ASTM Volume 04.08, March 2018 Soil and Rock (I): D421 – D5876

D425-17 Standard Test Method for Centrifuge Moisture Equivalent of Soils

D558-11 Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures

D559/D559M-15 Standard Test Methods for Wetting and Drying Compacted Soil-Cement Mixtures

D560/D560M-16 Standard Test Methods for Freezing and Thawing Compacted Soil-Cement Mixtures

D653-14 Standard Terminology Relating to Soil, Rock, and Contained Fluids

D698-12e2 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ftlbf/ft³ (600 kN-m/m³))

D806-11 Standard Test Method for Cement Content of Hardened Soil-Cement Mixtures

D854-14 Standard Test Methods for Specific Gravity of Soil Solids by Water Pycnometer

D1140-17 Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing

D1143/D1143M-07(2013) Standard Test Methods for Deep Foundations Under Static Axial Compressive Load

D1241-15 Standard Specification for Materials for Soil-Aggregate Subbase, Base, and Surface Courses

D1411-09 Standard Test Methods for Water-Soluble Chlorides Present as Admixtures in Graded Aggregate Road Mixes

D1452/D1452M-16 Standard Practice for Soil Exploration and Sampling by Auger Borings

D1556/D1556M-15e1 Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method

D1557-12e1 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ftlbf/ft³ (2,700 kN-m/m³))

D1558-10 Standard Test Method for Moisture Content Penetration Resistance Relationships of Fine-Grained Soils

D1586-11 Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils

D1587/D1587M-15 Standard Practice for Thin-Walled Tube Sampling of Fine-Grained Soils for Geotechnical Purposes

D1632-17 Standard Practice for Making and Curing Soil-Cement Compression and Flexure Test Specimens in the Laboratory

D1633-17 Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders

D1634-17 Standard Test Method for Compressive Strength of Soil-Cement Using Portions of Beams Broken in Flexure (Modified Cube Method)

D1635/D1635M-12 Standard Test Method for Flexural Strength of Soil-Cement Using Simple Beam with Third-Point Loading D1883-16 Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils D1997-13 Standard Test Method for Laboratory Determination of the Fiber Content of Peat Samples by Dry Mass D2113-14 Standard Practice for Rock Core Drilling and Sampling of Rock for Site Exploration D2166/D2166M-16 Standard Test Method for Unconfined Compressive Strength of Cohesive Soil D2167-15 Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method D2168-10 Standard Test Methods for Calibration of Laboratory Mechanical-Rammer Soil Compactors D2216-10 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass D2435/D2435M-11 Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading D2487-11 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) D2488-17 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) D2573/D2573M-15 Standard Test Method for Field Vane Shear Test in Saturated Fine-Grained Soils D2844/D2844M-13 Standard Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils D2850-15 Standard Test Method for Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils D2937-17e1 Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method D2944-14 Standard Practice of Sampling Processed Peat Materials D2973-16 Standard Test Method for Total Nitrogen in Peat Materials D2974-14 Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils D2976-15 Standard Test Method for pH of Peat Materials D2977-14 Standard Practice for Particle Size Range of Peat Materials for Horticultural Purposes D2978-15 Standard Test Methods for Volume of Processed Peat Materials D2980-17 Standard Test Method for Saturated Density, Moisture-Holding Capacity, and Porosity of Saturated Peat Materials

D3080/D3080M-11 Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions

D3155-11 Standard Test Method for Lime Content of Uncured Soil-Lime Mixtures

D3213-13 Standard Practices for Handling, Storing, and Preparing Soft Intact Marine Soil

D3282-15 Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes

D3385-09 Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer

D3404-15 Standard Guide for Measuring Matric Potential in Vadose Zone Using Tensiometers

D3441-16 Standard Test Method for Mechanical Cone Penetration Testing of Soils

D3550/D3550M-17 Standard Practice for Thick Wall, Ring-Lined, Split Barrel, Drive Sampling of Soils

D3551-17 Standard Practice for Laboratory Preparation of Soil-Lime Mixtures Using Mechanical Mixer

D3689/D3689M-07(2013)e1 Standard Test Methods for Deep Foundations Under Static Axial Tensile Load

D3740-12a Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

D3966/D3966M-07(2013)e1 Standard Test Methods for Deep Foundations Under Lateral Load

D3967-16 Standard Test Method for Splitting Tensile Strength of Intact Rock Core Specimens

D3999/D3999M-11e1 Standard Test Methods for the Determination of the Modulus and Damping Properties of Soils Using the Cyclic Triaxial Apparatus

D4015-15e1 Standard Test Methods for Modulus and Damping of Soils by Fixed-Base Resonant Column Devices

