

PART 1—STANDARD SPECIFICATIONS AND STANDARD PRACTICES

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M 207M/M 207-24	Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe
M 218-03 (2020)	Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe
M 219M/M 219-24	Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
M 242M/M 242-23	Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe
M 243-22	Field-Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
M 245M/M 245-24	Corrugated Steel Pipe, Polymer-Precoated, for Sewers and Drains
M 246M/M 246-24	Steel Sheet, Metallic-Coated and Polymer-Precoated, for Corrugated Steel Pipe
M 252-24	Corrugated Polyethylene Pipe, 75- to 250-mm (3- to 10-in.) Diameter
M 259-24	Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers According to the AASHTO LRFD Bridge Design Specifications
M 262-23	Concrete Pipe and Related Products
M 274-87 (2021)	Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe
M 278-22	Class PS46 Poly(Vinyl Chloride) (PVC) Pipe
M 289-91 (2021)	Aluminum-Zinc Alloy Coated Sheet Steel for Corrugated Steel Pipe
M 294-21	Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
M 304-11 (2023)	Poly(Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
M 306-10 (2023)	Drainage, Sewer, Utility, and Related Castings
M 326-18 (2022)	Polyethylene (PE) Liner Pipe, 300- to 1600-mm Diameter, Based on Controlled Outside Diameter

STD. NO.	TITLE
Box Culvert, Culvert Pipe, and Drain Tile	
M 330-23	Polypropylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
M 335-19 (2023)	Steel-Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
M 337-21	Fiber-Reinforced Polymer Composite Materials for Highway and Bridge Structures
R 63-13 (2021)	Solid Wall High-Density Polyethylene (HDPE) Conduit for Non-Pressure Applications Used for the Protection of Power and Telecommunications Cables
R 73-16 (2024)	Evaluation of Precast Concrete Drainage Products
R 82-17 (2021)	Pipe Joint Selection for Highway Culvert and Storm Drains
R 93-19 (2023)	Service Life Determination of Corrugated HDPE Pipes Manufactured with Recycled Content

STD. NO.	TITLE
Bridge and Pavement Preservation	
M 345-24	Materials for Emulsified Asphalt Scrub Seal
M 346-22	Materials for Ultrathin Bonded Wearing Course
M 347-22	Materials for Full-Depth Reclamation Mixtures with Emulsified Asphalt
R 108-22	Ultrathin Bonded Wearing Course Design
R 109-22	Emulsified Asphalt Content of Full-Depth Reclamation Mixture Design

STD. NO.	TITLE
Concrete, Curing Materials, and Admixtures	
M 154M/M 154-24	Air-Entraining Admixtures for Concrete
M 157-24	Ready-Mixed Concrete
M 182-05 (2021)	Burlap Cloth Made from Jute or Kenaf and Cotton Mats
M 194M/M 194-23	Chemical Admixtures for Concrete
M 205M/M 205-23	Molds for Forming Concrete Test Cylinders Vertically
M 224-23	Protective Sealers for Portland Cement Concrete
M 233-86 (2023)	Boiled Linseed Oil Mixture for Treatment of Portland Cement Concrete
M 241M/M 241-23	Concrete Made by Volumetric Batching and Continuous Mixing
M 295-24	Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
M 302-24	Slag Cement for Use in Concrete and Mortars

STD. NO.	TITLE
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Concrete, Curing Materials, and Admixtures

R 39M/R 39-23	Making and Curing Concrete Test Specimens in the Laboratory
R 60M/R 60-23	Sampling Freshly Mixed Concrete
R 64-22	Sampling and Fabrication of 50-mm (2-in.) Cube Specimens Using Grout (Non-Shrink) or Mortar
R 70M/R 70-23	Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete
R 72-22	Match Curing of Concrete Test Specimens
R 80-17 (2021)	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction
R 81-17 (2021)	Static Segregation of Hardened Self-Consolidating Concrete (SCC) Cylinders
R 100M/R 100-23	Making and Curing Concrete Test Specimens in the Field
R 101-22	Developing Performance Engineered Concrete Pavement Mixtures
R 119M/R 119-24	Grinding the Ends of Cylindrical Concrete Specimens

STD. NO.	TITLE
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Environmental Tests

R 23-99 (2022)	Chemical, Biological, and Physical Analysis of Water
R 24-99 (2022)	Collection and Preservation of Water Samples

STD. NO.	TITLE
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Guardrail and Fencing

M 180-23	Steel Components for Highway Guardrail
M 181-10 (2023)	Chain-Link Fence
M 269-96 (2022)	Turnbuckles and Shackles
M 279-14 (2022)	Metallic-Coated, Steel Woven Wire Fence Fabric
M 280-24	Metallic-Coated (Carbon) Steel Barbed Wire
M 281-24	Steel Fence Posts, Hot-Wrought

STD. NO.	TITLE
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Hydraulic Cement

M 85-24	Portland Cement
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STD. NO.	TITLE
Hydraulic Cement	
M 240M/M 240-24	Blended Hydraulic Cement
M 307-22	Silica Fume Used in Cementitious Mixtures
M 321-04 (2021)	High-Reactivity Pozzolans for Use in Hydraulic-Cement Concrete, Mortar, and Grout
R 71-24	Sampling and Amount of Testing of Hydraulic Cement
R 115-23	Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency

STD. NO.	TITLE
Joint Filler and Asphalt Plank	
M 33M/M 33-22	Preformed Expansion Joint Filler for Concrete (Bituminous Type)
M 153-20 (2024)	Preformed Sponge Rubber, Cork, and Recycled Rubber Expansion Joint Fillers for Concrete Paving and Structural Construction
M 213-22	Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
M 251M/M 251-22	Plain and Laminated Elastomeric Bridge Bearings
M 297-10 (2021)	Preformed Polychloroprene Elastomeric Joint Seals for Bridges
R 95-22	Accelerated Aging of Hot-Poured Asphalt Crack Sealant Using a Vacuum Oven

STD. NO.	TITLE
Metallic Materials for Bridges	
M 102M/M 102-23	Steel Forgings, Carbon and Alloy, for General Industrial Use
M 103M/M 103-19 (2023)	Steel Castings, Carbon, for General Application
M 105-23	Gray Iron Castings
M 111M/M 111-23	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
M 163M/M 163-24	Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application
M 169-20 (2024)	Steel Bars, Carbon and Alloy, Cold-Finished
M 202M/M 202-19 (2023)	Steel Sheet Piling
M 227M/M 227-19 (2023)	Steel Bars, Carbon, Merchant Quality, Mechanical Properties
M 232M/M 232-19 (2023)	Zinc Coating (Hot-Dip) on Iron and Steel Hardware
M 255M/M 255-19 (2023)	Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties
M 270M/M 270-23	Structural Steel for Bridges

STD. NO.	TITLE
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Metallic Materials for Bridges

M 277-06 (2023)	Wire Rope and Sockets for Movable Bridges
M 285M/M 285-24	Castings, Iron-Chromium-Nickel, Corrosion Resistant, for Severe Service
M 292M/M 292-24	Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both
M 314-90 (2022)	Steel Anchor Bolts
M 334M/M 334-17 (2021)	Uncoated, Corrosion-Resistant, Deformed and Plain Chromium Alloyed, Billet-Steel Bars for Concrete Reinforcement and Dowels
M 336M/M 336-24	Steel Wire and Welded Wire, Plain and Deformed, for Concrete Reinforcement

STD. NO.	TITLE
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Miscellaneous

M 143-14 (2022)	Sodium Chloride
M 144-14 (2022)	Calcium Chloride
M 230-07 (2024)	Expanded and Extruded Foam Board (Polystyrene)
M 235M/M 235-24	Epoxy Resin Adhesives
M 333-16 (2024)	Detectable Warning Surfaces
M 351M/M 351-24	Cotton Duck Fabric Bridge Bearings
R 8-96 (2023)	Evaluation of Transportation-Related Earthborne Vibrations
R 10-22	Definition of Terms Related to Quality and Statistics as Used in Highway Construction
R 25-22	Technician Training and Certification Programs
R 34-03 (2022)	Evaluating Deicing Chemicals
R 44-07 (2022)	Independent Assurance (IA) Programs
R 89-18 (2022)	Accreditation Bodies Operating in the Fields of Construction Materials Testing and Inspection
R 110-22	Continuous Thermal Profile of Asphalt Mixture Construction
R 111-22	Intelligent Compaction for Embankment and Asphalt Pavement Applications

STD. NO.	TITLE
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Painting, Traffic Marking, and Signing

M 237-24	Epoxy Resin Adhesives for Bonding Traffic Markers to Hardened Portland Cement and Asphalt Concrete
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STD. NO.	TITLE
Painting, Traffic Marking, and Signing	
M 247-13 (2022)	Glass Beads Used in Pavement Markings
M 249-12 (2024)	White and Yellow Reflective Thermoplastic Striping Material (Solid Form)
M 268-22	Retroreflective Sheeting for Flat and Vertical Traffic Control Applications
M 300-22	Inorganic Zinc-Rich Primer
M 348-22	Waterborne White and Yellow Traffic Paints
R 31-09 (2023)	Evaluation of Protective Coating Systems for Structural Steel
R 98-20 (2024)	Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method

