

Polypropylene (PP) Qualifications for Approved Products List

An approved products list has been developed for polypropylene (PP) pipe. For use on MnDOT projects pipe manufacturers and products must be included in the Approved/Qualified Products List (APL).

Beginning October 4, 2017, all thermoplastic pipe manufacturers will be required to provide profile wall section detail and associated material properties to the MnDOT State Hydraulics Engineer for a full engineering review. The Approved/Qualified Products List will be updated pursuant to this review and compliance with the design standards. Since review and approval of submitted information may take 90 days, Manufacturers are strongly encouraged to submit information sufficiently in advance for MnDOT to review materials and determine status for APL prior to bidding on MnDOT projects.

Product information must be kept up to date. Any changes in contact information, product materials, product manufacturing, cell dimensions, geometry, connections, or status in NTPEP must be reported immediately. Periodic confirmation of status may be required. Information about the sale of your product on MnDOT projects may be requested. Not replying to MnDOT queries will be sufficient reason for removal from the APL.

Submittals

To be considered for qualification, the pipe manufacture must submit information for each product which includes the following:

- Product name, brand and description
- Contact information for a primary and secondary contact
- Web page link
- List of plants providing pipe for projects in Minnesota
- Documentation product meets material requirements
- Cross-section detail and properties for verifying load
- Actual inside pipe diameter and tolerances for each plant, product and size.
- NTPEP status
- Commitment and agreement to notify MnDOT regarding a change in status

Contact information and submittal package delivery address:

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Materials Requirements

Materials Specification

Provide documentation that polypropylene (PP) dual-wall pipe with couplings and fittings meeting the requirements of the following:

- AASHTO M 330 Type “S” pipe; and
- Section 12 of the AASHTO LRFD Bridge Design Specifications.
- Gasketed integral bell and spigot joint meeting the requirements of ASTM F2881, for respective diameters, and
- Water tight joints that meet a 10.8 psi laboratory test per ASTM D 3212 with a gasket that meets the requirements of ASTM F 477 and
- Protect polypropylene compounds from ultraviolet (UV) degradation with Titanium Dioxide and UV stabilizers.
- Provide laboratory certification that the pipe connection for each size of pipe meets or exceeds these requirements. Submit shop drawings of each pipe coupler and any additional mechanical connections required by the plans. Mitered end sections are not to be constructed of polypropylene.
- Provide polypropylene (PP) pipe and fittings manufactured from high-density polypropylene (PP) virgin compounds. May use clean, reworked PP materials from the manufacturer’s own production, if the pipe and fittings produced meet the requirements of the materials specification.

NTPEP Audit

To be considered for qualification, the pipe manufacturer must participate in the AASHTO/NTPEP PP Plastic Pipe annual audit and testing program for each plant proposed to provide PP pipe for MnDOT projects. For qualification of M330 pipes, the manufacturer shall submit to MnDOT test results from the current cycle of AASHTO/NTPEP testing program for HDPE pipe for each size of pipe to be qualified. Each production facility shall have an individual responsible for making sure plant audits and required testing are within the frequencies given in the AASHTO/ NTPEP PP Plastic Pipe program.

Manufacturers must submit a copy of their PP Plastic Pipe audit and testing documentation that they have successfully completed the annual inspections and that their pipe meets AASHTO M330 specifications.

Design Standards Required

Profile Wall Geometry

Manufacturer must submit the profile wall section detail for each product under review. Fill out spreadsheet named "Required properties for thermoplastic pipe review".

Minimum Cover Requirements

MnDOT will check submitted material to confirm each proposed pipe size meets fill height table requirements based on MnDOT assumptions and computations.

Maximum cover or load is measured from top of pipe to top of pavement.

Polypropylene Maximum Cover Table

Pipe Diameter (inches)	Maximum Cover (feet)
12	18
15	18
18	18
24	16
30	16
36	14
42	14
48	14