

SECTION 26 05 33

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS: CONDUITS FOR USE IN CORROSIVE ENVIRONMENTS

1 GENERAL

1.1 SCOPE

- A) The PVC-coated, threaded conduit system is specifically designed to prevent corrosive conditions from causing early replacement of the conduit. All the conduit, fittings, and supporting products shall be provided by the same manufacturer to ensure that a five-year product warranty is achieved.

1.2 CLASSIFICATION AND USE

- A) The PVC-coated, threaded conduit system is approved for all applications where rigid metal conduit is permitted. Also, it will replace the need for wider fill around Rigid Metal Conduit (RMC) where judged suitable for the conditions (reference NEC Article 344, II, C).

2 PRODUCT

2.1 MANUFACTURER

- A) PVC-coated, Galvanized Rigid Conduit (GRC) and fittings as manufactured by Plasti-Bond, Perma-Cote, and KorKap. Any deviation will require approval of the specifying engineer or owner and shall meet all the performance standards specified herein and verified by a nationally recognized testing agency.

2.2 MATERIALS

- A) The PVC coated galvanized rigid conduit must be UL Listed and ETL Verified. Both the PVC and Zinc coating must have been investigated by UL as providing primary corrosion protection for the rigid metal conduit. Ferrous fittings for general service locations must be UL Listed with PVC as the primary corrosion protection. Hazardous location fittings, prior to plastic coating must be UL listed. All conduit and fittings must be new, unused material.
- B) The PVC coated galvanized rigid conduit must be ETL Verified to the Intertek ETL High Temperature H₂O PVC Coating Adhesion Test Procedure for 200 hours. The PVC coated galvanized rigid conduit must bear the ETL Verified PVC-001 label to signify compliance to the adhesion performance standard.
- C) The conduit shall be hot dip galvanized inside and out with hot galvanized threads.
- D) A PVC sleeve extending one pipe diameter or two inches, whichever is less, shall be formed at every female fitting opening except unions. The inside sleeve diameter shall be matched to the outside diameter of the conduit. The PVC coating on the outside of conduit couplings shall have a series of longitudinal ribs 40 mils in thickness to protect the coating from tool damage during installation.

- E) Form 8 Condulets shall have a V-Seal tongue-in-groove gasket to effectively seal against the elements. The design shall be equipped with a positive placement feature to ease and assure proper installation. Certified results confirming seal performance at 15 psig (positive) and 25 in. of mercury (vacuum) for 72 hours shall be available. Form 8 Condulets shall be supplied with plastic encapsulated stainless steel cover screws.
- F) Urethane coating of nominal 2 mil thickness shall be uniformly and consistently applied to the interior of all conduit and fittings. Conduit or fittings with thin or no coating shall be unacceptable.
- G) The PVC exterior and urethane interior coatings applied to the conduit shall afford sufficient flexibility to permit field bending without cracking or flaking at temperatures above 30°F (-1°C).
- H) All female threads on fittings and couplings shall be protected by urethane coating.
- I) Right angle beam clamps and U bolts shall be specially formed and sized to snugly fit the outside diameter of the coated conduit. All U bolts will be supplied with plastic encapsulated nuts that cover the exposed portions of the threads.

3 EXECUTION

3.1 INSTALLATION

- A) Installers of the PVC-coated galvanized rigid conduit system must be certified by the manufacturer and be able to present a valid, unexpired certified installer card prior to starting installation. All clamping, cutting, threading, bending, and assembly instructions given during the manufacturer's certified installation training should be vigorously followed.