STD. NO.	TITLE
Pavement Surface Characteristics	
M 328-14 (2022)	Inertial Profiler
M 331-17 (2021)	Smoothness of Pavement in Weigh-in-Motion (WIM) Systems
M 344-22	Materials for Sand Seals
M 353-24	Thin Overlay Treatments Using a Binder Resin System and Aggregate for Concrete Surfaces
M 354-24	High Friction Surface Treatment for Asphalt and Concrete Pavements Using Calcined Bauxite
R 36-21	Evaluating Faulting of Concrete Pavements
R 37-04 (2022)	Application of Ground Penetrating Radar (GPR) to Highways
R 40-10 (2022)	Measuring Pavement Profile Using a Rod and Level
R 43-13 (2021)	Quantifying Roughness of Pavements
R 54-14 (2022)	Accepting Pavement Ride Quality When Measured Using Inertial Profiling Systems
R 56-14 (2022)	Certification of Inertial Profiling Systems
R 57-14 (2022)	Operating Inertial Profiling Systems
R 85-18 (2022)	Quantifying Cracks in Asphalt Pavement Surfaces from Collected Pavement Images Utilizing Automated Methods
R 86-18 (2022)	Collecting Images of Pavement Surfaces for Distress Detection
R 87-18 (2022)	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles
R 88-18 (2022)	Collecting the Transverse Pavement Profile

STD. NO.	TITLE
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Pavement Surface Characteristics

R 106-22	Sand Seal Design
R 107-22	Emulsified Asphalt Scrub Seal Design

STD. NO.	TITLE
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Quality Assurance

R 9-05 (2022)	Acceptance Sampling Plans for Highway Construction
R 18-23	Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories
R 20-99 (2021)	Procedures for Measuring Highway Noise
R 38-10 (2022)	Quality Assurance of Standard Manufactured Materials
R 42-06 (2024)	Developing a Quality Assurance Plan for Hot Mix Asphalt (HMA)
R 61-12 (2024)	Establishing Requirements for Equipment Calibrations, Standardizations, and Checks
R 65-14 (2022)	Evaluating the Engineering and Environmental Suitability of Recycled Materials
R 94-19 (2023)	Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete

STD. NO.	TITLE
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Reinforcing Steel and Wire Rope

M 30-15 (2023)	Metallic-Coated Steel Wire Rope and Fittings for Highway Guardrail
M 31M/M 31-24	Deformed and Plain Carbon and Low-Alloy Steel Bars for Concrete Reinforcement
M 54M/M 54-22	Welded Deformed Steel Bar Mats for Concrete Reinforcement
M 203M/M 203-20 (2024)	Steel Strand, Low-Relaxation Uncoated Seven-Wire for Concrete Reinforcement
M 204M/M 204-24	Stress-Relieved Steel Wire for Prestressed Concrete
M 254-06 (2023)	Corrosion-Resistant Coated Dowel Bars
M 275M/M 275-20 (2024)	High-Strength Steel Bars for Prestressing Concrete
M 322M/M 322-22	Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement
M 329M/M 329-11 (2023)	Stainless Clad Deformed and Plain Round Steel Bars for Concrete Reinforcement

STD. NO.	TITLE
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Soils and Stabilization

M 57-80 (2021)	Materials for Embankments and Subgrades
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STD. NO.	TITLE
Soils and Stabilization	
M 145-91 (2021)	Classification of Soils and Soil–Aggregate Mixtures for Highway Construction Purposes
M 146-91 (2021)	Terms Relating to Subgrade, Soil–Aggregate, and Fill Materials
M 147-17 (2021)	Materials for Aggregate and Soil–Aggregate Subbase, Base, and Surface Courses
M 216-22	Quicklime and Hydrated Lime for Soil Stabilization
M 288M/M 288-24	Geosynthetics for Highway Applications
M 318-02 (2023)	Glass Cullet Use for Soil–Aggregate Base Course
M 319-02 (2023)	Reclaimed Concrete Aggregate for Unbound Soil–Aggregate Base Course
M 355M/M 355-24	Geosynthetic Pavement Interlayers for Highway Applications
R 13-22	Conducting Geotechnical Subsurface Investigations
R 21-96 (2023)	Drilling for Subsurface Investigations—Unexpectedly Encountering Suspected Hazardous Material
R 22-97 (2023)	Decommissioning Geotechnical Exploratory Boreholes
R 27-01 (2023)	Assessment of Corrosion of Steel Piling for Non-Marine Applications
R 50-09 (2022)	Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures
R 51-22	Compost for Erosion/Sediment Control (Filter Berms and Filter Socks)
R 52-22	Compost for Erosion/Sediment Control (Compost Blankets)
R 58-22	Dry Preparation of Disturbed Soil and Soil–Aggregate Samples for Test
R 69-20 (2024)	Determination of Long-Term Strength for Geosynthetic Reinforcement
R 74-22	Wet Preparation of Disturbed Soil Samples for Test
R 75-24	Developing Soil Moisture–Density Relations
R 120-24	Preparation of Test Specimens Using the Plastic Mold Compaction Device

STD. NO.	TITLE
Testing Equipment	
M 152M/M 152-22	Flow Table for Use in Tests of Hydraulic Cement
M 201-23	Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes
M 231-95 (2023)	Weighing Devices Used in the Testing of Materials
M 261-22	Rib-Tread Standard Tire for Special-Purpose Pavement Frictional-Property Tests

STD. NO.	TITLE
Testing Equipment	
M 286-22	Smooth-Tread Standard Tire for Special-Purpose Pavement Frictional-Property Tests
M 339M/M 339-22	Thermometers Used in the Testing of Construction Materials
R 32-20 (2024)	Calibrating the Load Cell and Deflection Sensors for a Falling Weight Deflectometer
R 33-20 (2024)	Calibrating the Reference Load Cell Used for Reference Calibrations for a Falling Weight Deflectometer
R 45-13 (2021)	Installing, Monitoring, and Processing Data of the Traveling Type Slope Inclinometer

STD. NO.	TITLE
Timber and Preservatives	
M 133-23	Preservatives and Pressure Treatment Processes for Timber
M 168-07 (2024)	Wood Products

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. Unballoted editorial changes do not receive the change bar; however, the subheader line below the designation number will indicate if the standard has been editorially revised.

Release: July 2024

Designation Number	Title	TS	Balloted Changes
M 29-12 (2024)	Fine Aggregate for Bituminous Paving Mixtures	1c	Reconfirmed for 2024 publication.
M 31M/M 31-24	Deformed and Plain Carbon and Low-Alloy Steel Bars for Concrete Reinforcement	4f	Revised for equivalency with ASTM A615/A615M-22. Revised Sections 1, 2.2, 6.1.2.1, 20.3.3, and Table 2. Added new Section 20.3.3.1 to address markings for S and W bars. Added new Table 3. Renumbered notes.
M 36M/M 36-24	Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains	4b	Changed to dual units as part of harmonization with ASTM A760/A760M-15(2020). Revised Sections 2, 4.1.4, 4.1.8, 6.5, 8.1.2, and 9. Added Sections 6.6 and 7.8 and Table 4.
M 45-16 (2024)	Aggregate for Masonry Mortar	1c	Reconfirmed for 2024 publication.
M 85-24	Portland Cement	3a	Revised for equivalency with ASTM C150/C150M-24. Revised Sections 5.1.3 and 12.2 as follows: Allow manufactured mineral forms of calcium carbonate to be used in lieu of naturally occurring limestone and changed compositional requirements for limestone to minimum 40 percent calcium carbonate and 70 percent calcium carbonate and magnesium carbonate (total carbonate). Changed how the calcium carbonate and magnesium carbonate content of limestone used in the cement is determined. Deleted Annex B. Added Appendix X.2.
M 102M/M 102-23	Steel Forgings, Carbon and Alloy, for General Industrial Use	4f	Editorially revised in 2024: Numbered subsections throughout. Added dual unit standards in Sections 1.5, 3.1, 4.1, 4.1.1., 4.2.1, 6.4, 9.1, and 10.1. Minor edits to Sections 7.1.4.2 and S5.1.
M 140-20 (2024)	Emulsified Asphalt	2a	Reconfirmed for 2024 publication.
M 153-20 (2024)	Preformed Sponge Rubber, Cork, and Recycled Rubber Expansion Joint Fillers for Concrete Paving and Structural Construction	4e	Reconfirmed for 2024 publication. Editorially revised in 2024 to add 2023 reconfirmation year to ASTM designation number; D1752-18(2023) was reviewed but not updated.
M 154M/M 154-24	Air-Entraining Admixtures for Concrete	3b	Added note to allow Type 1L cements.
M 157-24	Ready-Mixed Concrete	3b	Revised Sections 4, 8, and 16. Editorially revised in 2024.
M 163M/M 163-24	Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application	4f	Revised Sections 2, 6, and 8 and Table 1 to update temperature measuring devices. Added new notes. Minor editorial revisions are also included in 2024.
M 167M/M 167-24	Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches	4b	Updated to harmonize with ASTM A761/A761M-18. Revised Sections 7, 8.4, 9.2, 11.1, and 12.1 and Tables 1, 2, 4, 6, and 8. Added Sections 2.4, 5.1.12, 7.3, and 7.4.3. Editorially revised in 2024.
M 168-07 (2024)	Wood Products	4e	Reconfirmed for 2024 publication.
M 169-20 (2024)	Steel Bars, Carbon and Alloy, Cold-Finished	4f	Reconfirmed for 2024 publication.

