

**ASTM International (ASTM) Standards Permitting Use of
Non-Mercury Thermometers
As of 12/29/14**

ASTM Standards Permitting Use of Non-Mercury Thermometers Which in the Past Required Use of Mercury Thermometers*	Sub committees	New Since 10–22–13 Version
C359–08 Standard Test Method for Early Stiffening of Hydraulic Cement (Mortar Method)	C01.30	
D36/D36M–14e1 Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)	D08.03	X
D56–05 Standard Test Method for Flash Point by Tag Closed Cup Tester	D02.08.0B	
D87–09 Standard Test Method for Melting Point of Petroleum Wax (Cooling Curve)	D0210.0A	
D93–09 Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester	D02.08.0B	
D113–07 Standard Test Method for Ductility of Bituminous Materials	D04.44	
D130–10 Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test	D02.05.0C	
D139–07 Standard Test Method for Float Test for Bituminous Materials	D04.44	
D233–13 Standard Test Methods of Sampling and Testing Turpentine	D01.34	X
D304–11 Standard Specification for <i>n</i> -Butyl Alcohol (Butanol)	D01.35	
D329–07e1 Standard Specification for Acetone	D01.35	
D330–07 Standard Specification for 2-Butoxyethanol	D01.35	
D331–11 Standard Specification for 2-Ethoxyethanol	D01.35	
D381–12 Standard Test Method for Gum Content in Fuels by Jet Evaporation	D02.14.00	
D402/D402M Standard - 14 Test Method for Distillation of Cutback Asphalt	D04.46	X
D445–09 Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)	D02.07.0A	
D611–12 Standard Test Methods for Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents	D02.04.0D	

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D613–13 Standard Test Method for Cetane Number of Diesel Fuel Oil	D02.01.00	X
D665–06 Standard Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water	D02.C0.02	
D698–07e1 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft ³ (600 kN-m/m ³))	D18.03	
D721–06 Standard Test Method for Oil Content of Petroleum Waxes	D02.10.0A	
D740–11 Standard Specification for Methyl Ethyl Ketone	D01.35	
D770–11 Standard Specification for Isopropyl Alcohol	D01.35	
D914–12 Standard Test Methods for Ethylcellulose	D01.36	
D938–12 British Standard 5088 Standard Test Method for Congealing Point of Petroleum Waxes, Including Petrolatum	D02.10.0A	
D943–04a(2010)e1 Standard Test Method for Oxidation Characteristics of Inhibited Mineral Oils	D02.09.0C	
D1007–11 Standard Specification for sec-Butyl Alcohol	D01.35	
D1025–10 Standard Test Method for Nonvolatile Residue of Polymerization-Grade Butadiene	D02.D0.04	
D1045–14 Standard Test Methods for Sampling and Testing Plasticizers Used in Plastics	D20.15	
D1078–11 Standard Specification for Rubber-Concentrated, Ammonia Preserved, Creamed, and Centrifuged Natural Latex	D01.35	
D1092–12 Standard Test Method for Measuring Apparent Viscosity of Lubricating Greases	D02.G0.02	
D1120–11e1 Standard Test Method for Boiling Point of Engine Coolants	D15.03	
D1122–13 Standard Test Method for Density or Relative Density of Engine Coolant Concentrates and Engine Coolants By The Hydrometer	D15.03	X
D1153–12 Standard Specification for Methyl Isobutyl Ketone	D01.35	
D1200–10 Standard Test Method for Viscosity by Ford Viscosity Cup	D01.24	

