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R 72-16	Match Curing of Concrete Test Specimens
R 73-16	Evaluation of Precast Concrete Drainage Products
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

DELETED STANDARD

M 210M/M 210-14	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete
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List of Technical Changes—Part 1

Release: Group 3 (August 2016)

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
M 29-12 (2016)	Fine Aggregate for Bituminous Paving Mixtures	1c	Reconfirmed for 2016 publication.
M 45-16	Aggregate for Masonry Mortar	1c	Deleted Note 1, revised Section 7, and added Section 8.
M 92-10 (2015)	Wire-Cloth Sieves for Testing Purposes	1b	Discontinued.
M 140-16	Emulsified Asphalt	2a	Revised extensively. Changes included adding new types of emulsion and testing requirements.
M 208-16	Cationic Emulsified Asphalt	2a	Revised extensively. Changes included adding new types of emulsion and testing requirements.
M 316-16	Polymer-Modified Emulsified Asphalt	2a	Revised extensively. Changes included adding new types of emulsion and testing requirements.
M 320-16	Performance-Graded Asphalt Binder	2b	Revised to allow adjustment of the PAV aging temperature based on climate.
R 13-12 (2016)	Conducting Geotechnical Subsurface Investigations	1b	Reconfirmed for 2016 publication.
R 28-12 (2016)	Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)	2b	Reconfirmed for 2016 publication.
R 66-16	Sampling Asphalt Materials	2a	Revised Sections 4, 7, 8, 9, and 12; also added new Section 11 as well as Notes 3 and 4.
R 67-16	Sampling Asphalt Mixtures after Compaction (Obtaining Cores)	2c	Revised to provide more details on the apparatus and to specify a procedure for measuring the core thickness.
R 74-16	Wet Preparation of Disturbed Soil Samples for Test	1a	T 146 was revised and reclassified as this standard procedure.

Designation Number	Title	Technical Section Number	Balloted Revisions
R 75-16	Developing a Family of Curves	1b	New standard adopted in 2016.
R 76-16	Reducing Samples of Aggregate to Testing Size	1c	T 248 was revised and reclassified as this standard procedure.
R 77-16	Certifying Suppliers of Emulsified Asphalt	2a	Adopted AASHTO Provisional standard PP 71 as a full standard.
R 78-16	Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Techniques	2a	Adopted AASHTO Provisional standard PP 72 as a full standard.
R 79-16	Vacuum Drying Compacted Asphalt Specimens	2c	Adopted AASHTO Provisional standard PP 75 as a full standard.

Release: Group 2 (June 2016)

Designation Number	Title	Technical Section Number	Balloted Revisions
M 33-99 (2016)	Preformed Expansion Joint Filler for Concrete (Bituminous Type)	4e	Reconfirmed for 2016 publication.
M 36-16	Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains	4b	Revised nominal sizes of rib requirements in Table 3 and added a new Note 3.
M 102M/M 102-06 (2016)	Steel Forgings, Carbon and Alloy, for General Industrial Use	4f	Reconfirmed for 2016 publication.
M 103M/M 103-12 (2016)	Steel Castings, Carbon, for General Application	4h	Reconfirmed for 2016 publication.
M 133-12 (2016)	Preservatives and Pressure Treatment Processes for Timber	4c	Reconfirmed for 2016 publication.
M 153-06 (2016)	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction	4e	Reconfirmed for 2016 publication.
M 163M/M 163-07 (2016)	Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application	4h	Reconfirmed for 2016 publication.
M 168-07 (2016)	Wood Products	4e	Reconfirmed for 2016 publication.