Designation Number	Title	TS	Balloted Changes
M 170-24	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe	4a	Revised for equivalency with ASTM C76-22a. In Section 2.2, added "(withdrawn 2022)" to C1017/C1017M. Revised Section 8.1.8 on lapped splices: changed cold "drawn" wire to cold "worked" wire and added sentence to define how to measure lap length. Revised Sections 6.5 and 8.1.8: changed "welded-wire fabric" to "welded-wire reinforcement."
M 170M-24	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe [Metric]	4a	Revised for equivalency with ASTM C76-22a. In Section 2.2, added "(withdrawn 2022)" to C1017/C1017M. Revised Section 8.1.8 on lapped splices: changed cold "drawn" wire to cold "worked" wire and added sentence to define how to measure lap length. Revised Sections 6.5 and 8.1.8: changed "welded-wire fabric" to "welded-wire reinforcement."
M 182-05 (2021)	Burlap Cloth Made from Jute or Kenaf and Cotton Mats	3b	Editorially revised in 2024.
M 196M/M 196-24	Corrugated Aluminum Pipe for Sewers and Drains	4b	Changed to dual units as part of harmonization with ASTM B745/B745M-15(2021). Revised Tables 5, 6, 7, 8, and 11 and Section 15. Added Section 9.1.7. Editorially revised in 2024.
M 197M/M 197-24	Aluminum Alloy Sheet for Corrugated Aluminum Pipe	4b	Changed to dual units as part of harmonization with ASTM B744/B744M-15(2020). Revised Table 6. Editorially revised in 2024.
M 199M/M 199-24	Precast Reinforced Concrete Manhole Sections	4a	Revised for equivalency with ASTM C478/C478-22. In Section 2.2, added "(withdrawn 2022)" to C1017/C1017M. Revised Sections 4.1.6 and 6.4.1: changed "welded-wire fabric" to "welded-wire reinforcement." Also revised Section 6.4.1 on lapped splices: changed cold "drawn" wire to cold "worked" wire and added sentence to define how to measure lap length.
M 203M/M 203-20 (2024)	Steel Strand, Low-Relaxation Uncoated Seven-Wire for Concrete Reinforcement	4f	Reconfirmed for 2024 publication.
M 204M/M 204-24	Stress-Relieved Steel Wire for Prestressed Concrete	4f	Revised Section S2 and S6 to update temperature measuring devices. Minor editorial revision to Section S6.2 in 2024.
M 206M/M 206-24	Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe	4a	Revised for equivalency with ASTM C506M-22a and C506-22a. In Section 2.2, added "(withdrawn 2022)" to C1017/C1017M. Revised Section 8.1.6 on lapped splices: changed cold "drawn" wire to cold "worked" wire, added sentence to define how to measure lap length, and changed "welded-wire fabric" to "welded-wire reinforcement."
M 207M/M 207-24	Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe	4a	Revised for equivalency with ASTM C507M-22 and C507-22. In Section 2.2, added "(withdrawn 2022)" to C1017/C1017M. Revised Section 8.1.6 on lapped splices: changed cold "drawn" wire to cold "worked" wire, added sentence to define how to measure lap length, and changed "welded-wire fabric" to "welded-wire reinforcement."
M 219M/M 219-24	Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches	4b	Changed to dual units as part of harmonization with ASTM B746/B746M-22. Revised Sections 6.3, 6.5, 10, and 12.1.2. Added Sections 1.3 and 3.1.13 and Note 3. Editorially revised in 2024.
M 230-07 (2024)	Expanded and Extruded Foam Board (Polystyrene)	4e	Reconfirmed for 2024 publication.
M 235M/M 235-24	Epoxy Resin Adhesives	4c	Revised Table 1 (minor editorial changes).
M 237-24	Epoxy Resin Adhesives for Bonding Traffic Markers to Hardened Portland Cement and Asphalt Concrete	4c	Revised Sections 2.3 and 3.3. Added Appendix X1. Deleted Sections 4.6.4 and 4.6.24.

Designation Number	Title	TS	Balloted Changes
M 240M/M 240-24	Blended Hydraulic Cement	3a	Revised to harmonize with M 85 on how processing additions are handled, removal of Type MH and Type LH special property cements, allow manufactured mineral forms of calcium carbonate to be used in lieu of naturally occurring limestone, and change compositional requirements for limestone to minimum 40 percent calcium carbonate and 70 percent calcium carbonate and magnesium carbonate (total carbonate). Revised Sections 3, 4.3, 5.1.3, 6.1.5, 6.1.8, 8.2, and 15.2; Tables 2 and 3; and Figure X1.1. Added Sections 6.1.9 and 15.7. Deleted Section 11.1.10. Editorially revised in 2024.
M 245M/M 245-24	Corrugated Steel Pipe, Polymer-Precoated, for Sewers and Drains	4b	Changed to dual units as part of harmonization with ASTM A762/A762M-19. Corrected Table 8. Editorially revised in 2024.
M 246M/M 246-24	Steel Sheet, Metallic-Coated and Polymer-Precoated, for Corrugated Steel Pipe	4b	Changed to dual units as part of harmonization with ASTM A742/A742M-20. Revised Sections 2, 6.1.3, 7.5, 9.3, and 9.5. Deleted Section 9.5.1.
M 249-12 (2024)	White and Yellow Reflective Thermoplastic Striping Material (Solid Form)	4c	Reconfirmed for 2024 publication.
M 252-24	Corrugated Polyethylene Pipe, 75- to 250-mm (3- to 10-in.) Diameter	4b	Title changed.
M 259-24	Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers According to the AASHTO LRFD Bridge Design Specifications	4a	Revised for equivalency with ASTM C1577M-20e1. In Section 2.2, added "(withdrawn 2022)" to C1017/C1017M. In Section 11.1.1, changed reference from T 22M/T 22 to T 280M/T 280. Revised Table 1: Updated steel areas in 7 ft by 2 ft by 8 in. and deleted duplicate 8 ft by 5 ft by 8 in. Editorially revised in 2024.
M 275M/M 275-20 (2024)	High-Strength Steel Bars for Prestressing Concrete	4f	Reconfirmed for 2024 publication.
M 280-24	Metallic-Coated (Carbon) Steel Barbed Wire	4d	Revised for equivalency with ASTM A121-22. Added Section 1.5. Editorially revised in 2024.
M 281-24	Steel Fence Posts, Hot-Wrought	4d	Revised for equivalency with ASTM A702-22. Title changed. Removed assemblies in Sections 1.1, 3, 4, and more. Revised Sections 1.3, 7.1.2, 9.4, 10.1, and 13.1. Deleted Section 9.3. Editorially revised in 2024.
M 285M/M 285-24	Castings, Iron-Chromium-Nickel, Corrosion Resistant, for Severe Service	4f	Revised Sections 2, 7, and 10 and Table X1.1 to update temperature measuring devices. Minor editorial changes are also included in 2024.
M 288M/M 288-24	Geosynthetics for Highway Applications	4g	Title changed. Changed to dual units, added new Class 1A Geotextile, and removed paving fabric since it is now covered by new pavement interlayer specification. Revised Sections 1.1, 1.2, 2.2, 3.7, 4, and 6 through 9, Note 1, all tables, and Appendix X1. Deleted Section 10 and renumbered subsequent sections. Editorially revised in 2024.
M 292M/M 292-24	Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both	4f	Revised for equivalency with ASTM A194/A194M-22a. Revised Sections 3.1.2, 6.4, 8.1.1.2, 8.1.5, 8.12.1, and S3 and Tables 1 through 4, 7, S4.1, and S4.2 to add Grade 43. Revised temperature measuring devices in Section 6.4. Added new Sections 6.5 and 6.5.1 and Note 1 to address minimum stress relief temps for 7M and 2HM.
M 295-24	Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete	3a	Revised to allow other types of coal ash such as harvested fly ash, ground bottom ash or comingled fly ash and ground bottom ash. Removed soundness T 107 requirements. Revised Sections 1.1, 2, 3, 4, 6.1, 7.1, 8.1, 9.1, 10.3, 11.1, and 13.1; Appendix X1.1; Tables 1, 2, and 3; and Figure A1.1. Added Section 12.2. Editorially revised in 2024.
M 302-24	Slag Cement for Use in Concrete and Mortars	3a	Revised to allow Type IL cement to be used to evaluate slag. Affects Sections 2.2, 6.1, and 10.1 and Appendixes X1 and X2. Editorially revised in 2024.
M 323-22	Superpave Volumetric Mix Design	2d	Editorially revised in 2024 to replace missing Section 6.6.

Designation Number	Title	TS	Balloted Changes
M 333-16 (2024)	Detectable Warning Surfaces	4d	Reconfirmed for 2024 publication.
M 336M/M 336-24	Steel Wire and Welded Wire, Plain and Deformed, for Concrete Reinforcement	4f	Revised for equivalency with ASTM A1064/A1064M-22. In Section 2.2, removed ASTM E83. In Sections 6.1.1.3 and 6.2.1.3, removed ASTM E83 references and added Section 13.3 reference. In Section 7.3, removed maximum specific speed of loading and referred to T 244. Editorially revised Sections 5.4, 6.1.1.3 in 2024, 6.2.1.3, and 7.3.
M 345-24	Materials for Emulsified Asphalt Scrub Seal	5b	Deleted the Table 1 row beginning with "Demulsibility, 35 mL, ...". Added T 11 and T 27 to Section 6.1. Editorially revised Table 5 footnotes in 2024.
M 351M/M 351-24	Cotton Duck Fabric Bridge Bearings	4e	Changed to dual units. Revised Sections 1 and 6 to include the include commonly referenced name of cotton duck pads (CDP) used in the AASHTO LRFD Bridge Design Specifications. Extensively revised, including Sections 2 through 5 and Sections 7 through 9. Added new Sections 10 and 12.
M 353-24	Thin Overlay Treatments Using a Binder Resin System and Aggregate for Concrete Surfaces	4c	Adopted MP 35 as a full standard specification, M 353.
M 354-24	High Friction Surface Treatment for Asphalt and Concrete Pavements Using Calcined Bauxite	4c	Adopted MP 41 as a full standard specification, M 354.
M 355M/M 355-24	Geosynthetic Pavement Interlayers for Highway Applications	4g	New standard specification.
R 21-96 (2023)	Drilling for Subsurface Investigations—Unexpectedly Encountering Suspected Hazardous Material	5c	Reconfirmed for 2023 publication.
R 30-24	Short-Term Laboratory Conditioning of Asphalt Mixtures	2c	Title changed to include "Short-Term." Revised to remove references to long-term laboratory conditioning and replace them as appropriate; updated Note 3 to provide information about conditioning warm-mix asphalt. Sections affected are 1.1, 2.1, Note 3, and 7.1.4.
R 32-20 (2024)	Calibrating the Load Cell and Deflection Sensors for a Falling Weight Deflectometer	5a	Reconfirmed for 2024 publication.
R 33-20 (2024)	Calibrating the Reference Load Cell Used for Reference Calibrations for a Falling Weight Deflectometer	5a	Reconfirmed for 2024 publication.
R 35-22	Superpave Volumetric Design for Asphalt Mixtures	2d	Editorially revised in 2024 to correct numbering of Notes 19 through 21.
R 42-06 (2024)	Developing a Quality Assurance Plan for Hot Mix Asphalt (HMA)	5c	
R 59-24	Recovery of Asphalt Binder from Solution by Abson Method	2c	Revised for equivalency with ASTM D1856-21.
R 61-12 (2024)	Establishing Requirements for Equipment Calibrations, Standardizations, and Checks	5c	
R 66-16 (2024)	Sampling Asphalt Materials	2a	Reconfirmed for 2024 publication.
R 67-20 (2024)	Sampling Asphalt Mixtures after Compaction (Obtaining Cores)	2c	Reconfirmed for 2024 publication.
R 69-20 (2024)	Determination of Long-Term Strength for Geosynthetic Reinforcement	4g	Reconfirmed for 2024 publication.
R 71-24	Sampling and Amount of Testing of Hydraulic Cement	3a	Updated for equivalency with ASTM C183/C183M-22: Removed references to T 98, ASTM C186, and ASTM C227. Added references to ASTM C1702 in Sections 2, 6.3, and 9.1.1. Revised Section 9.1.1. Deleted Section 9.1.2.