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D1218–02(2007) Standard Test Method for Refractive Index and Refractive Dispersion of Hydrocarbon Liquids	D02.04.0D	
D1267–12 Standard Test Method for Gage Vapor Pressure of Liquefied Petroleum (LP) Gases (LP-Gas Method)	D02.H0.00	
D1298–99(2005) Standard Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method	D02.02.0A	
D1321–10 Standard Test Method for Needle Penetration of Petroleum Waxes	D02.10.0A	
D1384–05 (2012) Standard Test Method for Corrosion Test for Engine Coolants in Glassware	D15.06	X
D1465–10 Standard Test Method for Blocking and Picking Points of Petroleum Wax	D02.10.0A	
D1480–07 Standard Test Method for Density and Relative Density (Specific Gravity) of Viscous Materials by Bingham Pycnometer	D02.04.0D	
D1519–95 (2014) Standard Test Methods for Rubber Chemicals— Determination of Melting Range	D11.11	X
D1557–09 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2,700 kN-m/m ³))	D18.03	
D1601–12 Standard Test Method for Dilute Solution Viscosity of Ethylene Polymers	D20.07	
D1669–07 Standard Practice for Preparation of Test Panels for Accelerated and Outdoor Weathering of Bituminous Coatings	D08.02	X
D1718–09 Standard Specification for Isobutyl Acetate (95% Grade)	D01.35	
D1719–11 Standard Specification for Isobutyl Alcohol	D01.35	
D1754/D1754M–09 Standard Test Method for Effects of Heat and Air on Asphaltic Materials (Thin-Film Oven Test)	D04.46	
D1795–13 Standard Test Method for Intrinsic Viscosity of Cellulose	D01.36	
D1823–95(2009) Standard Test Method for Apparent Viscosity of Plastisols and Organosols at High Shear Rates by Extrusion Viscometer	D20.15	
D1836–07 Standard Specification for Commercial Hexanes	D01.35	

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D1838–11 Standard Test Method for Copper Strip Corrosion by Liquefied Petroleum (LP) Gases	D02.0H.00	
D1981–11 Standard Test Method for Measuring Color After Heating of Tall Oil Fatty Acids	D01.34	
D1982–13 Standard Test Method for Titer of Fatty Acids	D01.34	X
D1986–13 Standard Test Method for Determining the Apparent Viscosity of Polyethylene Wax	D21.02	X
D2041/D2041M–11 Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures	D04.21	
D2111–10 Standard Test Methods for Specific Gravity and Density of Halogenated Organic Solvents and Their Admixtures*	D26.04	X
D2158–05(2011) Standard Test Method for Residues in Liquefied Petroleum (LP) Gases	D02.H0	
D2190–07 Standard Specification for Vinyl Acetate	D01.35	
D2196–10 Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer	D01.24	
D2318–14e1 Standard Test Method for Quinoline-Insoluble (QI) Content of Tar and Pitch	D02.05.0F	X
D2319/D2319M – 98 (Reapproved 2008)e1 Standard Test Method for Softening Point of Pitch (Cube-in-Air Method)	D02.05.0F	X
D2627–08(2012) Standard Specification for Diacetone Alcohol	D01.35	
D2634–07 Standard Specification for Methyl Amyl Acetate (95 % Grade)	D01.35	
D2636–07(2012) Standard Specification for Hexylene Glycol	D01.35	
D2699–11e1 Standard Test Method for Research Octane Number of Spark-Ignition Engine Fuel	D02.01	
D2700–11e1 Standard Test Method for Motor Octane Number of Spark-Ignition Engine Fuel	D02.01	
D2746–07 (2013) Standard Test Method for Staining Tendency of Asphalt (Stain Index)	D08.02	X

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D2838–09 Standard Test Method for Shrink Tension and Orientation Release Stress of Plastic Film and Thin Sheeting	D20.19	
D2872–12e1 Standard Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test)	D04.46	
D2878–10 Standard Test Method for Estimating Apparent Vapor Pressures and Molecular Weights of Lubricating Oils	D02.11.00	
Designation: D2913–14 Standard Test Method for Mercaptan Content of the Atmosphere	D22.03	X
D2916–09 Standard Specification for Isophorone	D01.35	
D2917–07 Standard Specification for Methyl Isoamyl Ketone	D01.35	
D3065–01 (Reapproved 2013) Standard Test Methods for Flammability of Aerosol Products	D10.33	X
D3128–07 Standard Specification for 2-Methoxyethanol	D01.35	
D3130–11 Standard Specification for n-Propyl Acetate (96 % Grade)	D01.35	
D3131–07 Standard Specification for Isopropyl Acetate (99 % Grade)	D01.35	
D3143–08 Standard Test Method for Flash Point of Cutback Asphalt with Tag Open-Cup Apparatus	D04.47	
D3154–14 Standard Test Method for Average Velocity in a Duct (Pitot Tube Method)	D22.03	X
D3162–12 Standard Test Method for Carbon Monoxide in the Atmosphere (Continuous Measurement by Nondispersive Infrared Spectrometry)	D22.03	
D3195/D3195M–10 Standard Practice for Rotameter Calibration	D22.01	
D3235–06 An American National Standard Standard Test Method for Solvent Extractables in Petroleum Waxes	D02.10.0A	
D3267–12 Standard Test Method for Separation and Collection of Particulate and Water-Soluble Gaseous Fluorides in the Atmosphere (Filter and Impinger Method)	D22.03	
D3539–11 Standard Test Methods for Evaporation Rates of Volatile Liquids by Shell Thin-Film Evaporometer	D01.24	
D3540–12 Standard Specification for Primary Amyl Acetate, Synthetic (98 % Grade)	D01.35	