Designation Number	Title	Technical Section Number	Balloted Revisions
M 196-16	Corrugated Aluminum Pipe for Sewers and Drains	4b	Revised nominal sizes of rib requirements in Table 2 and added a new Note 1.
M 197-06 (2016)	Aluminum Alloy Sheet for Corrugated Aluminum Pipe	4b	Reconfirmed for 2016 publication.
M 202M/M 202-08 (2016)	Steel Sheet Piling	4f	Reconfirmed for 2016 publication.
M 203M/M 203-12 (2016)	Steel Strand, Uncoated Seven-Wire for Concrete Reinforcement	4g	Reconfirmed for 2016 publication.
M 218-03 (2016)	Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe	4b	Reconfirmed for 2016 publication.
M 230-07 (2016)	Expanded and Extruded Foam Board (Polystyrene)	4e	Reconfirmed for 2016 publication.
M 245-16	Corrugated Steel Pipe, Polymer-Precoated, for Sewers and Drains	4b	Revised nominal sizes of rib requirements in Table 5 and added a new Note 4.
M 249-12 (2016)	White and Yellow Reflective Thermoplastic Striping Material (Solid Form)	4c	Reconfirmed for 2016 publication.
M 251-06 (2016)	Plain and Laminated Elastomeric Bridge Bearings	4e	Reconfirmed for 2016 publication.
M 275M/M 275-08 (2016)	Uncoated High-Strength Steel Bars for Prestressing Concrete	4g	Reconfirmed for 2016 publication.
M 294-16	Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	4b	Revised the definition of “buckling.”
M 333-16	Detectable Warning Surfaces	4d	Revised Section 4.2.
R 73-16	Evaluation of Precast Concrete Drainage Products	4a	New standard adopted in 2016.

Release: Group 1 (April 2016)

Designation Number	Title	Technical Section Number	Balloted Revisions
M 085-16	Portland Cement	3a	Changed LOI and IR limits in Table 1 and the Appendix. Added information for calculating base cement oxides for portland cement in Section 5.1.3, Note A2, and the Appendix.
M 152M/M 152-16	Flow Table for Use in Tests of Hydraulic Cement	3a	Revised to maintain equivalency with ASTM C230/C230M-14.
M 154M/M 154-12 (2016)	Air-Entraining Admixtures for Concrete	3b	Reconfirmed for 2016 publication.
M 210M/M 210-14	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete	3a	M 210M/M 210-14 was revised significantly and reclassified as R 70.
M 240M/M 240-16	Blended Hydraulic Cement	3a	Changed requirements for ingredient tolerance to maintain equivalency with ASTM C595/C595M-16.
R 10-06 (2016)	Definition of Terms Related to Quality and Statistics as Used in Highway Construction	5c	Reconfirmed for 2016 publication.
R 16-04 (2016)	Regulatory Information for Chemicals Used in AASHTO Tests	5b	Reconfirmed for 2016 publication.
R 18-16	Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories	AMRL	Revised extensively.
R 42-06 (2016)	Developing a Quality Assurance Plan for Hot Mix Asphalt (HMA)	5c	Reconfirmed for 2016 publication.
R 60-12 (2016)	Sampling Freshly Mixed Concrete	3b	Reconfirmed for 2016 publication.
R 61-12 (2016)	Establishing Requirements for Equipment Calibrations, Standardizations, and Checks	5c	Reconfirmed for 2016 publication.
R 70-16	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete	3a	M 210M/M 210-14 was revised significantly and reclassified as R 70.
R 71-16	Sampling and Amount of Testing of Hydraulic Cement	3a	T 127 was revised significantly and reclassified as this standard practice.
R 72-16	Match Curing of Concrete Test Specimens	3c	Adopted AASHTO Provisional standard PP 54 as a full standard.

PART 2—STANDARD TESTS

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DELETED STANDARD

The following standard has been deleted from the 2016 Edition:

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T 361-16	Determining Asphalt Binder Bond Strength by Means of the Asphalt Bond Strength (ABS) Test

Number	Title
T 362-16	Quantitative Determination of the Percentage of Lime in Hot Mix Asphalt (HMA)

DELETED STANDARD

The following standard has been deleted from the 2016 Edition:

T 224-10	Correction for Coarse Particles in the Soil Compaction Test
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List of Technical Changes—Part 2

Release: Group 3 (August 2016)