Designation Number	Title	TS	Balloted Changes
R 73-16 (2024)	Evaluation of Precast Concrete Drainage Products	4a	Reconfirmed for 2024 publication. Editorially revised Section 2.1 to update M 259's title to "Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers Designed According to the AASHTO LRFD Bridge Design Specifications" in 2024.
R 75-24	Developing Soil Moisture–Density Relations	1b	Title changed; revised standard in support of title change. Updated Figure 1 to represent the incremental curves with dashed lines instead of solid.
R 77-16 (2024)	Certifying Suppliers of Emulsified Asphalt	2a	Reconfirmed for 2024 publication.
R 97-19 (2024)	Sampling Asphalt Mixtures	2c	Reconfirmed for 2024 publication.
R 98-20 (2024)	Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method	4c	Reconfirmed for 2024 publication; editorially revised Section 3.
R 119M/R 119-24	Grinding the Ends of Cylindrical Concrete Specimens	3c	Adopted PP 89 as a full standard practice, R 119M/R119.
R 120-24	Preparation of Test Specimens Using the Plastic Mold Compaction Device	1b	Adopted PP 92 with revisions as a full standard practice, R 120. Minor revisions and clarifications throughout: Sections 3.1, 3.2, 4.1, 4.2, 4.5, 5.2, 5.3, 6.2, 6.4, 7.2, 7.3, 8.1, 8.2, 8.4, 8.5, and 9.1; Notes 2 through 9; and Figures 2 and 3 captions. Editorially revised Note 6 formatting in 2024.
R 121-24	Long-Term Laboratory Conditioning of Asphalt Mixtures	2c	New standard practice.

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LIST OF TECHNICAL CHANGES—PART 2

The balloted technical changes listed below are also indicated in the specifications by a change bar in the left margin. Unballoted editorial changes do not receive the change bar; however, the subheader line below the designation number will indicate if the standard has been editorially revised.

Release: July 2024

Designation Number	Title	TS	Balloted Changes
T 11-24	Materials Finer Than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing	1c	Revised to add reference to T 255 for constant mass in Sections 2.1, 8.1, and 8.5; edit procedural language for clarity in Sections 3.1, 5.1, 5.5, 5.6, 8.1, 8.3, 8.4, 8.5, and 9.3. Minor editorial revision to Section 8.3 in 2024.
T 19M/T 19-24	Bulk Density ("Unit Weight") and Voids in Aggregate	1c	Revised Sections 1.2, 2.1, 2.2, 3, 5, 7, 8, and 9. Renamed Sections 10–12. Added Methods in Section 14 and Keywords in Section 16. Editorially revised Sections 5.1, 5.2, 7.1, and 9.2. Deleted note 5. Editorially revised in 2024.
T 21M/T 21-20 (2024)	Organic Impurities in Fine Aggregates for Concrete	1c	Reconfirmed for 2024 publication.
T 27-24	Sieve Analysis of Fine and Coarse Aggregates	1c	Revised to add reference to T 255 for constant mass in Sections 2.1 and 7.1; edit Section 5.1 and Note 6; add inch-pound units to Table A1.
T 30-24	Mechanical Analysis of Extracted Aggregate	2c	Revised Sections 1.2, 2.1, 2.3, 5, 7.1, 8.2, 8.3, and 8.4 and Note 3. Added Sections 3 and A2 3.2.1 and Note A1. Deleted Note 6. Added method summary, provided more detailed descriptions of certain apparatus, and amplified test procedure regarding sample washing and agitation. Added reference to T 255 to dry sample to constant mass, removed drying temperature range, and revised Note 3. Editorially revised Sections 3.1 and 5.2 in 2024.
T 37-07 (2024)	Sieve Analysis of Mineral Filler for Asphalt Mixtures	2c	Reconfirmed for 2024 publication. Editorially updated for equivalency with ASTM D546-17.
T 65M/T 65-24	Mass [Weight] of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings	4f	Revised Sections 2 and 7.3 to update temperature measuring devices. Some of Section 7.3 moved to Note 3. Editorially revised in 2024.
T 105-24	Chemical Analysis of Hydraulic Cement	3a	Updated for equivalency with ASTM C114-22: Revised Section 7.3.1.
T 110-03 (2024)	Moisture or Volatile Distillates in Asphalt Mixtures	2c	Reconfirmed for 2024 publication. Editorially updated for equivalency with ASTM D1461-17.
T 121M/T 121-24	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	3b	Significant revisions to Section 7; minor revisions to Sections 3, 4, and 8.
T 140-20 (2024)	Compressive Strength of Concrete Using Portions of Beams Broken in Flexure	3c	Reconfirmed for 2024 publication. Editorially revised Section 5.2.2 in 2024.
T 152-24	Air Content of Freshly Mixed Concrete by the Pressure Method	3b	Revisions to Section 4.10; minor editorial revisions in 2024.
T 164-24	Quantitative Extraction of Asphalt Binder from Asphalt Mixtures	2c	Revised to add Note 17, which discusses reporting asphalt binder content to nearest 0.01 percent. Editorially revised in 2024 to change "hot mix asphalt" and "HMA" to "asphalt mixtures."

Designation Number	Title	TS	Balloted Changes
T 166-24	Bulk Specific Gravity (G_{mb}) of Compacted Asphalt Mixtures Using Saturated Surface-Dry Specimens	2c	Revisions: Added discussions about potable water and definition for bulk specific gravity, revised test method selection verbiage, modified thermometer requirements, added descriptions for potable and distilled water, deleted Note 8 about specimens with high void contents, and added apparatus section to Method C. Corrected temperature value in Section 5.5, added apparatus section in Method C, and required drying specimens according to T 329 in Method C. Editorially revised Sections 5.1, 5.5, 6.1, 9.1, 11. 12.1, 16.1, and 18 in 2024.
T 213M/T 213-24	Mass [Weight] of Coating on Aluminum-Coated Iron or Steel Articles	4f	Revised Section 2 and Sections 6.4 through 6.6 to update temperature measuring devices. Some content in Sections 6.4 through 6.6 were moved to notes. Editorially revised in 2024.
T 221M/T 221-24	Repetitive Static Plate Tests of Soils and Flexible Pavement Components for Use in Evaluation and Design of Airport and Highway Pavements	1b	Title changed. Extensively revised for equivalency with ASTM D1195/D1195M-21, including change to dual units, a new annex, a new appendix, and new figures. Editorially revised in 2024.
T 225-16 (2024)	Diamond Core Drilling for Site Investigation	1b	Reconfirmed for 2024 publication.
T 244-24	Mechanical Testing of Steel Products	4f	Revised for equivalency with ASTM A370-22. In Section 3, added new definitions. In Sections 16 through 19, changed hardness “value” to “number” throughout and added “fixed-location” throughout. Added Section 16.2.3, Table 7, and Note 12 to address converting portable testing results. Minor editorial revisions in 2024 to Sections 17.1.2, 17.4.1, and 18.4 and Note 12.
T 253M/T 253-24	Coated Dowel Bars	4f	Changed to dual units. Revised Sections 1.2, 2, 3.6, and 3.8 to update temperature measuring devices. Minor editorial revisions are also included in 2024.
T 256-01 (2024)	Pavement Deflection Measurements	5a	Reconfirmed for 2024 publication.
T 269-24	Percent Air Voids in Compacted Dense and Open Asphalt Mixtures	2c	Revised to remove requirement to report percent air voids to one decimal place and add note that discusses reporting air void content to nearest 0.01 percent. Editorially revised in 2024 for equivalency with ASTM D3203/D3203M-17.
T 278-24	Surface Frictional Properties Using the British Pendulum Tester	5a	Revised Sections 3.3, 6.3, 7.2, 7.3.2, 8, 9.1.2, A1.1, and A1.5 to harmonize with ASTM E303-22. Editorially revised in 2024.
T 280M/T 280-24	Concrete Pipe, Manhole Sections, or Tile	4a	Changed to dual units and equivalency with both ASTM C497-20e1 and C497-20e1. In Section 2, added new standard listings. Revised Section 12.3.1. Added new Sections 18 and 19. Added new Figures 13 and 14.
T 281-24	Vitrified Clay Pipe	4a	Revised for equivalency with ASTM C301-18(2022). Replaced Section 8.3.2 to read as follows: “Test specimens shall be representative of the material of the pipe supplied.” Editorially revised in 2024.
T 282M/T 282-24	Calibrating a Wheel Force or Torque Transducer Using a Calibration Platform (User Level)	5a	Changed to dual units, added Section 1.5, and revised Sections 8.1, 11, and 11.2 to harmonize with ASTM E556/E556M-11(2020). Editorially revised Section 6.1.
T 285M/T 285-24	Bend Test for Bars for Concrete Reinforcement	4f	Changed to dual units. Revised Sections 1.2, 2, and 6.1 to update temperature measuring devices. Minor editorial revisions are also included in 2024.
T 290-95 (2024)	Determining Water-Soluble Sulfate Ion Content in Soil	1a	Reconfirmed for 2024 publication.
T 308-24	Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method	2c	Revised to add Note 11, which discusses reporting asphalt binder content to nearest 0.01 percent.
T 311-20 (2024)	Grain-Size Analysis of Granular Soil Materials	1a	Reconfirmed for 2024 publication.