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D3607–08 Standard Test Method for Removing Volatile Contaminants from Used Engine Oils by Stripping	D02.06.00	
D3622–11 Standard Specification for 1-Propanol (n-Propyl Alcohol)	D01.35	
D3625–12 Standard Practice for Effect of Water on Bituminous-Coated Aggregate Using Boiling Water	D04.22	
D3685/D3685M–13 Standard Test Methods for Sampling and Determination of Particulate Matter in Stack Gases	D22.03	X
D3791/D3791M–11 Standard Practice for Evaluating the Effects of Heat on Asphalts	D08.03	X
D3824–12 Standard Test Methods for Continuous Measurement of Oxides of Nitrogen in the Ambient or Workplace Atmosphere by the Chemiluminescent Method	D22.03	
D3825–09 Standard Test Method for Dynamic Surface Tension by the Fast-Bubble Technique	D02.11	
D3828–09 Standard Test Methods for Flash Point by Small Scale Closed Cup Tester	D02.08.0B	
D3944–12 Standard Test Method for Solidification Point of Petroleum Wax	D02.10.0A	
D4171–11 Standard Specification for Fuel System Icing Inhibitors	D02.J0.04	
D4212–10 Standard Test Method for Viscosity by Dip-Type Viscosity Cups	D01.24	
D4221–11 Standard Test Method for Dispersive Characteristics of Clay oil by Double Hydrometer	D18.06	
D4308–10 Standard Test Method for Electrical Conductivity of Liquid Hydrocarbons by Precision Meter	D02.J0.04	
D4310–10 Standard Test Method for Determination of Sludging and Corrosion Tendencies of Inhibited Mineral Oils	D02.09.0C	
D4350–13 Standard Test Method for Corrosivity Index of Plastics and Fillers	D20.16	X
D4360–11 Standard Specification for Methyl <i>n</i> -Amyl Ketone	D01.35	
D4361–10 Standard Test Method for Apparent Tack of Printing Inks and Vehicles by a Three- Roller Tackmeter	D01.56	
D4423–10 Standard Test Method for Determination of Carbonyls in C4 Hydrocarbons	D02.D0.04	
D4486–10 Standard Test Method for Kinematic Viscosity of Volatile and Reactive Liquids	D02.11.00	

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D4532–10 Standard Test Method for Respirable Dust in Workplace Atmospheres Using Cyclone Samplers	D22.04	
D4539–10 Standard Test Method for Filterability of Diesel Fuels by Low-Temperature Flow Test (LTFT)	D02.07.0D	
D4603–03 (2011)e1 Standard Test Method for Determining Inherent Viscosity of Poly(Ethylene Terephthalate) (PET) by Glass Capillary Viscometer	D20.70	
D4614–11 Standard Specification for Ethyl Acetate (All Grades)	D01.35	
D4615–12 Standard Specification for n-Butyl Acetate (All Grades)	D01.35	
D4659–14 Standard Test Methods for Polyurethane Raw Materials: Determination of Specific Gravity of Isocyanates	D20.22	X
D4669–07 (2013) Standard Test Method for Polyurethane Raw Materials: Determination of Specific Gravity of Polyols	D20.22	X
D4713–12 Standard Test Methods for Nonvolatile Content of Heatset and Liquid Printing Ink Systems	D01.56	
D 4740–04 (2009) Standard Test Method for Cleanliness and Compatibility of Residual Fuels by Spot Test	D02.14.00	
D4746–14e1 Standard Test Method for Determination of Quinoline Insolubles (QI) in Tar and Pitch by Pressure Filtration	D02.05	X
D4814–13 Standard Specification for Automotive Spark-Ignition Engine Fuel	D02.A0.01	
D4836–09 Standard Specification for Dipropylene Glycol Monomethyl Ether	D01.35	
D4870–09 An American National Standard Standard Test Method for Determination of Total Sediment in Residual Fuels	D02.14.00	
D4943–08 Standard Test Method for Shrinkage Factors of Soils by the Wax Method	D18.03	
D5006–11 Standard Test Method for Measurement of Fuel System Icing Inhibitors (Ether Type) in Aviation Fuels	D02.J0.04	
D5030/D5030M–13 Standard Test Methods for Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit	D18.08	
D5125–10 Standard Test Method for Viscosity of Paints and Related Materials by ISO Flow Cup	D01.24	
D5137–07 Standard Specification for Hexyl Acetate	D01.35	

