse Aggregate	2016			
TP 121	Determining the Viscosity of Emulsified Asphalt by a Rotational Paddle Viscometer	2016			
TP 122	Determination of Performance Grade of Physically Aged Asphalt Binder Using Extended Bending Beam Rheometer (BBR) Method	2016			
TP 123	Measuring Asphalt Binder Yield Energy and Elastic Recovery Using the Dynamic Shear Rheometer	2016			
TP 124	Determining the Fracture Potential of Asphalt Mixtures Using Semicircular Bend Geometry (SCB) at Intermediate Temperature	2016			
TP 125	Determining the Flexural Creep Stiffness of Asphalt Mixtures Using the Bending Beam Rheometer (BBR)	2016			
TP 126	Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)	2017			
TP 127	Determining the Fracture Energy Density of Asphalt Binder Using the Binder Fracture Energy (BFE) Test	2017			
TP 128	Evaluation of Oxidation Level of Asphalt Mixtures by a Portable Infrared Spectrometer	2017			



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<sup>a</sup> Adopted in 1995 as R 19. R 19 was discontinued in 2004.

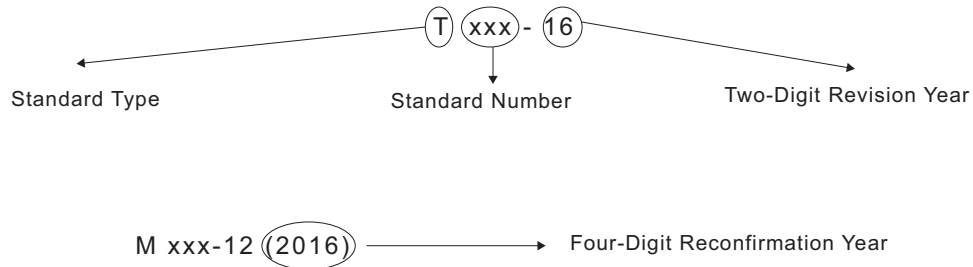
<sup>b</sup> Reclassified as a provisional specification MP 17 in 2007 then reclassified again as a practice when adopted as a full standard.

<sup>c</sup> Discontinued in 2016 then adopted in 2017.

# ABOUT AASHTO DESIGNATION NUMBERS

## Anatomy of a Designation Number

### Components



### Standard Types

Standard types are represented by a one-letter abbreviation for full standards. The letter “P” is added for provisional standards. The standard type abbreviations are as follows:

- M (Materials, full)
- T (Test, full)
- R (PRactice, full)
- MP (Materials, provisional)
- TP (Test, provisional)
- PP (Practice, provisional)

### Standard Numbers

Standard numbers are sequential within standard type. Thus, a provisional that is subsequently adopted as a full standard will receive a new number.

### Revised vs. Reconfirmed and Discontinued vs. Deleted

A full or provisional standard is designated as *revised* if technical changes have been balloted and approved by AASHTO’s Highways Subcommittee on Materials. A standard is designated as *reconfirmed* if it has undergone technical review to determine that it is up to date and in use and that it does not require revision; such a review is required:

- every four years for a full standard, and
- every one or two years for a provisional standard, depending on its progress through its 8-year provisional life cycle.

If a standard is no longer used, it may be *discontinued* by Subcommittee vote, in which case the standard header will be published that year with a notice saying that the standard has been discontinued and giving a brief explanation as to why. In subsequent years, the standard will be *deleted* from the book, meaning that it is no longer maintained.