Designation Number	Title	TS	Balloted Changes
T 315-24	Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	2b	Revised per Taskforce on Asphalt Harmonization (TFASH) efforts. Editorially revised in 2024.
T 323-03 (2024)	Determining the Shear Strength at the Interface of Bonded Layers of Portland Cement Concrete	3c	Reconfirmed for 2024 publication. Editorially revised Figure 3 in 2024.
T 329-22	Moisture Content of Asphalt Mixtures by Oven Method	2c	Editorially revised Sections 6.4 and 6.6 in 2024.
T 334-08 (2024)	Estimating the Cracking Tendency of Concrete	3c	Reconfirmed for 2024 publication. Editorially revised Section 4.5 in 2024.
T 338-09 (2024)	Analysis of Structural Steel Coatings for Hindered Amine Light Stabilizer (HALS)	4c	Reconfirmed for 2024 publication.
T 343-12 (2024)	Density of In-Place Asphalt Pavement by Electronic Surface Contact Devices	2c	Reconfirmed for 2024 publication. Editorially revised title to "Density of In-Place Asphalt Pavement by Electronic Surface Contact Devices" to reflect current terminology.
T 345-12 (2024)	Passing Ability of Self-Consolidating Concrete (SCC) by J-Ring	3b	Reconfirmed for 2024 publication. Editorially revised in 2024.
T 358-24	Surface Resistivity Indication of Concrete's Ability to Resist Chloride Ion Penetration	3c	Revised Sections 13 and 15. Editorially revised in 2024.
T 360-16 (2024)	Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method	5a	Reconfirmed for 2024 publication.
T 365-20 (2024)	Quantifying Calcium Oxychloride Formation Potential of Cementitious Pastes Exposed to Deicing Salts	3c	Reconfirmed for 2024 publication. Editorially revised Sections 4.2, 5.3, 6.3, and 7.3 in 2024.
T 376/M T 376-24	Macrocell Slab Chloride Threshold	4f	Revised Sections 2, 3.1.2, and 5.1.1 to update temperature measuring devices.
T 391-20 (2024)	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep	2b	Reconfirmed for 2024 publication.
T 395-24	Characterization of the Air-Void System of Freshly Mixed Concrete by the Sequential Pressure Method	3b	Updated precision and included previous data in a new appendix.
T 397-24	Uniaxial Tensile Response of Ultra-High Performance Concrete	3c	Revised Sections 8.6, 8.7, X3.1.7, and X3.1.8. Editorially revised in 2024.
T 400-24	Determining the Damage Characteristic Curve and Failure Criterion Using the Asphalt Mixture Performance Tester (AMPT) Cyclic Fatigue Test	2d	Substantially revised, including updated tables, reformatted figures. Added precision and bias statement. Revised Sections 3.11, 10.3, 11, 13, 14, and X2.3.3 and Tables 1, 2, and 3. Added Sections 3.11 and 15.
T 402-24	Electrical Resistivity of a Concrete Cylinder Tested in a Uniaxial Resistance Test	3c	Revised Sections 14 and 16. Editorially revised Notes 28 to 30 and Section 13 in 2024.
T 411-24	Determining the Damage Characteristic Curve and Failure Criterion Using Small Specimens in the Asphalt Mixture Performance Tester (AMPT) Cyclic Fatigue Test	2d	Substantially revised, including updated tables, reformatted figures. Added precision and bias statement. Revised Sections 3.11, 10.3, 11.3.1, 13, and 14 and Note 10. Added Section 15.
T 412-24	Real-Time Estimate of In-Place Concrete Strength Using Acoustical Resonance Method	3c	New standard test method.
T 413-24	Estimating the Early Opening Strength of Concrete Pavements by Maturity Tests	3c	New standard test method.
T 414-24	Determining the Dielectric Constant of Compacted Asphalt Mixture Specimens	5c	New standard test method.

Designation Number	Title	TS	Balloted Changes
T 415-24	Weight and Diameter for Carbon-Steel for Steel Wire and Welded Wire Reinforcement for Concrete	4f	Adopted TP 138 as a full standard test method, T 415. Deleted Section 2.2.
T 416-24	Determination of Alkali Threshold for Alkali-Silica Reactivity in Aggregates Used in Concrete (ATT)	1c	New standard test method.
T 417-24	Pore Index for Carbonate Coarse Aggregate	1c	Adopted TP 120 as a full standard test method, T 417.
T 418-24	Measuring Asphalt Binder Yield Energy and Elastic Recovery Using the Dynamic Shear Rheometer	2b	Adopted TP 123 as a full standard test method, T 418.
T 419-24	Determining the Flexural Creep Stiffness of Asphalt Mixtures Using the Bending Beam Rheometer (BBR)	2d	Adopted TP 125 as a full standard test method, T 419.

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MP 38-22	Mix Design Used in Cold Recycled Mixture with Foamed Asphalt
MP 39-22 (2023)	File Format of Intelligent Compaction Data
MP 40-19 (2023)	Steel-Reinforced Polyethylene (SRPE) Corrugated Pipe 1650- to 3000-mm (66- to 120-in.) Diameter
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MP 42-22	Steel-Reinforced Polyethylene (SRPE) Corrugated Pipe
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MP 48-23	Equipment for Measuring Macrotexture of Pavements at Highway Speeds
PP 89-19 (2022)	Grinding the Ends of Cylindrical Concrete Specimens
PP 92-19 (2022)	Preparation of Test Specimens Using the Plastic Mold Compaction Device
PP 94-22 (2024)	Determination of Optimum Asphalt Content of Cold Recycled Mixture with Foamed Asphalt
PP 95-22 (2024)	Preparation of Indirect Tension Performance Test Specimens
PP 96-18 (2024)	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Indirect Tension Testing Method
PP 97-19 (2023)	Determination of Constant Mass
PP 98-20 (2023)	Asphalt Surface Dielectric Profiling System Using Ground Penetrating Radar
PP 99-23	Preparation of Small Cylindrical Performance Test Specimens Using the Superpave Gyratory Compactor (SGC) or Field Cores
PP 102-20 (2024)	Digital Interchange of Geotechnical Data
PP 103-21 (2024)	Sample Preparation and Polishing of Unbound Aggregates for Dynamic Friction Testing
PP 104-21 (2024)	Sample Preparation and Polishing of Asphalt Mixture Specimens for Dynamic Friction Testing
PP 105-24	Balanced Design of Asphalt Mixtures

STD. NO.	TITLE
PP 106-24	Assessment of Static Performance in Transverse Pavement Profiling Systems
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PP 108-24	Assessment of Navigation Drift Mitigation in Transverse Pavement Profiling Systems
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PP 112-21 (2023)	Recognizing Surrogate Test Methods
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PP 115-23	Certification of High-Speed Macrotexture Measurement Equipment
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PP 117-23	Durable Green Bike Lane Surface Treatments for Asphalt and Concrete Pavements
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TP 127-22 (2024)	Determining the Fracture Energy Density of Asphalt Binder Using the Binder Fracture Energy (BFE) Test
TP 128-22 (2024)	Evaluation of Oxidation Level of Asphalt Mixtures by a Portable Infrared Spectrometer
TP 130-20 (2024)	Producing Drawdown Panels and Measuring the Coefficient of Retroreflected Luminance (RL) of Pavement Markings in a Laboratory Panel
TP 131-18 (2024)	Determining the Dynamic Modulus of Asphalt Mixtures Using the Indirect Tension Test
TP 132-23	Determining the Dynamic Modulus for Asphalt Mixtures Using Small Specimens in the Asphalt Mixture Performance Tester (AMPT)
TP 134-22 (2023)	Stress Sweep Rutting (SSR) Test Using Asphalt Mixture Performance Tester (AMPT)
TP 135-22 (2024)	Determining the Total Pore Volume in Hardened Concrete Using Vacuum Saturation
TP 136-22 (2024)	Determining the Degree of Saturation of Hydraulic-Cement Concrete

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TP 138-20 (2022)	Weight and Diameter for Carbon-Steel for Steel Wire and Welded Wire Reinforcement for Concrete
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TP 140-22 (2024)	Moisture Sensitivity Using Hydrostatic Pore Pressure to Determine Cohesion and Adhesion Strength of Compacted Asphalt Mixture Specimens
TP 141-22 (2024)	Determining the Indirect Tensile Nflex Factor to Assess the Cracking Resistance of Asphalt Mixtures
TP 142M/TP 142-24	Accelerated Determination of Potentially Deleterious Expansion of Concrete Cylinder due to Alkali-Silica Reaction (Accelerated Concrete Cylinder Test, ACCT)
TP 143-21 (2023)	Continuous Measurement of Sideway-Force Friction Number for Highway Pavements
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TP 145-24	Evaluating Rutting and Moisture Resistance of Paving Materials via Loaded Wheel Tracking with a Rubber Tire

