



NSF International Special Engineered Specification NSF SE 30288

Specifications for a Special Engineered SE Product – 30288 – Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter for Non-Potable Water Piping Systems

1. Purpose:

This specification establishes the product specific requirements for co-extruded PE pipe intended for non-potable water piping systems and meeting the dimensional requirements of ASTM D2239.

2. Scope of Specification:

This specification covers the initial testing, marking, in-plant QC, and annual testing requirements for PE pipe intended for non-potable water piping systems and meeting the dimensional requirements of ASTM D2239.

3. Reference Documents:

ASTM Standards:

ASTM D2239 Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter

ASTM D3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

ASTM D2122 Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

NSF Standards:

NSF/ANSI 14 Plastic Piping System Components and Related Materials

4. Materials:

4.1 – *Polyethylene Compound*—Polyethylene compounds suitable for use in the manufacture of pipe under this specification shall meet thermoplastic materials designation codes PE2708 or PE3608 or PE4710, and shall meet ASTM D2239 Table 1 requirements for PE2708 or PE3608 or PE4710, and shall meet thermal stability, brittleness temperature and elongation at break requirements in accordance with Specification D3350.

4.1.1 – *Color and Ultraviolet (UV) Stabilization*—in accordance with ASTM D2239 Table 1, polyethylene compounds shall meet Specification D3350 code C, D or E. In addition, Code C polyethylene compounds shall have 2 to 3 percent carbon black, and code D or E polyethylene compounds shall have sufficient UV stabilizer to protect pipe from deleterious UV exposure effects during unprotected outdoor shipping and storage for at least eighteen (18) months.

NOTE 1—Pipe users should consult with the pipe manufacturer about the outdoor exposure life of the product under consideration. Evaluation of UV stabilizer in Code E color PE compound using Practice D2565 or Practice G154 or Practice G155 may be useful for this purpose.

4.2 – *Rework Material*—Clean polyethylene compound from the manufacturer's own pipe production that met 4.1 as new PE compound is suitable for re-extrusion into pipe when blended with new PE compound having the same material designation and oxidative resistance classification. Pipe containing rework material shall meet all the requirements of this specification.



5. Requirements:

5.1 – *Workmanship*—The pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, or other defects. The pipe shall be as uniform as commercially practicable in color, opacity, density, and other physical properties.

5.2 – *Dimensions and Tolerances:*

5.2.1 *Inside Diameters*—The inside diameters and tolerances shall be as shown in ASTM D2239 Table 2 when measured in accordance with Test Method D2122.

5.2.2 *Wall Thicknesses*—Subject to 5.2.3, the wall and tolerance shall be as shown in ASTM D2239 Table 3 when measured in accordance with ASTM D2239 Section 7.4. Wall thickness shall be inclusive of all extruded concentric layers.

5.2.3 *Wall Thickness Range*—The wall thickness variation shall not exceed 12% when measured in accordance with ASTM D2239 Section 7.4.

5.3 – *Bond*—Pipe shall meet the requirements of ASTM D2239 Section 6.3.

5.4 – *Burst Pressure* —Pipe shall meet the requirements of ASTM D2239 Section 6.5.

5.5 – *Elevated Temperature Sustained Pressure*—Pipe shall meet the requirements of ASTM D2239 Section 6.6.

5.7 – *Inside Surface Ductility for Pipe*—Pipe shall meet the requirements of ASTM D2239 Section 6.7.

6. Product Marking:

6.1 – Marking shall be in accordance with the requirements under ASTM D2239 Section 9, except Section 9.1.5. Product shall be marked “SE 30288”.

7. In-plant Q.C. Requirements:

7.1 – Q.C. requirements shall be in accordance with NSF/ANSI Standard 14, Table 9.11A for Polyethylene Pipe.