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 21M/T 21-15	Organic Impurities in Fine Aggregates for Concrete	1c	Editorially revised.
T 27-14	Sieve Analysis of Fine and Coarse Aggregates	1c	Editorially revised.
T 37-07 (2016)	Sieve Analysis of Mineral Filler for Hot Mix Asphalt (HMA)	2c	Reconfirmed for 2016 publication and editorially revised.
T 44-14	Solubility of Bituminous Materials	2b	Editorially revised.
T 59-16	Emulsified Asphalts	2a	Revised Sections 7, 8, and 10.
T 71-08 (2012)	Effect of Organic Impurities in Fine Aggregate on Strength of Mortar	1c	Editorially revised.
T 79-12 (2016)	Flash Point with Tag Open-Cup Apparatus for Use with Material Having a Flash Point Less Than 93°C (200°F)	2a	Reconfirmed for 2016 publication.
T 84-13	Specific Gravity and Absorption of Fine Aggregate	1c	Editorially revised.
T 85-14	Specific Gravity and Absorption of Coarse Aggregate	1c	Editorially revised.
T 88-13	Particle Size Analysis of Soils	1a	Editorially revised.
T 89-13	Determining the Liquid Limit of Soils	1a	Editorially revised.
T 90-16	Determining the Plastic Limit and Plasticity Index of Soils	1a	Revised Sections 5 and 6.
T 100-15	Specific Gravity of Soils	1a	Editorially revised.
T 102-09 (2013)	Spot Test of Asphaltic Materials	2b	Editorially revised.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 103-08 (2012)	Soundness of Aggregates by Freezing and Thawing	1c	Editorially revised.
T 104-99 (2016)	Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate	1c	Reconfirmed for 2016 publication.
T 110-03 (2016)	Moisture or Volatile Distillates in Hot Mix Asphalt (HMA)	2c	Reconfirmed for 2016 publication and editorially revised.
T 112-00 (2012)	Clay Lumps and Friable Particles in Aggregate	1c	Editorially revised.
T 113-15	Lightweight Pieces in Aggregate	1c	Editorially revised.
T 134-05 (2013)	Moisture-Density Relations of Soil-Cement Mixtures	1b	Editorially revised.
T 135-13	Wetting-and-Drying Test of Compacted Soil-Cement Mixtures	1b	Editorially revised.
T 136-13	Freezing-and-Thawing Tests of Compacted Soil-Cement Mixtures	1b	Editorially revised.
T 146-96 (2013)	Wet Preparation of Disturbed Soil Samples for Test	1a	Reclassified as standard practice R 74.
T 164-14	Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)	2c	Editorially revised.
T 166-16	Bulk Specific Gravity (Gmb) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens	2c	Revised Section 3.1.1.
T 168-03 (2016)	Sampling Bituminous Paving Mixtures	2c	Reconfirmed for 2016 publication.
T 176-08 (2013)	Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test	1a	Editorially revised.
T 179-05 (2013)	Effect of Heat and Air on Asphalt Materials (Thin-Film Oven Test)	2b	Editorially revised.
T 190-14	Resistance R-Value and Expansion Pressure of Compacted Soils	1a	Editorially revised.
T 191-14	Density of Soil In-Place by the Sand-Cone Method	1b	Editorially revised.
T 193-13	The California Bearing Ratio	1a	Editorially revised.
T 194-97 (2013)	Determination of Organic Matter in Soils by Wet Combustion	1a	Editorially revised.
T 206-09 (2013)	Penetration Test and Split-Barrel Sampling of Soils	1b	Editorially revised.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 207-12 (2016)	Thin-Walled Tube Sampling of Soils	1b	Reconfirmed for 2016 publication and editorially revised.
T 209-12 (2016)	Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA)	2c	Reconfirmed for 2016 publication and editorially revised.
T 210-15	Aggregate Durability Index	1c	Editorially revised.
T 211-90 (2012)	Determination of Cement Content in Cement-Treated Aggregate by the Method of Titration	1c	Editorially revised.
T 215-14	Permeability of Granular Soils (Constant Head)	1a	Editorially revised.
T 216-07 (2016)	One-Dimensional Consolidation Properties of Soils	1a	Reconfirmed for 2016 publication and editorially revised.
T 217-14	Determination of Moisture in Soils by Means of a Calcium Carbide Gas Pressure Moisture Tester	1a	Editorially revised.
T 220-66 (2013)	Determination of the Strength of Soil-Lime Mixtures	1a	Editorially revised.
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	Editorially revised.
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	Editorially revised.
T 223-96 (2013)	Field Vane Shear Test in Cohesive Soil	1b	Editorially revised.
T 225-16	Diamond Core Drilling for Site Investigation	1b	
T 226-90 (2013)	Triaxial Compressive Strength of Undrained Rock Core Specimens without Pore Pressure Measurements	1a	Editorially revised.
T 233-02 (2015)	Density of Soil In-Place by Block, Chunk, or Core Sampling	1a	Editorially revised.
T 236-08 (2013)	Direct Shear Test of Soils under Consolidated Drained Conditions	1a	Editorially revised.
T 240-13	Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin-Film Oven Test)	2b	Editorially revised.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 246-10 (2015)	Resistance to Deformation and Cohesion of Hot Mix Asphalt (HMA) by Means of Hveem Apparatus	2d	Editorially revised.