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MP 37-18 (2024)	Performance-Graded Asphalt Binder for Surface Treatments
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TP 127-22 (2024)	Determining the Fracture Energy Density of Asphalt Binder Using the Binder Fracture Energy (BFE) Test
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TP 131-18 (2024)	Determining the Dynamic Modulus of Asphalt Mixtures Using the Indirect Tension Test

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Bituminous Materials

TP 132-23	Determining the Dynamic Modulus for Asphalt Mixtures Using Small Specimens in the Asphalt Mixture Performance Tester (AMPT)
TP 134-22 (2023)	Stress Sweep Rutting (SSR) Test Using Asphalt Mixture Performance Tester (AMPT)
TP 140-22 (2024)	Moisture Sensitivity Using Hydrostatic Pore Pressure to Determine Cohesion and Adhesion Strength of Compacted Asphalt Mixture Specimens
TP 141-22 (2024)	Determining the Indirect Tensile Nflex Factor to Assess the Cracking Resistance of Asphalt Mixtures
TP 145-24	Evaluating Rutting and Moisture Resistance of Paving Materials via Loaded Wheel Tracking with a Rubber Tire

STD. NO.	TITLE
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Box Culvert, Culvert Pipe, and Drain Tile

MP 40-19 (2023)	Steel-Reinforced Polyethylene (SRPE) Corrugated Pipe 1650- to 3000-mm (66- to 120-in.) Diameter
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Concrete, Curing Materials, and Admixtures

PP 89-19 (2022)	Grinding the Ends of Cylindrical Concrete Specimens
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TP 142M/TP 142-24	Accelerated Determination of Potentially Deleterious Expansion of Concrete Cylinder due to Alkali-Silica Reaction (Accelerated Concrete Cylinder Test, ACCT)

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TP 138-20 (2022)	Weight and Diameter for Carbon-Steel for Steel Wire and Welded Wire Reinforcement for Concrete
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STD. NO.	TITLE
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PP 118-24	AASHTO Definitions Standard for Sustainability Terms
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STD. NO.	TITLE
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Painting, Traffic Marking, and Signing

PP 117-23	Durable Green Bike Lane Surface Treatments for Asphalt and Concrete Pavements
TP 130-20 (2024)	Producing Drawdown Panels and Measuring the Coefficient of Retroreflected Luminance (RL) of Pavement Markings in a Laboratory Panel

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MP 48-23	Equipment for Measuring Macrottexture of Pavements at Highway Speeds
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MP 39-22 (2023)	File Format of Intelligent Compaction Data
PP 97-19 (2023)	Determination of Constant Mass

STD. NO.	TITLE
Quality Assurance	
PP 98-20 (2023)	Asphalt Surface Dielectric Profiling System Using Ground Penetrating Radar
PP 112-21 (2023)	Recognizing Surrogate Test Methods
PP 114-22 (2024)	Data Lot Names for Intelligent Construction Technologies

STD. NO.	TITLE
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PP 92-19 (2022)	Preparation of Test Specimens Using the Plastic Mold Compaction Device
PP 102-20 (2024)	Digital Interchange of Geotechnical Data

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. Unballoted editorial changes do not receive the change bar; however, the subheader line below the designation number will indicate if the standard has been editorially revised.

Release: July 2024

Designation Number	Title	TS	Balloted Changes
MP 35-22	Thin Overlay Treatments Using a Binder Resin System and Aggregate for Concrete Surfaces	4c	Adopted MP 35 as a full standard specification, M 353.
MP 37-18 (2024)	Performance-Graded Asphalt Binder for Surface Treatments	2b	Extended for 2024 publication; Year 7 in 8-year Provisional life cycle. Editorially revised in 2024 to update LTPP Bind references to match M 320 and M 322 in Section 2.3 and Table 1; added Note 1 to Section 4.1.
MP 41-22	High Friction Surface Treatment for Asphalt and Concrete Pavements Using Calcined Bauxite	4c	Adopted MP 41 as a full standard specification, M 354.
MP 46-24	Balanced Mix Design	2d	Revised Section 2.4, Notes 7, 8, and 15, and Appendix XI; added Section 5.5.
MP 47-24	File Format of Two-Dimensional and Three-Dimensional (2D/3D) Pavement Image Data	5a	Revised based on software development from TPF-5(354): Sections 3.26, 3.2.8, 3.2.16, 4.1.5 (and notes), and 4.3.2; Tables 1 and 2. Editorially revised in 2024.
PP 89-19 (2022)	Grinding the Ends of Cylindrical Concrete Specimens	3c	Adopted PP 89 as a full standard practice, R 119M/R119.
PP 92-19 (2022)	Preparation of Test Specimens Using the Plastic Mold Compaction Device	1b	Adopted PP 92 as a full standard practice, R 120.
PP 94-22 (2024)	Determination of Optimum Asphalt Content of Cold Recycled Mixture with Foamed Asphalt	2d	Extended for 2024 publication; Year 7 in 8-year Provisional life cycle.
PP 95-22 (2024)	Preparation of Indirect Tension Performance Test Specimens	2d	Extended for 2024 publication; Year 7 in 8-year Provisional life cycle. Editorially updated references to long-term aging from R 30 to R 121 in 2024.
PP 96-18 (2024)	Developing Dynamic Modulus Master Curves for Asphalt Mixtures Using the Indirect Tension Testing Method	2d	Extended for 2024 publication; Year 7 in 8-year Provisional life cycle.
PP 102-20 (2024)	Digital Interchange of Geotechnical Data	1b	Reconfirmed for 2024 publication; Year 5 in 8-year Provisional life cycle.
PP 103-21 (2024)	Sample Preparation and Polishing of Unbound Aggregates for Dynamic Friction Testing	1c	Reconfirmed for 2024 publication; Year 4 in 8-year Provisional life cycle.
PP 104-21 (2024)	Sample Preparation and Polishing of Asphalt Mixture Specimens for Dynamic Friction Testing	1c	Reconfirmed for 2024 publication; Year 4 in 8-year Provisional life cycle.
PP 105-24	Balanced Design of Asphalt Mixtures	2d	Revised by replacing “performance” with “BMD” in relation to mixture tests and other editorial revisions. Revised Sections 1.1, 3.1.2, 4, 5.1, 6, 7, 8, 9, and 10 and Note 1.
PP 106-24	Assessment of Static Performance in Transverse Pavement Profiling Systems	5a	Revised Tables 1, 3, 4, and 5.
PP 107-24	Assessment of Body Motion Cancellation in Transverse Pavement Profiling Systems	5a	Revised Sections 1.4, 2.3, 3, 4.3, 5.1, 6, 7, 8, 9, 10, and 11, and Annex A.
PP 108-24	Assessment of Navigation Drift Mitigation in Transverse Pavement Profiling Systems	5a	Revised Sections 1.4, 2.2, 4, 5, 6, 7, and 9; Annex A; and Tables 1 and 2.

Designation Number	Title	TS	Balloted Changes
PP 109-24	Assessment of Highway Performance in Transverse Pavement Profiling Systems	5a	Revised Sections 3, 4, 5, 6, 7, 8, 9, 10, and B1.4. Deleted Section A2.
PP 110-24	Assessment of Ground Reference Data for Transverse Pavement Profiling System Assessment	5a	Revised Sections 3, 5, 6, 7, 8, 9, 10, and 11; Annex A.
PP 111-24	Definition of Terms Related to Transverse Pavement Profiling Systems and Ground Reference Equipment	5a	Revised Sections 1.1 and 2.
PP 114-22 (2024)	Data Lot Names for Intelligent Construction Technologies	5c	Reconfirmed for 2024 publication; Year 3 in 8-year Provisional life cycle.
PP 118-24	AASHTO Definitions Standard for Sustainability Terms	5c	New provisional practice.
TP 120-22 (2023)	Pore Index for Carbonate Coarse Aggregate	1c	Adopted TP 120 as a full standard test method, T 417.
TP 123-16 (2022)	Measuring Asphalt Binder Yield Energy and Elastic Recovery Using the Dynamic Shear Rheometer	2b	Adopted TP 123 as a full standard test method, T 418.
TP 125-22 (2023)	Determining the Flexural Creep Stiffness of Asphalt Mixtures Using the Bending Beam Rheometer (BBR)	2d	Adopted TP 125 as a full standard test method, T 419.
TP 127-22 (2024)	Determining the Fracture Energy Density of Asphalt Binder Using the Binder Fracture Energy (BFE) Test	2b	Extended for 2024 publication; Year 8 in 8-year Provisional life cycle.
TP 128-22 (2024)	Evaluation of Oxidation Level of Asphalt Mixtures by a Portable Infrared Spectrometer	2c	Extended for 2024 publication; Year 8 in 8-year Provisional life cycle. Editorially revised Sections 1.1, 1.2, and 6.2 in 2024.
TP 130-20 (2024)	Producing Drawdown Panels and Measuring the Coefficient of Retroreflected Luminance (RL) of Pavement Markings in a Laboratory Panel	4c	Extended for 2024 publication; Year 7 in 8-year Provisional life cycle. Editorially revised to harmonize retroreflectivity units with other standards and to correct conversion from mils to microns from rounded to direct conversion values in 2024.
TP 131-18 (2024)	Determining the Dynamic Modulus of Asphalt Mixtures Using the Indirect Tension Test	2d	Extended for 2024 publication; Year 7 in 8-year Provisional life cycle.
TP 135-22 (2024)	Determining the Total Pore Volume in Hardened Concrete Using Vacuum Saturation	3c	Reconfirmed for 2024 publication; Year 5 in 8-year Provisional life cycle.
TP 136-22 (2024)	Determining the Degree of Saturation of Hydraulic-Cement Concrete	3c	Reconfirmed for 2024 publication; Year 5 in 8-year Provisional life cycle.
TP 138-20 (2022)	Weight and Diameter for Carbon-Steel for Steel Wire and Welded Wire Reinforcement for Concrete	4f	Adopted TP 138 as a full standard test method, T 415.
TP 139-22 (2024)	Determining the Relative Density (Specific Gravity) and Absorption of Lightweight Aggregate for Internally Cured Concrete Mixtures	1c	Reconfirmed for 2024 publication; Year 4 in 8-year Provisional life cycle.
TP 140-22 (2024)	Moisture Sensitivity Using Hydrostatic Pore Pressure to Determine Cohesion and Adhesion Strength of Compacted Asphalt Mixture Specimens	2d	Reconfirmed for 2024 publication. Editorially revised Sections 6 and 7.1 in 2024.
TP 141-22 (2024)	Determining the Indirect Tensile N_{flex} Factor to Assess the Cracking Resistance of Asphalt Mixtures	2d	Reconfirmed for two years for 2024 publication; Year 5 in 8-year Provisional life cycle.
TP 142M/TP 142-24	Accelerated Determination of Potentially Deleterious Expansion of Concrete Cylinder due to Alkali-Silica Reaction (Accelerated Concrete Cylinder Test, ACCT)	3c	Changed to dual units. Added new Section 1.3 and Notes 2 and 7. Revised Sections 3.4.4, 4.2, 4.4, 6.2.2, 7.2, and Appendix X1; Note 3; and Figures and 5 titles.
TP 145-24	Evaluating Rutting and Moisture Resistance of Paving Materials via Loaded Wheel Tracking with a Rubber Tire	2d	New provisional test method.