D4016-14 Standard Test Method for Viscosity and Gel Time of Chemical Grouts by Rotational Viscometer (Laboratory Method)

D4043-17 Standard Guide for Selection of Aquifer Test Method in Determining Hydraulic Properties by Well Techniques

D4044/D4044M-15 Standard Test Method for (Field Procedure) for Instantaneous Change in Head (Slug) Tests for Determining Hydraulic Properties of Aquifers

D4050-14 Standard Test Method for (Field Procedure) for Withdrawal and Injection Well Testing for Determining Hydraulic Properties of Aquifer Systems

D4083-89(2016) Standard Practice for Description of Frozen Soils (Visual-Manual Procedure)

D4104-17 Standard Test Method (Analytical Procedure) for Determining Transmissivity of Nonleaky Confined Aquifers by Overdamped Well Response to Instantaneous Change in Head (Slug Tests) D4105/D4105M-15e1 Standard Test Method for (Analytical Procedure) for Determining Transmissivity and Storage Coefficient of Nonleaky Confined Aquifers by the Modified Theis Nonequilibrium Method

D4106-15 Standard Test Method for (Analytical Procedure) for Determining Transmissivity and Storage Coefficient of Nonleaky Confined Aquifers by the Theis Nonequilibrium Method

D4186/D4186M-12e1 Standard Test Method for One-Dimensional Consolidation Properties of Saturated Cohesive Soils Using Controlled-Strain Loading

D4220/D4220M-14 Standard Practices for Preserving and Transporting Soil Samples

D4221-17 Standard Test Method for Dispersive Characteristics of Clay Soil by Double Hydrometer

D4223/D4223M-12 Standard Practice for Preparation of Test Specimens of Asphalt-Stabilized Soils

D4253-16 Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table

D4254-16 Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density

D4318-17 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

D4373-14 Standard Test Method for Rapid Determination of Carbonate Content of Soils

D4380-12 Standard Test Method for Density of Bentonitic Slurries

D4381/D4381M-12 Standard Test Method for Sand Content by Volume of Bentonitic Slurries

D4394-17 Standard Test Method for Determining In Situ Modulus of Deformation of Rock Mass Using Rigid Plate Loading Method

D4395-17 Standard Test Method for Determining In Situ Modulus of Deformation of Rock Mass Using Flexible Plate Loading Method

D4403-12 Standard Practice for Extensometers Used in Rock

D4404-10 Standard Test Method for Determination of Pore Volume and Pore Volume Distribution of Soil and Rock by Mercury Intrusion Porosimetry

D4427-13(2017) Standard Classification of Peat Samples by Laboratory Testing

D4428/D4428M-14 Standard Test Methods for Crosshole Seismic Testing

D4429-09a Standard Test Method for CBR (California Bearing Ratio) of Soils in Place

D4435-13e1 Standard Test Method for Rock Bolt Anchor Pull Test

D4436-13e1 Standard Test Method for Rock Bolt Long-Term Load Retention Test

D4452-14 Standard Practice for X-Ray Radiography of Soil Samples

D4506-13e1 Standard Test Method for Determining In Situ Modulus of Deformation of Rock Mass Using Radial Jacking Test

D4511-11 Standard Test Method for Hydraulic Conductivity of Essentially Saturated Peat

D4525-13e1 Standard Test Method for Permeability of Rocks by Flowing Air

D4531-15 Standard Test Methods for Bulk and Dry Density of Peat and Peat Products

D4535-13e1 Standard Test Methods for Measurement of Thermal Expansion of Rock Using Dilatometer

D4542-15 Standard Test Methods for Pore Water Extraction and Determination of the Soluble Salt Content of Soils by Refractometer

D4544-12 Standard Practice for Estimating Peat Deposit Thickness

D4546-14 Standard Test Methods for One-Dimensional Swell or Collapse of Soils

D4554-12 Standard Test Method for In Situ Determination of Direct Shear Strength of Rock Discontinuities

D4555-10 Standard Test Method for Determining Deformability and Strength of Weak Rock by an In Situ Uniaxial Compressive Test

D4611-16 Standard Test Method for Specific Heat of Rock and Soil

D4612-16 Standard Test Method for Calculating Thermal Diffusivity of Rock and Soil

D4623-16 Standard Test Method for Determination of In Situ Stress in Rock Mass by Overcoring Method—Three Component Borehole Deformation Gauge

D4633-16 Standard Test Method for Energy Measurement for Dynamic Penetrometers

D4643-17 Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating

D4644-16 Standard Test Method for Slake Durability of Shales and Other Similar Weak Rocks

D4647/D4647M-13 Standard Test Methods for Identification and Classification of Dispersive Clay Soils by the Pinhole Test

D4648/D4648M-16 Standard Test Methods for Laboratory Miniature Vane Shear Test for SaturatedFine-Grained Clayey Soil