T 247-10 (2015)	Preparation of Test Specimens of Hot Mix Asphalt (HMA) by Means of California Kneading Compactor	2d	Editorially revised.
T 248-14	Reducing Samples of Aggregate to Testing Size	1a	Reclassified as standard practice R 76.
T 252-09 (2013)	Measurements of Pore Pressures in Soils	1b	Editorially revised.
T 258-81 (2013)	Determining Expansive Soils	1a	Editorially revised.
T 265-15	Laboratory Determination of Moisture Content of Soils	1a	Editorially revised.
T 267-86 (2013)	Determination of Organic Content in Soils by Loss on Ignition	1a	Editorially revised.
T 269-14	Percent Air Voids in Compacted Dense and Open Asphalt Mixtures	2c	Editorially revised.
T 272-16	One-Point Method for Determining Maximum Dry Density and Optimum Moisture	1b	Revised extensively.
T 273-86 (2013)	Soil Suction	1a	Editorially revised.
T 275-07 (2016)	Bulk Specific Gravity (Gmb) of Compacted Hot Mix Asphalt (HMA) Using Paraffin-Coated Specimens	2c	Reconfirmed for 2016 publication and editorially revised.
T 283-14	Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage	2d	Editorially revised.
T 287-14	Asphalt Binder Content of Asphalt Mixtures by the Nuclear Method	2c	Editorially revised.
T 288-12 (2016)	Determining Minimum Laboratory Soil Resistivity	1a	Reconfirmed for 2016 publication and editorially revised.
T 289-91 (2013)	Determining pH of Soil for Use in Corrosion Testing	1a	Editorially revised.
T 290-95 (2016)	Determining Water-Soluble Sulfate Ion Content in Soil	1a	Reconfirmed for 2016 publication and editorially revised.
T 291-94 (2013)	Determining Water-Soluble Chloride Ion Content in Soil	1a	Editorially revised.
T 296-10 (2016)	Unconsolidated, Undrained Compressive Strength of Cohesive Soils in Triaxial Compression	1a	Reconfirmed for 2016 publication and editorially revised.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 297-94 (2016)	Consolidated, Undrained Triaxial Compression Test on Cohesive Soils	1a	Reconfirmed for 2016 publication.
T 300-11 (2016)	Force Ductility Test of Asphalt Materials	2a	Reconfirmed for 2016 publication and editorially revised.
T 303-00 (2012)	Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction	1c	Editorially revised.
T 305-14	Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures	2c	Editorially revised.
T 306-11 (2015)	Progressing Auger Borings for Geotechnical Explorations	1b	Editorially revised.
T 307-99 (2012)	Determining the Resilient Modulus of Soils and Aggregate Materials	1a	Editorially revised.
T 308-16	Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method	2c	Revised extensively.
T 311-00 (2015)	Grain-Size Analysis of Granular Soil Materials	1a	Editorially revised.
T 313-12 (2016)	Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	2b	Reconfirmed for 2016 publication and editorially revised.
T 314-12 (2016)	Determining the Fracture Properties of Asphalt Binder in Direct Tension (DT)	2b	Reconfirmed for 2016 publication and editorially revised.
T 315-12 (2016)	Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	2b	Reconfirmed for 2016 publication and editorially revised.
T 319-15	Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures	2c	Editorially revised.
T 320-07 (2016)	Determining the Permanent Shear Strain and Stiffness of Asphalt Mixtures Using the Superpave Shear Tester (SST)	2d	Reconfirmed for 2016 publication.
T 322-07 (2016)	Determining the Creep Compliance and Strength of Hot Mix Asphalt (HMA) Using the Indirect Tensile Test Device	2d	Reconfirmed for 2016 publication.
T 324-16	Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)	2c	Revised Section 7.3.
T 327-12 (2016)	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	1c	Reconfirmed for 2016 publication.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 329-15	Moisture Content of Asphalt Mixtures by Oven Method	2c	Editorially revised.
T 331-13	Bulk Specific Gravity (Gmb) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method	2c	Editorially revised.
T 335-09 (2013)	Determining the Percentage of Fracture in Coarse Aggregate	1c	Editorially revised.
T 342-11 (2015)	Determining Dynamic Modulus of Hot Mix Asphalt (HMA)	2d	Editorially revised.
T 343-12 (2016)	Density of In-Place Hot Mix Asphalt (HMA) Pavement by Electronic Surface Contact Devices	2c	Reconfirmed for 2016 publication and editorially revised.
T 344-12 (2016)	Evaluation of Superpave Gyratory Compactor (SGC) Internal Angle of Gyration Using Simulated Loading	2d	Reconfirmed for 2016 publication.
T 350-14	Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	2b	Editorially revised.
T 354-15	Specific Gravity and Absorption of Aggregate by Volumetric Immersion Method	1c	Editorially revised.
T 355-16	In-Place Density of Asphalt Mixtures by Nuclear Methods	2c	Revised Section 9.3 and Appendix X1.
T 361-16	Determining Asphalt Binder Bond Strength by Means of the Asphalt Bond Strength (ABS) Test	2a	Adopted Provisional Standard TP 91 as a full standard.
T 362-16	Quantitative Determination of the Percentage of Lime in Hot Mix Asphalt (HMA)	2c	Adopted Provisional Standard TP 78 as a full standard.

