

TECHNICAL INFORMATION

NY CONDUIT SPECIFICATION

1. The conduit and fittings, shall be new, unused material. The conduit shall be hot dipped galvanized and conform to: UL Standard 6. The conduit bodies shall conform to: UL Standard 514B and Form 8 Condulets shall be supplied with plastic encapsulated stainless steel cover screws.
2. A polyurethane coating shall be uniformly and consistently applied to the interior and exterior of all conduit and fittings. The exterior coating shall have a minimum thickness of 4 to 6 mils and the interior will have a minimum thickness of 2 mils.
3. The interior and exterior polyurethane coating applied to the conduit and fittings shall afford sufficient flexibility to permit field bending without cracking or flaking at temperatures above 30 °F, (-1°C).
4. All male threads on conduit and all male and female threads on fittings or couplings shall be protected by application of a polyurethane coating.
5. Test results shall be available to confirm coating adhesion under the following conditions:
 - A. Conduit immersed in boiling water with a minimum mean time to adhesion failure of 24 hours. (ASTM D870).
 - B. Conduit and conduit exposure to 150 °F, (65 °C), and 95% relative humidity with a mean time to failure of 7 days. (ASTM D1151).
 - C. The coating bond shall be confirmed using the Standard Method of Adhesion by Tape Test. (ASTM D3359).
 - D. No trace of the coating on conduit or fittings shall be visible on a white cloth, which has been wetted with acetone, following six wipes over the coating. (ASTM D1308).
6. Installation of the NY Conduit System shall be performed in accordance with Robroy installation instructions. To assure correct installation, the installer shall be certified by Robroy to install coated conduit.
7. Warranties: Robroy Conduit Division warrants NY Coated products manufactured by the company to be free from defects in materials and workmanship for a period of 12 months from the date of shipment from its plant. If within such period any such goods shall be proven to Robroy's satisfaction to be so defective, then and in that even such equipment shall be repaired or replaced at Robroy's option. Such correction or replacement of defective goods shall constitute a fulfillment of all liabilities in respect to such goods. Installation not in accordance with written Robroy recommendations shall void warranty.

The foregoing warranty is exclusive and in lieu of all other warranties of quality, expressed or implied, and all other warranties, including any warranty of merchantability or fitness for a particular purpose are hereby disclaimed.

8. Approved Material: NY CONDUIT coated conduit and fittings as manufactured by Robroy Conduit Division, Gilmer, Texas. Any deviation from the above specifications must be approved by the cognizant engineer.

NY CONDUIT ABRIDGED SPECIFICATION

The conduit and fittings, shall be new, unused material and conform to:
UL Standard 6

UL Standard 514B

Conduit and fittings shall be evaluated for reliability and performance.

1. Acceptable conduit and fitting polyurethane bonds shall be pass the boil test (ASTM D870) with a minimum average of 24 hours in an accelerated boil test.
2. Acceptable conduit and fitting polyurethane bonds shall be confirmed with a minimum average of 7 days in a heat and humidity test (ASTM D1151 and D2247) with the temperature at 150 °F and 95% relative humidity.

NY CONDUIT PERFORMANCE STANDARDS / DESCRIPTIONS

Interior and exterior polyurethane coating performance shall be confirmed by the characteristics and tests listed below. Test samples shall be selected at random.

Flammability

The polyurethane coating will burn if subjected to sustained flame or heat above 400°F, however, it will self extinguish upon removal of the heat source or flame.

Toxicity

All organic materials, (wood, paper, plastics), produce *potentially* harmful emissions when burned under uncontrolled conditions. The most common of these emissions are carbon monoxide and carbon dioxide. Prolonged exposure to heat greater than 200°F or direct exposure to fire may cause the polyurethane coating to produce emissions of carbon monoxide and carbon dioxide. Therefore, polyurethane use is not recommended in areas exposed to sustained atmospheric temperatures above 200°F or direct flame. The polyurethane coating on NY Conduit has been evaluated and found to produce no more harmful emissions than common organic materials like wood or paper.

Boil Test

Acceptable coating bonds shall be confirmed if there is no coating disbondment after a minimum average of 24 hours in boiling water. The periodic increments between test shall not exceed 5 hours. The Standard Method of Adhesion by Tape Test (ASTM D3359) shall be utilized.

Adhesion

A 6" length of conduit shall be placed in boiling water. The specimen shall be periodically removed, cooled to ambient temperature and tested in accordance with the Standard Method of Adhesion by Tape Test. When the coating disbonds, the time to failure in hours shall be recorded.

Heat / Humidity Test

Acceptable conduit and fittings coating bonds shall be confirmed by a minimum average of 7 days in the Heat and Humidity Test. The periodic increment between bond tests shall not exceed 1 day. The Standard Method of Adhesion by Tape Test (ASTM D3359) shall be utilized.

Adhesion

Conduit and fitting specimens shall be placed in a heat and humidity environment where the conditions are maintained at 150 °F and 95% relative humidity. The specimens are

periodically removed and a bond test performed. When the polyurethane coating separates from the substrate, the exposure time to failure in days shall be recorded. ASTM D1151, D1735, D2247 and D4585 are the basis for this method of accelerated testing.

Chemical Resistance Test

No trace of the coating on conduit or fittings shall be visible on a white cloth, which has been wetted with acetone, following six wipes over the coating. (ASTM D1308).

Polyurethane Coating

The supplier shall confirm that the internal and external coating which meets the above conditions is a polyurethane.

ROBROY Conduit Division utilizes the above standards to conduct testing.

ROBROY has used American Society of Testing and Materials, (ASTM), standards test methods to provide comparable and consistent test data. A list of ASTM standards referenced in the NY Conduit Specification appears below.

ASTM D870

Method for Water Immersion Test of Organic Coatings on Steel

ASTM D1151

Test Method for Effect of Moisture and Temperature on Adhesive Bonds

ASTM D1735

Method for Water Fog Testing of Organic Coatings

ASTM D2247

Method of Testing Coated Metal Specimens at 100% Relative Humidity

ASTM D3359

Method for Measuring Adhesion by Tape Test

ASTM D4585

Testing Water Resistance of Coatings Using Controlled Condensation

ASTM G23

Recommended Practice for Operating Light and Water Exposure Apparatus for Exposure of Non-metallic Materials

ASTM D1308

Effect of Chemicals on Clear and Pigmented Organic Finishes