

# SUMMARY OF CURRENT STANDARD SPECIFICATIONS USED IN THIS HANDBOOK

## AASHTO STANDARDS

American Association of State Highway and Transportation Officials Standards

LRFD Section 12 – Buried Structures and Tunnel Liners

M43 – Sizes of Aggregate for Road and Bridge Construction

M190 – Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe-Arches

M218 – Steel Sheet, Zinc-Coated (Galvanized), for Corrugated Steel Pipe

M245 – Corrugated Steel Pipe, Polymer-Precoated, for Sewers and Drains

M252 – Corrugated Polyethylene Drainage Pipe

M274 – Steel Sheet, Aluminum-Coated (Type 2), for Corrugated Steel Pipe

M289 – Aluminum-Zinc Alloy Coated Sheet Steel for Corrugated Steel Pipe

M294-03 – Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter

MP-21-11 – Polypropylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter

Section 26 – Metal Culverts

## ASTM STANDARDS

American Society for Testing and Materials Standards

A536-84 – Ductile Iron Castings

A924 – General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process

C969 – Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines

D737 – Air Permeability of Textile Fabrics

D1056 – Flexible Cellular Materials – Sponge and Expanded Rubber

D1117 – Test Methods for Nonwoven Fabrics

D1149 – Rubber Deterioration – Surface Ozone Cracking in a Chamber

D1248-98 – Polyethylene Plastics Extrusion Materials for Wire and Cable

- D2321 – Underground Installation for Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
- D2412 – Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
- D2487 – Classification of Soils for Engineering Purposes
- D2736 – 6 to 30in. (152 to 762mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
- D2762 – 12 to 30 in. [300 to 750 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Sanitary Sewer Applications
- D2764 – 30 to 60 in. [750 to 1500 mm] Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
- D2881 – 12 to 60 in. [300 to 1500 mm] Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications
- D3034 – Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
- D3212 – Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
- D3350 – Polyethylene Plastics Pipe and Fittings Materials
- D3786 – Hydraulic Bursting Strength of Textile Fabrics – Diaphragm Bursting Strength Tester Methods
- D4101 – Polypropylene Injection and Extrusion Materials
- D4355 – Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus
- D4491 – Water Permeability of Geotextiles by Permittivity
- D4533 – Trapezoid Tearing Strength of Geotextiles
- D4632 – Grab Breaking Load and Elongation of Geotextiles
- D4751 – Determining Apparent Opening Size of a Geotextile
- D4833 – Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
- D5034 – Breaking Strength and Elongation of Textile Fabrics (Grab Test)
- D5199 – Measuring Nominal Thickness of Geotextiles and Geomembranes
- D5261 – Measuring Mass per Unit Area of Geotextiles
- F405 – Corrugated Polyethylene (PE) Pipe and Fittings
- F477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe
- F481 – Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields
- F667 – Large Diameter Corrugated Polyethylene Pipe and Fittings
- F679 – Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings

F794 – Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter

F810 – Smoothwall Polyethylene (PE) Pipe for Use in Drainage and Waste Disposal Absorption Fields

F949 – Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings

F1336 – Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings

F1417 – Installation Acceptance of Plastic Gravity Sewer Lines Using low-Pressure Air

F2306 – 12 to 60in. Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications

F2487 – Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Corrugated High Density Polyethylene Pipelines

F2649 – Standard Specification for Corrugated High Density Polyethylene (HDPE) Grease Interceptor Tanks

F2737 – Standard Specification for Corrugated High Density Polyethylene (HDPE) Water Quality Units

## CSA STANDARDS

B182.8-11 – Profile Polyethylene (PE) Storm Sewer and Drainage Pipe and Fittings

B182.11-11 – Standard practice for the installation of thermoplastic drain, storm, and sewer pipe and fittings

B182.13-11 – Profile Polypropylene (PP) Sewer Pipe and Fittings for leak-proof sewer applications

## BNQ STANDARDS

1809-300/2007 – General Technical Specifications – Drinking Water And Sewer Lines

3624-110/2006 – Polyethylene (PE) Pipe Fittings- Semi-Rigid or Flexible Pipes for Surface Water Evacuation, Soil, Drainage and Culverts- Characteristics and Test Methods

3624-115/2007 – Polyethylene (PE) Pipe and Fittings- Flexible Pipes For Drainage- Characteristics and Test Methods

3624-120 – Polyethylene (PE) Pipe and Fittings- Smooth Inside Wall

Open Profile Pipes for Storm Water and Soil Drainage-  
Characteristics and Test Methods

3624-913-2013 – Polypropylene (PP) Pipe and Fittings- Certification  
Protocol

## **COE STANDARDS**

US Army Corp of Engineer Standards

02215-86 – Geotextiles Used as Filters

## **IAPMO STANDARDS**

International Association of Plumbing and Mechanical Officials Standards

PS63-2004a – Plastic Leaching Chambers

## **SCS STANDARDS**

Soil Conservation Service Standards

606 – Subsurface Drain

The following reference material may prove helpful in gaining additional information on polyethylene and storm drainage systems.

American Iron and Steel Institute. *Handbook of Steel Drainage and Highway Construction Products*. New York: AISI, 1971.

American Railway Engineering Association. *Manual for Railway Engineering*. Washington D.C.: AREA, 1984.

American Society of Civil Engineers. *Structural Plastics Design Manual* (ASCE Manuals and Reports on Engineering Practice No. 63). New York: ASCE, 1984.

American Society of Civil Engineering/Water Pollution Control Federation. *Gravity Sanitary Sewer Design and Construction*. New York: ASCE/WPCF, 1982.

Agricultural Research Service. "Structural Design Procedure for Corrugated Plastic Drainage Tubing - Technical Bulletin No. 1466." Washington D.C.: United States Department of Agriculture, 1973.

Atkins, Harold N. *Highway Materials, Soils, and Concrete*. Reston, VA: Reston Publishing Co., 1980.

Katona, Michael G. "Allowable Fill Heights for Corrugated Polyethylene Pipe." Transportation Research Board, 1987.

Katona, Michael G. "Minimum Cover for HDPE Corrugated Pipe - Phase 1." Corrugated Plastic Tubing Association, 1988.

Katona, Michael G. "Minimum Cover for HDPE Corrugated Pipe - Phase 1 and 2." Corrugated Plastic Tubing Association, 1989.

Spangler, Merlin G. and Handy, Richard L. *Soil Engineering*. New York: Harper and Row Publishers, 1982.