

# NOVACOAT

## CLASS A STEEL CONDUIT SYSTEM



### NOVACOAT

THERMACOR'S NOVACOATED Class A Steel Conduit System is Federal Agency Committee Approved for steam, condensate, and high temperature hot water systems. The system is professionally engineered as a complete system that is drainable, dryable, and air testable with total manufactured components: pipe, loops, elbows, tees, end seals, gland seals, and anchors. The system is built to withstand heavy traffic/ earth loads, high water tables, and the most corrosive of soils.

## NOVACOAT PIPE AND STRUCTURES COATING SPECIFICATIONS

### DESCRIPTION

THERMACOR PROCESS, L.P.'s exclusive **NOVACOAT** is a two component, self-priming, chemically cured, polyurethane, high solids coating, designed to provide maximum durability, toughness, flexibility, and chemical resistance to pipeline systems.

**NOVACOAT** is used for long life protection of pipes and other steel structural materials in corrosive environments. It can also be used on permanently submerged surfaces.

### PRODUCT PROPERTIES

Chemical Composition: Polyisocyanate and Polyol

Resistance to Chemicals:

Acids	no effect	ASTM D 543
Alkali	no effect	ASTM D 543
Salt	no effect	ASTM D 543

Flow: No flow at 220°F and 100% relative humidity -- Army, Navy, & Air Force 30 day heat conditioning test.

Physical Characteristics:

No cracking, peeling, blistering, delamination, slumping, powdering or crumbling at 220°F and 100% relative humidity. Army, Navy, & Air Force 30 day heat conditioning test.

Finish & Color -- Semi-gloss & Black

Curing Time -- Varies between 3 min. & 20 min.

Flash Point -- above 140°F (T.C.C.)

Tensile Strength: 2000 psi rectangular 1 x ½ specimens (ASTM D 2370)

Solids by volume 96%, approx. 10.45 lbs/gal. mixed

Permeance: less than .25 perms (ASTM E 96)

Resistance to Ultraviolet Rays: Excellent based on physical examination of coated steel pipes after 10 years above ground exposure in a desert environment.

Adhesion: Direct pull-off adhesive strength is 1000 psi.

Immersion Characteristics:

Volume swell after 1000 hours.

Gasoline	0%
Xylene	8%
10% H <sub>2</sub> SO <sub>4</sub>	0%
10% NaOH	0%

Rectangular 1" x ½" specimens were measured with a calibrated micrometer before and after immersion in ambient conditions.

Cathodic Disbondment: Good results from cathodic disbondment test.

### APPLICATION

The exterior surface of the pipe or structure to be coated shall be abrasive blasted to "near-white metal" (SA 2½ SSPC-10).

Blast residues to be removed by vacuum cleaning or compressed air. Coating temperature should be above 32°F due to high viscosity. However, it can be applied on surface temperatures from below freezing to 150°F.

Self Priming -- One Coat System.

**NOVACOAT** shall be applied to minimum thickness of 30 mils.

Method of Application: Two component airless sprayer.

Field Joints and Repairs: Brush application.

Safety: Avoid breathing of spray mist or vapor. Always use safety goggles and respiratory protection for prolonged spraying. In case of skin contact, wash with warm water and soap.

### INSPECTION

The coated pipe or structure shall be electrically tested for defects using a Holiday Detector.

CATHODIC PROTECTION: **NOVACOAT** on steel is easily compatible with cathodic protection utilizing galvanic anodes or impressed current type systems.

## **SPECIFICATION GUIDE \***

### **GENERAL**

All piping to be installed as shown on plans shall be **THERMACOR PROCESS, L.P. CLASS A STEEL** manufactured pre-insulated conduit with all necessary pipe, loops, ells, tees, seals, anchors, and other appurtenances as specified hereinafter and as recommended by the manufacturer.

### **CONDUIT**

Conduit for all components shall be either electric resistance welded or spiral welded steel pipe conforming to ASTM specification A-134, A-135, and A-139. Conduit thickness shall be 10 ga. up through 26" diameter pipe and 6 ga. for 28" diameter and above.

Conduit shall be factory coated with Novacoat, 30 mils thick. Conduit straight lengths shall be normally fabricated in 40 foot nominal lengths with five pipe supports per length. Shorter lengths will be fabricated as required and provided with pipe supports not more than nine feet apart and with a pipe support not more than two feet from each end. Tees, anchors, elbows, and other fittings will be coated and pre-fabricated to straight sections whenever shipping requirements permit.

### **EXPANSION LOOPS, ELBOWS, AND ECCENTRIC FITTINGS**

Expansion loops and elbows shall be factory manufactured utilizing the same casing thickness, material, and coating as the straight conduit lengths. Loops and elbows shall be sized to allow carrier pipe expansion without damage to the insulation. Eccentric fittings shall be factory manufactured, coated, and utilized whenever changes in casing size are required as determined by the manufacturer.

### **FIELD JOINTS**

Field Joints shall be applied by the installation contractor utilizing the manufacturer's furnished kits and instructions. Field joints shall not be applied until after the carrier pipe has been hydrostatically tested and approved.

### **CATHODIC PROTECTION**

Sacrificial galvanic anode cathodic protection systems are required in soils with resistivity readings less than 30,000 ohms/cm.

### **TERMINAL SECTIONS AND ANCHORS**

Leak plates shall be 10 ga. steel plate conforming to ASTM A-36. End seals shall be of ½" steel plate conforming to ASTM A-36. Gland seals shall consist of a steel closure plate with stainless steel bolts and steel gland welded to a temperature resistant packing gland and a gland follower. Anchor sections shall be ½" steel plate conforming to ASTM A-36 steel with air passage holes and welded to carrier pipe and conduit.

### **CARRIER PIPE**

Carrier pipe shall be as specified by the design engineer.

### **INSULATION**

Insulation shall be mineral wool and shall be of a thickness as specified by the design engineer.

### **INSTALLATION**

The installing contractor shall be responsible to excavate, string conduit, weld, test, place in trench, backfill, or otherwise treat and install the system as per directions furnished by the manufacturer and approved by the design engineer in accordance with the plans and specifications. The conduit shall be air tested at 15 psig for not less than two hours and the carrier pipe hydrostatically tested to 1½ times the working pressure for not less than four hours, or as specified by the engineer. Holiday testing of conduit coating shall be the responsibility of the contractor under the directions furnished by the manufacturer. All holidays shall be recoated and retested. A qualified representative of THERMACOR PROCESS, L.P. shall be present at the jobsite during critical periods of installation and testing. Backfill shall not commence until approval of tests by the THERMACOR PROCESS, L.P. representative. Field modifications must be approved by the manufacturer. The installing contractor shall certify that he has complied with the manufacturer's directions.

*\* For alternate specifications, please contact THERMACOR.*

## **THERMACOR PROCESS, L.P.**

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