Release: Group 2 (June 2016)

Designation Number	Title	Technical Section Number	Balloted Revisions
T 249-03 (2016)	Helical Lock Seam Corrugated Pipe	4b	Reconfirmed for 2016 publication.
T 253-02 (2016)	Coated Dowel Bars	4g	Reconfirmed for 2016 publication.

Release: Group 1 (April 2016)

Designation Number	Title	Technical Section Number	Balloted Revisions
T 98-12 (2016)	Fineness of Portland Cement by the Turbidimeter	3a	Reconfirmed for 2016 publication.
T 105-16	Chemical Analysis of Hydraulic Cement	3a	Revised extensively.
T 107M/T 107-11 (2015)	Autoclave Expansion of Hydraulic Cement	3a	Editorially revised.
T 121M/T 121-16	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	3b	Revised Section 7.
T 127-15	Sampling and Amount of Testing of Hydraulic Cement	3a	Revised significantly and reclassified as standard practice R 71.
T 132-87 (2013)	Tensile Strength of Hydraulic Cement Mortars	3a	Editorially revised.
T 133-16	Density of Hydraulic Cement	3a	Revised to maintain equivalency with ASTM C188-14.
T 137-12 (2016)	Air Content of Hydraulic Cement Mortar	3a	Reconfirmed for 2016 publication and editorially revised.
T 140-97 (2016)	Compressive Strength of Concrete Using Portions of Beams Broken in Flexure	3c	Reconfirmed for 2016 publication.
T 152-16	Air Content of Freshly Mixed Concrete by the Pressure Method	3b	Revised Section 9; minor revisions to Annex A.
T 157-12 (2016)	Air-Entraining Admixtures for Concrete	3b	Reconfirmed for 2016 publication.
T 162-16	Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency	3a	Revised to maintain equivalency with ASTM C305-14.
T 218-86 (2013)	Sampling Hydrated Lime	3a	Editorially revised.
T 219-87 (2013)	Testing Lime for Chemical Constituents and Particle Sizes	3a	Editorially revised.
T 232-90 (2013)	Determination of Lime Content in Lime-Treated Soils by Titration	3a	Editorially revised.

Designation Number	Title	Technical Section Number	Balloted Revisions
T 256-01 (2016)	Pavement Deflection Measurements	3c	Reconfirmed for 2016 publication.
T 260-97 (2016)	Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials	3c	Reconfirmed for 2016 publication.
T 323-03 (2016)	Determining the Shear Strength at the Interface of Bonded Layers of Portland Cement Concrete	3c	Reconfirmed for 2016 publication.
T 325-04 (2016)	Estimating the Strength of Concrete in Transportation Construction by Maturity Tests	3b	Reconfirmed for 2016 publication.
T 332-07 (2016)	Determining Chloride Ions in Concrete and Concrete Materials by Specific Ion Probe	3c	Reconfirmed for 2016 publication.
T 334-08 (2016)	Estimating the Cracking Tendency of Concrete	3c	Reconfirmed for 2016 publication.
T 345-12 (2016)	Passing Ability of Self-Consolidating Concrete (SCC) by J-Ring	3b	Reconfirmed for 2016 publication.
T 353-14	Particle Size Analysis of Hydraulic Cement and Related Materials by Light Scattering	3a	Editorially revised.
T 359-16	Pavement Thickness by Magnetic Pulse Induction	3c	Adopted as a new standard.
T 360-16	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method	5a	Adopted Provisional Standard TP 76 as a full standard.