D4700-15 Standard Guide for Soil Sampling from the Vadose Zone

D4718/D4718M-15 Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles

D4753-15 Standard Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing

D4767-11 Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils

D4829-11 Standard Test Method for Expansion Index of Soils

D4832-16 Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders

D4914/D4914M-16 Standard Test Methods for Density of Soil and Rock in Place by the Sand Replacement Method in a Test Pit

D4944-11 Standard Test Method for Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester

D4945-17 Standard Test Method for High-Strain Dynamic Testing of Deep Foundations

D4959-16 Standard Test Method for Determination of Water Content of Soil By Direct Heating

D4971-16 Standard Test Method for Determining In Situ Modulus of Deformation of Rock Using Diametrically Loaded 76-mm (3in.) Borehole Jack

D4972-13 Standard Test Method for pH of Soils

D4992-14e1 Standard Practice for Evaluation of Rock to be Used for Erosion Control

D5030/D5030M-13a Standard Test Methods for Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit

D5080-17 Standard Test Method for Rapid Determination of Percent Compaction

D5084-16a Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

D5088-15a Standard Practice for Decontamination of Field Equipment Used at Waste Sites

D5092/D5092M-16 Standard Practice for Design and Installation of Groundwater Monitoring Wells

D5093-15 Standard Test Method for Field Measurement of Infiltration Rate Using Double-Ring Infiltrometer with Sealed-Inner Ring

D5102-09 Standard Test Method for Unconfined Compressive Strength of Compacted Soil-Lime Mixtures

D5121-15 Standard Practice for Preparation of Rock Slabs for Durability Testing

D5126-16e1 Standard Guide for Comparison of Field Methods for Determining Hydraulic Conductivity in Vadose Zone

D5143-06(2015)e1 Standard Test Method for Analysis of Nitroaromatic and Nitramine Explosive in Soil by High Performance Liquid Chromatography

D5195-14 Standard Test Method for Density of Soil and Rock In-Place at Depths Below Surface by Nuclear Methods

D5202/D5202M-16 Standard Test Method for Determining Triaxial Compression Creep Strength of Chemically Grouted Soils

D5220-14 Standard Test Method for Water Mass per Unit Volume of Soil and Rock In-Place by the Neutron Depth Probe Method

D5239-12 Standard Practice for Characterizing Fly Ash for Use in Soil Stabilization

D5240/D5240M-12(2013) Standard Test Method for Evaluation of Durability of Rock for Erosion Control Using Sodium Sulfate or Magnesium Sulfate

D5254/D5254M-92(2010)e1 Standard Practice for Minimum Set of Data Elements to Identify a Groundwater Site

D5255-15 Standard Practice for Certification of Personnel Engaged in the Testing of Soil and Rock

D5268-13 Standard Specification for Topsoil Used for Landscaping Purposes

D5269-15 Standard Test Method for Determining Transmissivity of Nonleaky Confined Aquifers by the Theis Recovery Method

D5270-96(2014) Standard Test Method for Determining Transmissivity and Storage Coefficient of Bounded, Nonleaky, Confined Aquifers

D5298-16 Standard Test Method for Measurement of Soil Potential (Suction) Using Filter Paper

D5299-99(2012)e1 Standard Guide for Decommissioning of Groundwater Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities

D5311/D5311M-13 Standard Test Method for Load Controlled Cyclic Triaxial Strength of Soil

D5312/D5312M-12(2013) Standard Test Method for Evaluation of Durability of Rock for Erosion Control Under Freezing and Thawing Conditions

D5313/D5313M-12(2013) Standard Test Method for Evaluation of Durability of Rock for Erosion Control Under Wetting and Drying Conditions

D5334-14 Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

D5335-14 Standard Test Method for Linear Coefficient of Thermal Expansion of Rock Using Bonded Electric Resistance Strain Gauges

D5408-93(2010)e1 Standard Guide for Set of Data Elements to Describe a Groundwater Site; Part One - Additional Identification Descriptors

D5409/D5409M-93(2010)e1 Standard Guide for Set of Data Elements to Describe a Groundwater Site; Part Two - Physical Descriptors

D5434-12 Standard Guide for Field Logging of Subsurface Explorations of Soil and Rock

D5435-13 Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection

D5447-04(2010) Standard Guide for Application of a Groundwater Flow Model to a Site-Specific Problem

D5472/D5472M-14 Standard Test Method for Determining Specific Capacity and Estimating Transmissivity at the Control Well

D5473/D5473M-15 Standard Test Method for (Analytical Procedure for) Analyzing the Effects of Partial Penetration of Control Well and Determining the Horizontal and Vertical Hydraulic Conductivity in a Nonleaky Confined Aquifer