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D5165–12 Standard Practice for Laboratory Preparation of Gelled Vehicles Using a Resin Kettle	D01.37	
D5167–10 Standard Practice for Melting of Hot-Applied Joint and Crack Sealant and Filler for Evaluation	D04.33	
D5249–10 Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints	D04.33	
D5298–10 Standard Test Method for Measurement of Soil Potential (Suction) Using Filter Paper ¹	D18.04	
D5304–11 Standard Test Method for Assessing Distillate Fuel Storage Stability by Oxygen Overpressure	D02.14.00	
D5438–11 Standard Practice for Collection of Floor Dust for Chemical Analysis	D22.05	
D5534–94 (2011)e1 Standard Test Method for Vapor-Phase Rust-Preventing Characteristics of Hydraulic Fluids	D02.N0.02	
D5763–11 Standard Test Method for Oxidation and Thermal Stability Characteristics of Gear Oils Using Universal Glassware	D02.09	
D5801–12 Standard Test Method for Toughness and Tenacity of Bituminous Materials	D04.44	
D5865–10 Standard Test Method for Gross Calorific Value of Coal and Coke	D05.21	
D6038–14 Standard Test Methods for Determining the Compatibility of Resin/Solvent Mixtures by Precipitation Temperature (Cloud Point)	D01.38	X
D6084–06 Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer	D04.44	
D6111–13a Standard Test Method for Bulk Density And Specific Gravity of Plastic Lumber and Shapes by Displacement	D20.20	X
D6209–13 Standard Test Method for Determination of Gaseous and Particulate Polycyclic Aromatic Hydrocarbons in Ambient Air (Collection on Sorbent-Backed Filters with Gas Chromatographic/Mass Spectrometric Analysis)	D22.03	
D6267/D6267M–13 Standard Test Method for Apparent Viscosity of Hydrocarbon Resins at Elevated Temperatures	D01.38	X
D6331–13 Standard Test Method for Determination of Mass Concentration of Particulate Matter from Stationary Sources at Low Concentrations (Manual Gravimetric Method)	D22.03	

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D6493–11 Standard Test Methods for Softening Point of Hydrocarbon Resins and Rosin Based Resins by Automated Ring-and-Ball Apparatus	D01.34	
D6539–13 Standard Test Method for Measurement of the Permeability of Unsaturated Porous Materials by Flowing Air	D18.04	X
D6572–12 Standard Test Methods for Determining Dispersive Characteristics of Clayey Soils by the Crumb Test	D18.06	
D6608–12 Standard Practice for the Identification of Trinidad Lake Asphalt in Asphalt Mixes	D04.47	
D6648–08 Standard Test Method for Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	D04.44	
D6704–08 Standard Test Method for Determining the Workability of Asphalt Cold Mix Patching Material	D04.27	
D6780/D6780M–12 Standard Test Method for Water Content and Density of Soil In situ by Time Domain Reflectometry (TDR)	D18.08	
D6824–13e1 Standard Test Method for Determining Filterability of Aviation Turbine Fuel	D02.J0.01	X
D6857/D6857M–11 Standard Test Method for Maximum Specific Gravity and Density of Bituminous Paving Mixtures Using Automatic Vacuum Sealing Method	D04.21	
D6922–11 Standard Test Method for Determination of Homogeneity and Miscibility in Automotive Engine Oils ¹	D02.B0.00	
D7098–08e1 Standard Test Method for Oxidation Stability of Lubricants by Thin-Film Oxygen Uptake (TFOUT) Catalyst B	D02.09.0G	
D7226–11 Standard Test Method for Determining the Viscosity of Emulsified Asphalts Using a Rotational Paddle Viscometer	D04.42	
F483–09 Standard Practice for Total Immersion Corrosion Test for Aircraft Maintenance Chemicals	F07.07	X
F558–11 Standard Test Method for Measuring Air Performance Characteristics of Vacuum	F11.22	
F820–11 Standard Test Method for Measuring Air Performance Characteristics of Central Vacuum Cleaning Systems	F11.22	
F1914–07(2011) Standard Test Methods for Short-Term Indentation and Residual Indentation of Resilient Floor Covering	F06.30	