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PP 64-11 (2016)	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties
PP 65-11 (2015)	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction
TP 81-12 (2016)	Determining Aggregate Shape Properties by Means of Digital Image Analysis
TP 110-14	Potential Alkali Reactivity of Aggregates and Effectiveness of ASR Mitigation Measures (Miniature Concrete Prism Test, MCPT)
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MP 23-15 (2016)	Reclaimed Asphalt Shingles for Use in Asphalt Mixtures
MP 25-15	Performance-Graded Bituminous Sealants
MP 26-15	Cotton Duck Fabric Bridge Bearings
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PP 60-14 (2016)	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyratory Compactor (SGC)
PP 61-13 (2016)	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 Gyratory 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 78-14 (2016)	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
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TP 82-10 (2016)	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor
TP 85-10 (2015)	Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument
TP 86-10 (2015)	Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven
TP 87-10 (2015)	Measure Low-Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)
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TP 90-10 (2015)	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
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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 114-16	Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers
TP 115-16	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)
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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

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PP 80-14 (2016)	Continuous Thermal Profile of Asphalt Mixture Construction
PP 81-14 (2016)	Intelligent Compaction Technology for Embankment and Asphalt Pavement Applications
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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)

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PP 68-14 (2016)	Collecting Images of Pavement Surfaces for Distress Detection
PP 69-14 (2016)	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles
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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)

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PP 73-13 (2015)	Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete
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TP 104-13 (2015)	Rapid Axial Compressive Load Testing of Deep Foundation Units
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MP 22-13 (2015)	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures
MP 23-15 (2016)	Reclaimed Asphalt Shingles for Use in Asphalt Mixtures
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PP 58-12 (2015)	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders
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PP 74-13 (2015)	Determination of Size and Roundness of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method

Number	Title
PP 76-13 (2015)	Troubleshooting Asphalt Specimen Volumetric Differences between Superpave Gyratory Compactors (SCGs) Used in the Design and the Field Management of Superpave Mixtures
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TP 100-12 (2016)	Deep Foundation Elements for Bi-Directional Static Axial Compressive Load

Number	Title
TP 101-12 (2016)	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep
TP 102-16	Evaluation of Asphalt Release Agents
TP 103-13 (2015)	Detectable Warning Systems
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List of Technical Changes—Part 3

Release: Group 3 (August 2016)

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
MP 16-13 (2015)	Reclaimed Concrete Aggregate (RCA) for Use as Coarse Aggregate in Hydraulic Cement Concrete	1c	Discontinued.
MP 23-15 (2016)	Reclaimed Asphalt Shingles for Use in Asphalt Mixtures	2d	Reconfirmed.
MP 27-16	Materials for Emulsified Asphalt Chip Seals	2a	New.
MP 28-16	Materials for Micro Surfacing	2a	New.
PP 59-09 (2013)	Coal Combustion Fly Ash for Embankments	1a	Discontinued.
PP 60-14 (2016)	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyratory Compactor (SGC)	2d	Extended.
PP 61-13 (2016)	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2d	Extended.
PP 64-11 (2016)	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties	1c	Extended.
PP 71-11 (2013)	Certifying Suppliers of Emulsified Asphalt	2a	PP 71 was adopted as R 78.
PP 72-11 (2013)	Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Techniques	2a	PP 72 was adopted as R 79.
PP 75-13 (2015)	Vacuum Drying Compacted Asphalt Specimens	2c	PP 75 was adopted as R 80.
PP 77-14 (2016)	Materials Selection and Mixture Design of Permeable Friction Courses	2d	Reconfirmed.
PP 78-14 (2016)	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in Asphalt Mixtures	2d	Reconfirmed.