HISTORY OF CURRENT AND FORMER AASHTO PROVISIONAL MATERIALS STANDARDS

JULY 2024

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year ^a	Full Std. No.
Specifications					
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 329M/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	^b
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

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
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	Adopted	2018 (June)	M 335
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	Adopted	2021	M 337
MP 23	Reclaimed Asphalt Shingles for Use in Asphalt Mixtures	2014	Adopted	2022	M 350
MP 24	Waterborne White and Yellow Traffic Paints	2014	Adopted	2022	M 348
MP 25	Performance-Graded Hot-Poured Asphalt Crack Sealant	2015	Adopted	2021	M 338
MP 26	Cotton Duck Fabric Bridge Bearings	2015	Adopted	2023	M 351
MP 27	Materials for Emulsified Asphalt Chip Seals	2016	Adopted	2022	M 340
MP 28	Materials for Microsurfacing	2016	Adopted	2022	M 341
MP 29	<i>This standard number was inadvertently skipped.</i>				
MP 30	Steel Wire and Welded Wire, Plain and Deformed, for Concrete Reinforcement	2017	Adopted	2018 (June)	M 336M/M 336
MP 31	Materials for Cold Recycled Mixtures with Emulsified Asphalt	2017	Adopted	2023	M 352
MP 32	Materials for Slurry Seal	2017	Adopted	2022	M 342
MP 33	Materials for Emulsified Asphalt Fog Seal	2017	Adopted	2022	M 343
MP 34	Materials for Sand Seals	2018	Adopted	2022	M 344
MP 35	Thin Overlay Treatments Using a Binder Resin System and Aggregate for Concrete Surfaces	2018	Adopted	2024	M 353
MP 36	Materials for Asphalt Tack Coat	2018	Adopted	2022	M 349
MP 37	Performance-Graded Asphalt Binder for Surface Treatments	2018			
MP 38	Mix Design of Cold Recycled Mixture with Foamed Asphalt	2018			
MP 39	File Format of Intelligent Construction Data	2019			
MP 40	Steel-Reinforced Polyethylene (PE) Ribbed Pipe 1650- to 3000-mm (66- to 120-in.) Diameter	2019			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
MP 41	High Friction Surface Treatment for Asphalt and Concrete Pavements Using Calcined Bauxite	2019	Adopted	2024	M 354
MP 42	Steel-Reinforced Polyethylene (SRPE) Corrugated Pipe	2020			
MP 43	Materials for Emulsified Asphalt Scrub Seal	2020	Adopted	2022	M 345
MP 44	Materials for Ultrathin Bonded Wearing Course	2020	Adopted	2022	M 346
MP 45	Materials for Full-Depth Reclamation Mixtures with Emulsified Asphalt	2020	Adopted	2022	M 347
MP 46	Balanced Mix Design	2020			
MP 47	File Format of Two-Dimensional and Three-Dimensional (2D/3D) Pavement Image Data	2021			
MP 48	Equipment for Measuring Macrottexture of Pavements at Highway Speeds	2023			
Practices					
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	— ^c
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	—

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
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 ^d
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 43
PP 37M	Quantifying Roughness of Pavements	1999			
PP 38	Determining Maximum Rut Depth in Asphalt Pavements	1999	Adopted	2008	R 48 ^e
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 ^f
PP 45	Qualification of Deformed and Plain Steel Bar Producing Mills	2001	Adopted	2010	R 53 ^g

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
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 ^h
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 ⁱ
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
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

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
PP 64	Determining Aggregate Source Shape Values from Digital Image Analysis Shape Properties	2010	Adopted	2018 (August)	R 91
PP 65	Determining the Reactivity of Concrete Aggregates and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction	2010	Adopted	2016 (April)	R 80
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	Adopted	2018 (April)	R 85
PP 68	Collecting Images of Pavement Surfaces for Distress Detection	2010	Adopted	2018 (April)	R 86
PP 69	Determining Pavement Deformation Parameters and Cross Slope from Collected Transverse Profiles	2010	Adopted	2018 (April)	R 87
PP 70	Collecting the Transverse Pavement Profile	2010	Adopted	2018 (April)	R 88
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	Adopted	2019 (June)	R 94
PP 74	Determination of Size and Shape of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method	2011	Adopted	2020 (June)	R 98
PP 75	Vacuum Drying Compacted Asphalt Specimens	2013	Adopted	2016 (August)	R 79
PP 76	Troubleshooting Asphalt Specimen Volumetric Differences between Superpave Gyrotory Compactors (SGCs) Used in the Design and the Field Management of Superpave Mixtures	2013	Adopted	2021	R 99
PP 77	Materials Selection and Mixture Design of Permeable Friction Courses (PFCs)	2014	Adopted	2022	R 113
PP 78	Design Considerations When Using Reclaimed Asphalt Shingles (RAS) in Asphalt Mixtures	2014	Adopted	2022	R 114
PP 79	High Friction Surface Treatment for Asphalt and Concrete Pavements	2014	Reclassified	2019 (June)	MP 41
PP 80	Continuous Thermal Profile of Asphalt Mixture Construction	2014	Adopted	2022	R 110

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
PP 81	Intelligent Compaction Technology for Embankment and Asphalt Pavement Applications	2014	Adopted	2022	R 111
PP 82	Emulsified Asphalt Chip Seal Design	2016	Adopted	2022	R 102
PP 83	Microsurfacing Design	2016	Adopted	2022	R 103
PP 84	Performance Engineered Concrete Pavement Mixtures	2017	Adopted	2022	R 101
PP 85	Grading or Verifying the Sealant Grade (SG) of a Hot-Poured Asphalt Crack Sealant	2017	Adopted	2023	R 116
PP 86	Emulsified Asphalt Content of Cold Recycled Mixture Designs	2017	Adopted	2023	R 117
PP 87	Slurry Seal Design	2017	Adopted	2022	R 104
PP 88	Emulsified Asphalt Fog Seal Design	2017	Adopted	2022	R 105
PP 89	Grinding the Ends of Cylindrical Concrete Specimens	2018	Adopted	2024	R 119M/R 119
PP 90	Sand Seal Design	2018	Adopted	2022	R 106
PP 91	Emulsified Asphalt Scrub Seal Design	2018	Adopted	2022	R 107
PP 92	Preparation of Test Specimens Using the Plastic Mold Compaction Device	2018	Adopted	2024	R 120
PP 93	Asphalt Tack Coat Design	2018	Adopted	2022	R 112
PP 94	Determining Optimum Asphalt Content of Cold Recycled Mixture with Foamed Asphalt	2018			
PP 95	Preparation of Indirect Tension Performance Test Specimens	2018			
PP 96	Developing Dynamic Modulus Master Curves for Hot Mix Asphalt (HMA) Using the Indirect Tension Testing Method	2018			
PP 97	Determination of Constant Mass	2019			
PP 98	Asphalt Surface Dielectric Profiling System Using Ground Penetrating Radar	2019			
PP 99	Preparation of Small Cylindrical Performance Test Specimens Using the Superpave Gyrotory Compactor (SGC) or Field Cores	2019			
PP 100	Ultrathin Bonded Wearing Course Design	2020	Adopted	2022	R 108
PP 101	Emulsified Asphalt Content of Full-Depth Reclamation Mixture Design	2020	Adopted	2022	R 109

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
PP 102	Digital Interchange of Geotechnical Data	2020			
PP 103	Sample Preparation and Polishing of Unbound Aggregates for Dynamic Friction Testing	2020			
PP 104	Sample Preparation and Polishing of Asphalt Mixture Specimens for Dynamic Friction Testing	2020			
PP 105	Balanced Design of Asphalt Mixtures	2020			
PP 106	Assessment of Static Performance in Transverse Pavement Profiling Systems	2021			
PP 107	Assessment of Body Motion Cancellation in Transverse Pavement Profiling Systems	2021			
PP 108	Assessment of Navigation Drift Mitigation in Transverse Pavement Profiling Systems	2021			
PP 109	Assessment of Highway Performance in Transverse Pavement Profiling Systems	2021			
PP 110	Assessment of Ground Reference Data for Transverse Pavement Profiling System Assessment	2021			
PP 111	Definition of Terms Related to Transverse Pavement Profiling Systems and Ground Reference Equipment	2021			
PP 112	Recognizing Surrogate Test Methods	2021			
PP 113	Characterizing the Relaxation Behavior of Asphalt Binders Using the Delta T_c (ΔT_c) Parameter	2021	Adopted	2023	R 118
PP 114	Data Lot Names for Use with Intelligent Construction Technologies	2022			
PP 115	Certification of High-Speed Macrotexture Measurement Equipment	2023			
PP 116	Operating Equipment for Measuring Macrotexture at Highway Speeds	2023			
PP 117	Durable Green Bike Lane Surface Treatments for Asphalt and Concrete Pavements	2023			
PP 118	AASHTO Definitions Standard for Sustainability Terms	2024			
Tests					
TP 1	Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	1994	Adopted	2002	T 313

