Standard Specification for

Polypropylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter

AASHTO Designation: M 330-20[1]

Technical Subcommittee: 4b, Flexible and Metallic Pipe

Release: Group 2 (June)

AASHTO

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1. SCOPE

1.1. This specification covers the requirements and methods of tests for corrugated polypropylene (PP) pipe, couplings, and fittings for use in surface and subsurface drainage application.

1.1.1. Nominal sizes of 300 to 1500 mm (12 to 60 in.) are included.

1.1.2. Materials, workmanship, dimensions, pipe stiffness, environmental stress-crack resistance, joining systems, brittleness, perforations, and form of markings are specified.

1.2. Corrugated polypropylene pipe is intended for surface and subsurface drainage applications where soil provides support to its flexible walls. Its major use is to collect or convey drainage water by open gravity flow, as culverts, storm drains, sewers, etc. This standard does not cover applications that require polypropylene pipe over 600 mm (24 in.) with a minimum pipe stiffness over 314 kPa (46 psi) and low-pressure watertight joints (7.6 m (25 ft) of constant head), such as required in sanitary sewer applications.

1.3. This specification does not include requirements for bedding, backfill, or earth cover load. Successful performance of this product depends on proper type of bedding and backfill, and care in installation. The structural design of thermoplastic pipe and the proper installation procedures are given in the *AASHTO LRFD Bridge Design Specifications*, Section 12, and *AASHTO LRFD Bridge Construction Specifications*, Section 30, respectively. Upon request of the user or engineer, the manufacturer shall provide profile wall section detail required for a full engineering evaluation.

1.4. The values stated in SI units are to be regarded as standard. Within the text the U.S. Customary units are shown in parentheses and may not be exact equivalents.

1.5. The following precautionary caveat pertains only to the test method portion, Section 9.4 of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use*.

2. REFERENCED DOCUMENTS

2.1. *AASHTO Standards*:

- T 341, Determination of Compression Capacity for Profile Wall Plastic Pipe by Stub Compression Loading
- *AASHTO LRFD Bridge Design Specifications*, Section 12
- *AASHTO LRFD Bridge Construction Specifications*, Section 30

2.2. *ASTM Standards*:

- D256, Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
- D618, Standard Practice for Conditioning Plastics for Testing
- D638, Standard Test Method for Tensile Properties of Plastics
- D790, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- D792, Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
- D883, Standard Terminology Relating to Plastics
- D1238, Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
- D1505, Standard Test Method for Density of Plastics by the Density-Gradient Technique
- D1600, Standard Terminology for Abbreviated Terms Relating to Plastics
- D1928, Standard Practice for Preparation of Compression-Molded Polyethylene Test Sheets and Test Specimens (withdrawn 2001)
- D2122, Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
- D2412, Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
- D2444, Standard Practice for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
- D2990, Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics
- D3895, Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry
- D4101, Standard Classification System and Basis for Specification for Polypropylene Injection and Extrusion Materials
- D6992, Standard Test Method for Accelerated Tensile Creep and Creep-Rupture of Geosynthetic Materials Based on Time-Temperature Superposition Using the Stepped Isothermal Method
- F412, Standard Terminology Relating to Plastic Piping Systems
- F2136, Standard Test Method for Notched, Constant Ligament-Stress (NCLS) Test to Determine Slow-Crack-Growth Resistance of HDPE Resins or HDPE Corrugated Pipe

2.3. *Federal Standard*:

- 29 CFR 1910.1200 OSHA Hazard Communication Standard; see also Permissible Exposure Limits´ Annotated Tables, available at https://www.osha.gov/dsg/annotated-pels/

3. TERMINOLOGY

3.1. The terminology used in this standard is in accordance with the definitions given in ASTM D883, D1600, and F412 unless otherwise specified.