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F2105–11 Standard Test Method for Measuring Air Performance Characteristics of Vacuum Cleaner Motor/Fan Systems	F11.22	
G42–11 Standard Test Method for Cathodic Disbonding of Pipeline Coatings Subjected to Elevated Temperatures	D01.48	
Standards Allowing Alternatives but Requires Mercury Thermometer on Disputed Tests		
D86–11b Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure	D02.08	
D1747–09 Standard Test Method for Refractive Index of Viscous Materials	D02.04.0D	
Standards Requiring Mercury Thermometer Which Have Been Withdrawn		
D246–04a Standard Test Method for Distillation of Creosote and Creosote-Coal Tar Solutions (Withdrawn 2006)	D07.06	X
D0301–95(04) Standard Test Methods for Soluble Cellulose Nitrate (Withdrawn 2011)	D01.36	
D319–04 Standard Specification for Amyl Alcohol (Synthetic) (Withdrawn 2010)	D01.35	
D368–89 (Reapproved 2002) Standard Test Method for Specific Gravity of Creosote and Oil-Type Preservatives (Withdrawn 2006)	D07.06	X
D369–84 (Reapproved 2002) Standard Test Method for Specific Gravity of Creosote Fractions and Residue (Withdrawn 2006)	D07.06	X
D370–02e1 Standard Practice for Dehydration of Oil-Type Preservatives (Withdrawn 2006)	D07.06	X
D961–86 (2001) Standard Specification for Dehydrated Castor Oil (Withdrawn 2007)	D01.32	X
Designation: D1531–06 Standard Test Methods for Relative Permittivity (Dielectric Constant) and Dissipation Factor by Fluid Displacement Procedures (Withdrawn 2012)	D09.12	X
Designation: D2471–99 Standard Test Method for Gel Time and Peak Exothermic Temperature of Reacting Thermosetting Resins (Withdrawn 2008)	D20.16	X
D2533–99 Standard Test Method for Vapor-Liquid Ratio of Spark-Ignition Engine Fuels (Withdrawn 2008)	D02.08.0D	X

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D2569–97R02E01 Standard Test Method for Distillation of Pitch (Withdrawn 2006)	D02.05.0F	
D3269–96(2001)e1 Standard Test Methods for Analysis for Fluoride Content of the Atmosphere and Plant Tissues (Manual Procedures) (Withdrawn 2010)	D22.03	
D5165–93(R04) Standard Practice for Laboratory Preparation of Gelled Vehicles Using a Resin Kettle Reinstated.	D01.37	
D5916–96(2002) Standard Test Method for Detection and Enumeration of Clostridium perfringens from Water and Extracted Sediments by Membrane Filtration (MF) (Withdrawn 2011)	D19.24	
D6422–99 Standard Test Method for Water Tolerance (Phase Separation) of Gasoline-Alcohol Blends (Withdrawn 2007)	D02.A0.01	X
D6847–02 Standard Test Method for Quantitative Extraction and Recovery of Asphalt Binder from Asphalt Mixtures (Withdrawn 2010)	D04.25	
F78–97 (Reapproved 2002) Standard Test Method for Calibration of Helium Leak Detectors by Use of Secondary Standards (Withdrawn 2008)	F01.03	X
F142–93 (2000)e1 Standard Test Method for Indentation of Resilient Floor Tiles (McBurney Test) (Withdrawn 2007, replaced by F1914)	F06.30	X

***This is a list of updated ASTM Standards developed through an ongoing cooperative program of reviewing and editing ASTM Standards to phase out the use of mercury thermometers. Participants include ASTM, the Environmental Protection Agency (EPA), the National Institute of Standards and Technology (NIST) and state coalition organizations.**