

Dualoy 3000/L Fiberglass Containment Pipe and Fittings

nonmetallic underground piping for
petroleum products, alcohols and alcohol-
gasoline mixtures

Scope

This specification covers the approval, performance, materials and installation requirements for containment of underground piping for petroleum products, alcohols and alcohol-gasoline mixtures.

Listing



All components furnished under this specification shall be listed with Underwriters Laboratories (UL) for use as underground containment piping for petroleum products, alcohols and alcohol-gasoline mixtures.

Performance requirements

Pipe, fittings and adhesives shall be rated by UL up to a pressure of 100 psi (minimum) and 150°F (66°C).

Individual system components may not have the same ratings as the pipe. Reference shall be made to the detailed product information for specific components to determine the pressure rating for a system as a whole.

Materials

Pipe - Pipe shall consist of fiberglass-reinforced epoxy resins and shall be made by the filament winding process.

Pipe shall contain a resin-rich inner liner with a minimum thickness of 0.015 inches.

Fittings - Fittings shall consist of fiberglass-reinforced epoxy resins and shall be made by the compression molding process. Fittings shall be of two-piece construction which will be bonded together during field assembly. Fasteners such as rivets or bolts may be used to assemble the fitting halves until the adhesive cures. Integrity of the fiberglass containment system shall not rely on any metallic components once the adhesive has cured.

Adhesive - Adhesive shall be an epoxy-resin system that will develop adequate strength at 40°F to meet all strength requirements. Below 40°F a means of heat-assisted curing shall be available.

Installation



Inspection of the primary system - The containment piping system shall allow inspection of the primary fittings prior to final closure of the secondary. Primary fittings and joints shall be installed in such a manner that they may be made visible during installation and testing.

Testability - The containment system shall be testable when installed and at later times as local regulations require. No metallic components shall be necessary to maintain the integrity of the system.

Installation (cont'd)

Compactness of layout

Containment fittings shall be designed dimensionally such that they can be installed adjacent to each other and not require more distance between primary fittings than is necessary in non-contained installations.

Preparation

The containment system shall be designed such that no shaving or tapering of the pipe is required. Light sanding of the bonding surfaces is recommended. No tools intended to alter the pipe diameter shall be required for installation.

Workmanship

The containment system shall be free from defects including delaminations, indentations, pinholes, foreign inclusions, bubbles and resin-starved areas which, due to their nature, degree or extent, detrimentally affect the strength and serviceability of pipe or fittings. The pipe and fittings shall be as uniform as commercially practicable in color, opacity, density and other physical properties.

Testing

Proof testing

Fittings shall be hydrostatically tested by the manufacturer prior to shipment for signs of leakage or porosity according to the UL Listing agreement.

Quality control testing

A sample of pipe shall be tested at a frequency of at least once every 1200 feet (360 m) to confirm conformance of the materials to the short-term circumferential stress requirement generated at rated pressure.

Marking

Each component shall be marked to show the following:

Underwriters' Laboratories listing mark

Manufacturer's name

Maximum pressure rating

Important Notice

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