

# Specifications for **INSUL-TEK<sup>®</sup> 250 FRP Piping**

**A** preinsulated piping system for above and below ground use on systems with temperatures ranging from +40° F up to 250° F. Maximum pressure rating of 150 psig.

## **MATERIALS:**

All pipe shall be factory preinsulated INSUL-TEK<sup>®</sup> 250 FRP as manufactured by Preinsulated Piping Systems, Inc.

## **CARRIER PIPE:**

Fiberglass Reinforced Plastic (FRP) as specified. (Consult PPS for recommendation).

## **INSULATION:**

Foamed in-place closed cell polyurethane foam completely filling the annulus between the carrier pipe and jacketing.

## **Typical Mechanical Properties**

### **Core Density**

2.1 P.C.F., ASTM D-1622

### **Closed Cell Content**

90 to 95% ASTM D-2856

### **"K" Factor, BTU/hr. in/ft<sup>2</sup> /°F @ 73° F**

.14 ASTM C-518

## **OUTER CASINGS:**

### **PVC (Standard) :**

Extruded White Polyvinyl Chloride (PVC) Type 1, Grade 1, Class 12454-B per ASTM D 1784

### **HDPE:**

Black High Density Polyethylene Resin Type III, Grade P34, under ASTM D-1248

Tensile Yield Strength

3300 psi ASTM D-638

Ultimate Elongation

850% ASTM D-638

Tangent Flexural Modulus

175,000 psi ASTM D-790

### **FRP:**

Fiberglass Reinforced Plastic (FRP) comprised of isophthalic polyester resin and fiberglass strand. Minimum wall thickness to be 1/8" thick.

\* Vinylester Resins are also available. Please consult factory for recommendations.

\* For optional casings, consult the Casing Selection Guide.



**JOINING METHOD:**

Pipe and fittings will be joined per FRP manufacturer's recommendations.

**FITTINGS:**

All fittings on below ground service shall be uninsulated and thrust blocked per FRP manufacturer's recommendation. All fittings on above ground service shall be insulated utilizing a poured foam and sealed in a water-tight jacketing material similar to that utilized on the straight lengths.

**FIELD JOINTS:**

After joining straight lengths of pipe per FRP manufacturer's recommendations and hydrostatic testing, the field joints shall be insulated and sealed per manufacturer's recommendation.

**BACKFILLING:**

The trenches shall be carefully backfilled and hand tamped in 6" layers until a cover of at least 24" from the top of the pipe has been achieved. The first 12" of backfill shall be sand or fine gravel less than 1/2" in diameter. The remainder of the backfill shall be free of rocks, frozen earth and foreign material over 6" in diameter. The trench shall be compacted to comply with H-20 highway loading.