Designation Number	Title	Technical Section Number	Balloted Revisions
PP 82-16	Emulsified Asphalt Chip Seal Design	2a	New.
PP 83-16	Micro Surfacing Design	2a	New.
TP 72-08 (2015)	Quantitative Determination of the Percentage of Lime in Hot Mix Asphalt (HMA)	2c	TP 72 was adopted as T 362.
TP 78-09 (2013)	Detecting the Presence of Phosphorous in Asphalt Binder	2b	Discontinued.
TP 79-15 (2016)	Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2d	Extended.
TP 81-12 (2016)	Determining Aggregate Shape Properties by Means of Digital Image Analysis	1c	Extended.
TP 82-10 (2016)	Bulk Specific Gravity (Gmb) of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor	1c	Extended.
TP 91-15	Determining Asphalt Binder Bond Strength by Means of the Asphalt Bond Strength (ABS) Test	2a	TP 91 was adopted as T 361.
TP 100-12 (2016)	Deep Foundation Elements under Bidirectional Static Axial Compressive Load	2c	Reconfirmed.
TP 101-12 (2016)	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep	1b	Reconfirmed.
TP 102-16	Evaluation of Asphalt Release Agents (ARAs)	2b	Revisions to Sections 2, 3, 4, 5, 6, 7, 8, 9.
TP 107-14 (2016)	Determining the Damage Characteristic Curve of Asphalt Mixtures from Direct Tension Cyclic Fatigue Tests	2d	Reconfirmed.
TP 108-14 (2016)	Abrasion Loss of Asphalt Mixture Specimens	2d	Reconfirmed.
TP 114-16	Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers	2c	Revisions in Section 8.
TP 115-16	Determining the Quality of Tack Coat Adhesion to the Surface of an Asphalt Pavement in the Field or Laboratory	2c	Revisions to Sections 8 and 9.
TP 120-16	Pore Index for Carbonate Coarse Aggregate	1c	New.

Designation Number	Title	Technical Section Number	Balloted Revisions
TP 121-16	Determining the Viscosity of Emulsified Asphalt by a Rotational Paddle Viscometer	2a	New.
TP 122-16	Determination of Performance Grade of Physically Aged Asphalt Binder Using Extended Bending Beam Rheometer (BBR) Method	2b	New.
TP 123-16	Measuring Asphalt Binder Yield Energy and Elastic Recovery Using the Dynamic Shear Rheometer	2b	New.
TP 124-16	Determining the Fracture Potential of Asphalt Mixtures Using Semicircular Bend Geometry (SCB) at Intermediate Temperature	2d	New.
TP 125-16	Determining the Flexural Creep Stiffness of Asphalt Mixtures Using the Bending Beam Rheometer (BBR)	2d	New.

Release: Group 2 (June 2016)

Designation Number	Title	Technical Section Number	Balloted Revisions
MP 24-15 (2016)	Waterborne White and Yellow Traffic Paints	4c	Reconfirmed.
PP 79-14 (2016)	High-Friction Surface Treatment for Asphalt and Concrete Pavements	4c	Reconfirmed.
TP 84-11 (2016)	Evaluation of Adhesive Anchors in Concrete under Sustained Loading Conditions	4c	Reconfirmed.
TP 85-10 (2016)	Apparent Viscosity of Hot-Poured Bituminous Crack Sealant Using Brookfield Rotational Viscometer RV Series Instrument	4e	Extended.
TP 86-10 (2016)	Accelerated Aging of Bituminous Sealants and Fillers Using a Vacuum Oven	4e	Extended.
TP 87-10 (2016)	Measuring Low-Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)	4e	Extended.
TP 88-10 (2016)	Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test	4e	Extended.

Designation Number	Title	Technical Section Number	Balloted Revisions
TP 89-10 (2016))	Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester	4e	Extended.
TP 90-16	Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test	4e	Reconfirmed with revisions to Sections 1, 4, 5, 6, 8, 10, 11, and 12.
TP 111-14 (2016)	Measuring Retroreflectivity of Pavement Marking Materials Using a Mobile Retroflexivity Unit	4c	Reconfirmed.

Release: Group 1 (April 2016)

Designation Number	Title	Technical Section Number	Balloted Revisions
PP 54-06 (2015)	Match Curing of Concrete Specimens	3c	PP 54 was adopted as R 72.
PP 58-12 (2015)	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders	3c	Discontinued.
PP 65-11 (2016)	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction	3c	Extended without changes.
PP 67-16	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Pavement Images Utilizing Automated Methods	5a	Extended with revisions to title and Sections 1, 3, 4, 6, 7, 8, 10, and 11.
PP 68-14 (2016)	Collecting Images of Pavement Surfaces for Distress Detection	5a	Extended without changes.
PP 70-14 (2016)	Collecting the Transverse Pavement Profile	5a	Extended without changes.
PP 80-14 (2016)	Continuous Thermal Profile of Asphalt Mixture Construction	5c	Extended without changes.
PP 81-14 (2016)	Intelligent Compaction Technology for Embankment and Asphalt Pavement Applications	5c	Reconfirmed with editorial revisions only.
TP 76-15	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method	5a	TP 76 was adopted as T 360.