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
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 Gyrotory 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
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 22M/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

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

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

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
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
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
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 ^c
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	Adopted	2018 (August)	T 381
TP 82	Bulk Specific Gravity (G_{mb}) of Compacted Bituminous Mixtures Using Water Displacement Measured by Pressure Sensor	2010	Deleted	2018 (August)	—
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	Deleted	2018 (June)	—

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
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 ⁱ
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	Adopted	2019 (July)	T 387
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	Adopted	2019 (June)	T 384
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	Adopted	2020 (April)	T 389
TP 99	Determining the Influence of Road Surfaces on Traffic Noise Using the Continuous-Flow Traffic Time-Integrated Method (CTIM)	2011	Adopted	2020 (April)	T 390
TP 100	Deep Foundation Elements under Bidirectional Static Axial Compressive Load	2012	Adopted	2019 (July)	T 385
TP 101	Estimating Fatigue Resistance of Asphalt Binders Using the Linear Amplitude Sweep	2012	Adopted	2020 (July)	T 391

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
TP 102	Evaluation of Asphalt Release Agents	2012	Adopted	2018 (August)	T 383
TP 103	Detectable Warning Systems	2012	Adopted	2020 (June)	T 388
TP 104	Rapid Axial Compressive Load Testing of Deep Foundation Units	2013	Adopted	2019 (July)	T 386
TP 105	Determining the Fracture Energy of Asphalt Mixtures Using the Semicircular Bend Geometry (SCB)	2013	Adopted	2021	T 394
TP 106	Determination of Heavy Metal Content of Glass Beads Using X-Ray Fluorescence (XRF)	2013	Adopted	2021	T 392
TP 107	Determining the Damage Characteristic Curve of Asphalt Mixtures from Direct Tension Cyclic Fatigue Tests	2014	Adopted	2022	T 400
TP 108	Determining the Abrasion Loss of Asphalt Mixture Specimens	2014	Adopted	2022	T 401
TP 109	Nonlinear Impact Resonance Acoustic Spectroscopy (NIRAS) for Concrete Specimens with Damage from the Alkali-Silica Reaction (ASR)	2014	Adopted	2018 (April)	T 379
TP 110	Potential Alkali Reactivity of Aggregates and Effectiveness of ASR Mitigation Measures (Miniature Concrete Prism Test, MCPT)	2014	Adopted	2018 (April)	T 380
TP 111	Measuring Retroreflectivity of Pavement Marking Materials Using a Mobile Retroreflectivity Unit	2014	Adopted	2022	T 398
TP 112	Determining In-Place Density and Moisture Content of Soil and Soil-Aggregate Using Complex Impedance Methodology	2014	Adopted	2022	T 399
TP 113	Determination of Asphalt Binder Resistance to Ductile Failure Using Double-Edge-Notched Tension (DENT) Test	2015	Adopted	2023	T 405
TP 114	Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers	2015	Adopted	2023	T 407
TP 115	Determining the Quality of Tack Coat Adhesion to the Surface of an Asphalt Pavement in the Field or Laboratory	2015	Adopted	2023	T 408
TP 116	Rutting and Fatigue Resistance of Asphalt Mixtures Using Incremental Repeated Load Permanent Deformation (iRLPD)	2015	Adopted	2023	T 410
TP 117	Determination of the Voids of Dry Compacted Filler	2015	Adopted	2023	T 409
TP 118	Characterization of the Air-Void System of Freshly Mixed Concrete by the Sequential Pressure Method	2015	Adopted	2022	T 395

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
TP 119	Electrical Resistivity of a Concrete Cylinder Tested in a Uniaxial Resistance Test	2015	Adopted	2023	T 402
TP 120	Pore Index for Carbonate Coarse Aggregate	2016	Adopted	2024	T 417
TP 121	Determining the Viscosity of Emulsified Asphalt by a Rotational Paddle Viscometer	2016	Adopted	2018 (August)	T 382
TP 122	Determination of Performance Grade of Physically Aged Asphalt Binder Using Extended Bending Beam Rheometer (BBR) Method	2016	Adopted	2023	T 406
TP 123	Measuring Asphalt Binder Yield Energy and Elastic Recovery Using the Dynamic Shear Rheometer	2016	Adopted	2024	T 418
TP 124	Determining the Fracture Potential of Asphalt Mixtures Using the Illinois Flexibility Index Test (I-FIT)	2016	Adopted	2021	T 393
TP 125	Determining the Flexural Creep Stiffness of Asphalt Mixtures Using the Bending Beam Rheometer (BBR)	2016	Adopted	2024	T 419
TP 126	Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)	2017	Adopted	2023	T 404
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			
TP 129	Vibrating Kelly Ball (VKelly) Penetration in Fresh Portland Cement Concrete	2018	Adopted	2023	T 403
TP 130	Producing Drawdown Panels and Measuring the Coefficient of Retroreflected Luminance (RL) of Pavement Markings in a Laboratory Panel	2018			
TP 131	Determining Dynamic Modulus of Asphalt Concrete Using the Indirect Tension Test	2018			
TP 132	Determining the Dynamic Modulus for Asphalt Mixtures Using Small Specimens in the Asphalt Mixture Performance Tester (AMPT)	2019			
TP 133	Determining the Damage Characteristic Curve and Failure Criterion Using Small Specimens in the Asphalt Mixture Performance Tester (AMPT)	2019	Adopted	2023	T 411
TP 134	Stress Sweep Rutting (SSR) Test Using Asphalt Mixture Performance Tester (AMPT)	2019			

Provisional Standard Number	Title	First Publ. Year	Final Disposition	Disposit. Year^a	Full Std. No.
TP 135	Determining the Total Pore Volume in Hardened Concrete Using Vacuum Saturation	2020			
TP 136	Determining the Degree of Saturation of Hydraulic-Cement Concrete	2020			
TP 137	Box Test in Slip Form Paving of Fresh Portland Cement Concrete	2020	Adopted	2022	T 396
TP 138	Weight and Diameter for Carbon-Steel for Steel Wire and Welded Wire Reinforcement for Concrete	2020			
TP 139	Determining the Specific Gravity and Absorption of Lightweight Aggregate for Internally Cured Concrete Mixtures	2020			
TP 140	Moisture Sensitivity Using Hydrostatic Pore Pressure to Determine Cohesion and Adhesion Strength of Compacted Asphalt Mixture Specimens	2020			
TP 141	Determining the Indirect Tensile Nflex Factor to Assess the Cracking Resistance of Asphalt Mixtures	2020			
TP 142	Accelerated Determination of Potentially Deleterious Expansion of Concrete Cylinder due to Alkali-Silica Reactivity	2021	Converted	2024	TP 142M/TP 142
TP 142M/ TP 142	Accelerated Determination of Potentially Deleterious Expansion of Concrete Cylinder due to Alkali-Silica Reactivity	2024			
TP 143	Continuous Measurement of Sideway-Force Friction Number for Highway Pavements	2021			
TP 144	Determining the Potential Alkali-Silica Reactivity of Aggregates (TFHRC-TFAST)	2021			
TP 145	Evaluating Rutting and Moisture Resistance of Paving Materials via Loaded Wheel Tracking with a Rubber Tire	2024			

^a Disposition month is listed only for 2016–2020, in which standards were released in April, June, or July.

^b Discontinued notice omitted.

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

^d Adopted in 2005 as R 41. R 41 was discontinued in 2019.

^e Adopted in 2008 as R 48. R 48 was discontinued in 2018.

^f Adopted in 2010 as R 55. R 55 was discontinued in 2018.

^g Adopted in 2010 as R 53. R 53 was discontinued in 2015.

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

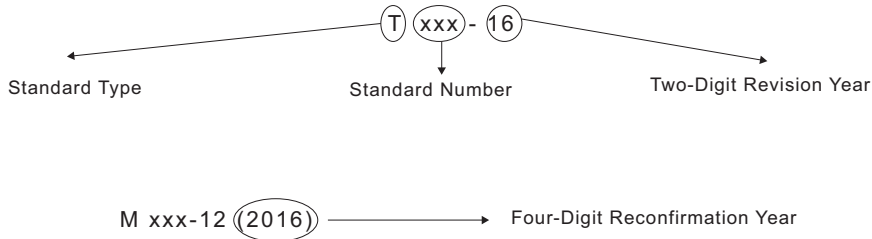
ⁱ Discontinued in 2016 then adopted in 2017.

^j Adopted in 2017 (June) as T 367. T 367 was reclassified as R 95 in 2019.

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. A provisional that is subsequently adopted as a full standard will receive a new number; likewise a standard that changes types (e.g. test to practice).

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 Committee on Materials and Pavements. 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 Committee 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.

Designation Key

A key is provided in the line below the designation number. The information on the left indicates what year the standard was most recently technically revised, or when it was first published, adopted, or reclassified. If the standard has been reconfirmed or extended, the center tab will read “Reviewed but Not Updated:” and the year; otherwise, it will be empty. If unballoted technical corrections or clarifications have been made by the author subcommittee, the right tab will read “Editorially Revised:” and the year; otherwise, it will be empty.