

Polyvinyl Chloride (PVC) Qualifications for Approved Products List

An approved products list has been developed for polyvinyl chloride (PVC) 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 polyvinyl chloride (PVC) pipe with couplings and fittings meeting the requirements of the following:

- AASHTO M 304; and
- ASTM F 949; and
- Section 12 of the AASHTO LRFD Bridge Design Specifications.
- Provide polyvinyl chloride (PVC) pipe with a watertight seal that shows no sign of leakage when tested in accordance with ASTM D 3212. Elastomeric seals (gaskets) used for joining pipes must meet ASTM F 477.
- Submit a laboratory certification that the pipe connection for each size pipe meets or exceeds the MnDOT requirements.
- Submit the shop drawings of each pipe coupler provided by the pipe manufacturer and any additional standard mechanical connections that are typically used.
- Provide polyvinyl chloride (PVC) pipe and fittings manufactured from virgin PVC compounds. May use clean, reworked PVC materials from the manufacturer's own production if the pipe and fittings meet the requirements of the materials specification.

NTPEP Audit

To be considered for qualification, the pipe manufacturer must participate in the AASHTO/NTPEP PVC Plastic Pipe annual audit and testing program for each plant proposed to provide PVC pipe for Mn/DOT projects. For qualification of M304 pipes, the manufacturer shall submit to Mn/DOT test results from the current cycle of AASHTO/NTPEP testing program for PVC 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 PVC Plastic Pipe program.

Manufacturers must submit a copy of their PVC Plastic Pipe audit and testing documentation that they have successfully completed the annual inspections and that their pipe meets AASHTO M304 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.

Polyvinyl Chloride (PVC) Maximum Cover Table

| Pipe Diameter (inches) | Maximum Cover (feet) |
|-------------------------------|-----------------------------|
| 12 | 27 |
| 15 | 27 |
| 18 | 27 |
| 24 | 27 |
| 30 | 27 |
| 36 | 22 |
| 42 | 22 |
| 48 | 22 |