D5474-93(2012) Standard Guide for Selection of Data Elements for Groundwater Investigations

D5490-93(2014)e1 Standard Guide for Comparing Groundwater Flow Model Simulations to Site-Specific Information

D5519-15 Standard Test Methods for Particle Size Analysis of Natural and Man-Made Riprap Materials

D5520-11 Standard Test Method for Laboratory Determination of Creep Properties of Frozen Soil Samples by Uniaxial Compression

D5521/D5521M-13 Standard Guide for Development of Groundwater Monitoring Wells in Granular Aquifers

D5539-14 Standard Specification for Seed Starter Mix

D5550-14 Standard Test Method for Specific Gravity of Soil Solids by Gas Pycnometer

D5607-16 Standard Test Method for Performing Laboratory Direct Shear Strength Tests of Rock Specimens Under Constant Normal Force

D5608-16 Standard Practices for Decontamination of Sampling and Non Sample Contacting Equipment Used at Low Level Radioactive Waste Sites

D5609-16 Standard Guide for Defining Boundary Conditions in Groundwater Flow Modeling

D5610-94(2014) Standard Guide for Defining Initial Conditions in Groundwater Flow Modeling

D5611-94(2016) Standard Guide for Conducting a Sensitivity Analysis for a Groundwater Flow Model Application

D5715-14 Standard Practice for Estimating the Degree of Humification of Peat and Other Organic Soils (Visual/Manual Method)

D5716/D5716M-15 Standard Test Method for Measuring the Rate of Well Discharge by Circular Orifice Weir

D5718-13 Standard Guide for Documenting a Groundwater Flow Model Application

D5719-13 Standard Guide for Simulation of Subsurface Airflow Using Groundwater Flow Modeling Codes

D5731-16 Standard Test Method for Determination of the Point Load Strength Index of Rock and Application to Rock Strength Classifications

D5737/D5737M-14 Standard Guide for Methods for Measuring Well Discharge

D5745-15 Standard Guide for Developing and Implementing Short-Term Measures or Early Actions for Site Remediation

D5753-05(2010) Standard Guide for Planning and Conducting Borehole Geophysical Logging

D5777-00(2011)e1 Standard Guide for Using the Seismic Refraction Method for Subsurface Investigation

D5778-12 Standard Test Method for Electronic Friction Cone and Piezocone Penetration Testing of Soils

D5779/D5779M-14 Standard Test Method for Field Determination of Apparent Specific Gravity of Rock and Manmade Materials for Erosion Control

D5780-10 Standard Test Method for Individual Piles in Permafrost Under Static Axial Compressive Load

D5781/D5781M-13 Standard Guide for Use of Dual-Wall Reverse-Circulation Drilling for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices

D5782-95(2012) Standard Guide for Use of Direct Air-Rotary Drilling for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices

D5783-95(2012) Standard Guide for Use of Direct Rotary Drilling with Water-Based Drilling Fluid for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices

D5784/D5784M-13 Standard Guide for Use of Hollow-Stem Augers for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices

D5785/D5785M-15 Standard Test Method for (Analytical Procedure) for Determining Transmissivity of Confined Nonleaky Aquifers by Underdamped Well Response to Instantaneous Change in Head (Slug Test)

D5786-17 Standard Practice for (Field Procedure) for Constant Drawdown Tests in Flowing Wells for Determining Hydraulic Properties of Aquifer Systems

D5787-14 Standard Practice for Monitoring Well Protection

D5850-95(2012) Standard Test Method for (Analytical Procedure) Determining Transmissivity, Storage Coefficient, and Anisotropy Ratio from a Network of Partially Penetrating Wells

D5855/D5855M-15 Standard Test Method for (Analytical Procedure) for Determining Transmissivity and Storage Coefficient of Confined Nonleaky or Leaky Aquifer by Constant Drawdown Method in Flowing Well

D5856-15 Standard Test Method for Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter

D5872/D5872M-13 Standard Guide for Use of Casing Advancement Drilling Methods for Geoenvironmental Exploration and Installation of Subsurface Water-Quality Monitoring Devices

D5873-14 Standard Test Method for Determination of Rock Hardness by Rebound Hammer Method

D5874-16 Standard Test Methods for Determination of the Impact Value (IV) of a Soil

D5875/D5875M-13 Standard Guide for Use of Cable-Tool Drilling and Sampling Methods for Geoenvironmental Exploration and Installation of Subsurface Water-Quality Monitoring Devices

D5876-95(2012)e1 Standard Guide for Use of Direct Rotary Wireline Casing Advancement Drilling Methods for Geoenvironmental Exploration and Installation of Subsurface Water-Quality Monitoring Devices