

DRISCOPEX[®] 5300 Climate Guard[®] Systems for Geothermal Applications Model Specification

- Scope:** This specification designates requirements for geothermal (ground source heat pump) pipe and fittings.
- Material:** All pipe and heat fused materials shall be manufactured from high density, extra-high molecular weight PE 4710 material. The material shall have a 1600 psi Hydrostatic Design Basis at 73.4 degrees F per ASTM D-2837, and shall be listed in PPI TR4 as a PE 4710 piping formulation. The material shall have a cell classification of 445574C or greater as specified in ASTM D3350.
- Pipe:** The extruded pipe shall conform to the specifications and requirements of ASTM D-3035 for pipe sizes from ½” through 12” IPS. Pipe sizes larger than 12” IPS shall conform to the specifications and requirements of ASTM F714. Clean rework material from the manufacturer’s own production may be used provided the pipe or fittings meet all requirements of this specification. Recycled and reclaimed materials from outside the manufacturer’s plant shall not be used. Pipe used for vertical bore applications shall include a fused, single, piece, injection molded U-bend Polywing fitting. The approved pipe product is DRISCOPEX[®] 5300 Series Climate Guard[®] Pipe from Performance Pipe.
- Fittings:** Molded fittings shall be manufactured to the specifications and requirements of ASTM D-2683 for socket fittings, ASTM D-3261 for butt fittings. All fittings shall be rated for pressure service equivalent to SDR 11 PE 4710 pipe. The approved fittings are DRISCOPEX[®] 5300 Series Climate Guard[®] Systems from Performance Pipe.
- Joints:** Where heat fusion is used for joining, persons performing heat fusion shall be qualified in accordance with the manufacturer’s recommended fusion joining procedures. Electrofusion and mechanical joints shall be made in accordance with the fitting manufacturer’s instructions.

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Manufacturer: The pipe and fittings manufacturer shall have in place a functional quality assurance program shall and be ISO 9001:2008 (the International Organization for the Standardization) Certified.

The approved manufacturer for pipe and fittings is Performance Pipe, a division of Chevron Phillips Chemical Company LP.

Marking: Each pipe shall be marked with the manufacturer's name, nominal size, pressure rating, ASTM standard, material designation, date and location of manufacture. Coils shall be marked with footage marks at intervals no greater than two feet. Each fitting shall be identified with the manufacturer's name, nominal size, ASTM standard and lot number.

Installation: Construction and installation shall be in compliance with IGSHA Standards and all applicable local, state and federal regulations. The Contractor shall observe all appropriate safety requirements in accordance with local, state and federal codes and regulations.

Hydrotesting: The completed system shall be hydrostatically tested at a pressure not greater than 150% of the pipe pressure rating in accordance with industry accepted hydrostatic leak testing procedures. Testing with compressed air or a compressed gas is prohibited.