Designation Number	Title	Technical Section Number	Balloted Revisions
TP 109-14 (2016)	Nonlinear Impact Resonance Acoustic Spectroscopy (NIRAS) for Concrete Specimens with Damage from the Anti-Silica Reaction (ASR)	3c	Extended without changes.
TP 110-14 (2016)	Potential Alkali Reactivity of Aggregates and Effectiveness of ASR Mitigation Measures (Miniature Concrete Prism Test, MCPT)	3c	Extended without changes.

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 2016

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	—
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			
MP 19	Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test	2010	Adopted	2014	M 332
MP 20	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter	2010			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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			
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
PP 10	Operational Guidelines on Test Pits for Evaluating Pavement Performance	1994	Deleted	1995	— ^a
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

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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™ Gyratory 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
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™ Gyratory Compactors (SGCs) Used in the Design and the Field Management of Superpave™ Mixtures	2002	Deleted	2009	—
PP 48	Evaluation of the Superpave™ Gyratory Compactor (SGC) Internal Angle of Gyration	2003	Deleted	2010	—
PP 49	Certification of Inertial Profiling Systems	2003	Adopted	2010	R 56

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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 ^b
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	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	Deleted	2016	—
PP 59	Coal Combustion Fly Ash for Embankments	2009	Deleted	2016	—
PP 60	Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyratory Compactor (SGC)	2009			
PP 61	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2009			
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			
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			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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	R 77
PP 72	Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Techniques	2011	Adopted	2016	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	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			
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			
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

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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
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

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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	—
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

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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
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 Gyratory Compactor (SGC) Internal Angle of Gyration Using Simulated Loading	2007	Adopted	2012	T 344

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 72	Quantitative Determination of the Percentage of Lime in Hot Mix Asphalt (HMA)	2008	Adopted	2016	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	T 360
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	Deleted	2016	—
TP 79	Determining the Dynamic Modulus and Flow Number for Asphalt Mixtures Using the Asphalt Mixture Performance Tester (AMPT)	2009			
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			
TP 86	Accelerated Aging of Bituminous Sealants and Fillers with a Vacuum Oven	2010			
TP 87	Measure Low Temperature Flexural Creep Stiffness of Bituminous Sealants and Fillers by Bending Beam Rheometer (BBR)	2010			
TP 88	Evaluation of the Low-Temperature Tensile Property of Bituminous Sealants by Direct Tension Test	2010			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
TP 89	Measuring Adhesion of Hot-Poured Crack Sealant Using Direct Adhesion Tester	2010			
TP 90	Measuring Interfacial Fracture Energy of Hot-Poured Crack Sealant Using a Blister Test	2010			
TP 91	Determining Asphalt Binder Bond Strength by Means of the Asphalt Bond Strength (ABS) Test	2011	Adopted	2016	T 361
TP 92	Determining the Cracking Temperature of Asphalt Binder Using the Asphalt Binder Cracking Device (ABCD)	2011			
TP 93	Determining Formwork Pressure of Fresh Self-Consolidating Concrete Using Pressure Transducers		Adopted	2014	T 352
TP 94	Filling Capacity of Self-Consolidating Concrete Using the Caisson Test		Adopted	2013	T 349
TP 95	Surface Resistivity Indication of Concrete's Ability to Resist Chloride Ion Penetration		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			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year	Full Std. No.
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			
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			

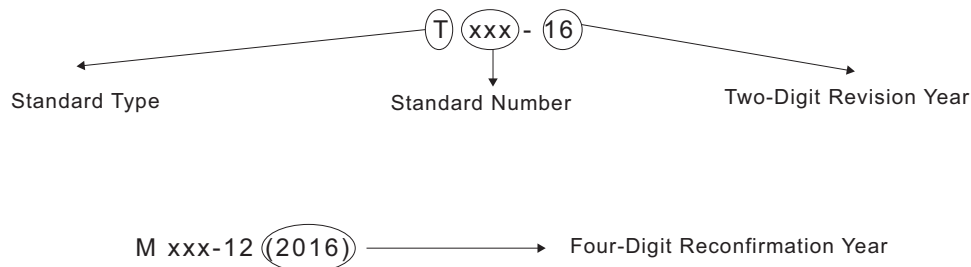
^a Adopted in 1995 as R 19. R 19 was discontinued in 2004.

^b Reclassified as a provisional specification MP 17 in 2007 then reclassified again as a practice when adopted as a full standard.

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 (Pactice, 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.