

HIGH PURITY ALPHAPLUS® POLYPROPYLENE SPECIFICATION

1.0 PIPE

1.1 Material

Pipe shall be extruded from Group 1, Class 2, Alpha nucleated homopolymer material in accordance with ASTM D-4101. AP polypropylene resin shall achieve a minimum tensile strength of 300 bar when tested at 23°C according to ASTM D 638. Material shall allow continuous operating temperatures to 95° C. AP resin shall comply with relevant food substance regulation, US FDA guidelines as specified in Code of Federal Regulators (CFR), Title 21, Chapter 1: Section 177.1520 and Section 178.3297 suitable for contact with foodstuff, pharmaceutical use and potable water.

1.2 Stress Relieved

Pipe shall be stress relieved by post-extrusion annealing to eliminate inherent stresses in the pipe wall created during the extrusion process and eliminate weld failure due to pipe stress

1.3 Pressure Rating

System (pipe and fittings) shall be pressure rated in accordance with ASTM D-2837 and Din 8077 for hydrostatic design basis. Pipe shall be manufactured to an SDR (standard dimension ratio) in order to provide the same pressure rating in all diameters. Pipe shall be:

SDR 11 = 150 PSI (PN10)

PN = Nominal Pressure Rating in Bar

1.4 Dimensions and Tolerances

Pipe shall be SDR (standard dimension ratio) series that defines the wall thickness and outer diameter of the pipe

1.5 Internal Pipe Finish

Pipe shall have an internal surface finish or RA (roughness average) value of 12 to increase flow and eliminate Internal scaling

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2.0 FITTINGS

2.1 Material

See material under PIPE section 1.0

2.2 Pressure Fittings

All pressure pattern fittings (elbows, tees, flanges and reducers) from ½" (20 mm) through 4" (110 mm) shall be injection molded and shall have the same pressure rating as the pipe.

2.3 Dimensions and Tolerances

Socket fusion fittings dimension are in accordance with ISO 7279 and DIN 16962. Butt fusion conform to SDR (standard dimension ratio) series that defines the wall thickness and outer diameter

3.0 JOINING

3.1 Welding Method

All pressure fitting ½" (20 mm) through 2" (63 mm) shall be either socket fusion, IR or butt fusion type joints. Sizes 2½" (75mm) and larger shall be either IR or butt fusion type joints. All fusion-welded joints to be performed in accordance with ASTM D-2657 and piping manufacturers recommendations.

3.2 Welding Certification and Training

Training and certification shall be conducted by a direct Simtech employee. Each welder will be fully trained on the welding equipment for the particular project and will be required to demonstrate the full process of welding. The process includes set up of the tool, loading of the pipe and/or fittings, alignment of the tool, and the weld process. Training will also include minor maintenance techniques to keep tools in ideal operating condition. After an operator has demonstrated their ability to operate the equipment, Simtech will issue a "certified welders" card upon completion.

4.0 MANUFACTURER

SIMTECH
877-777-2467
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