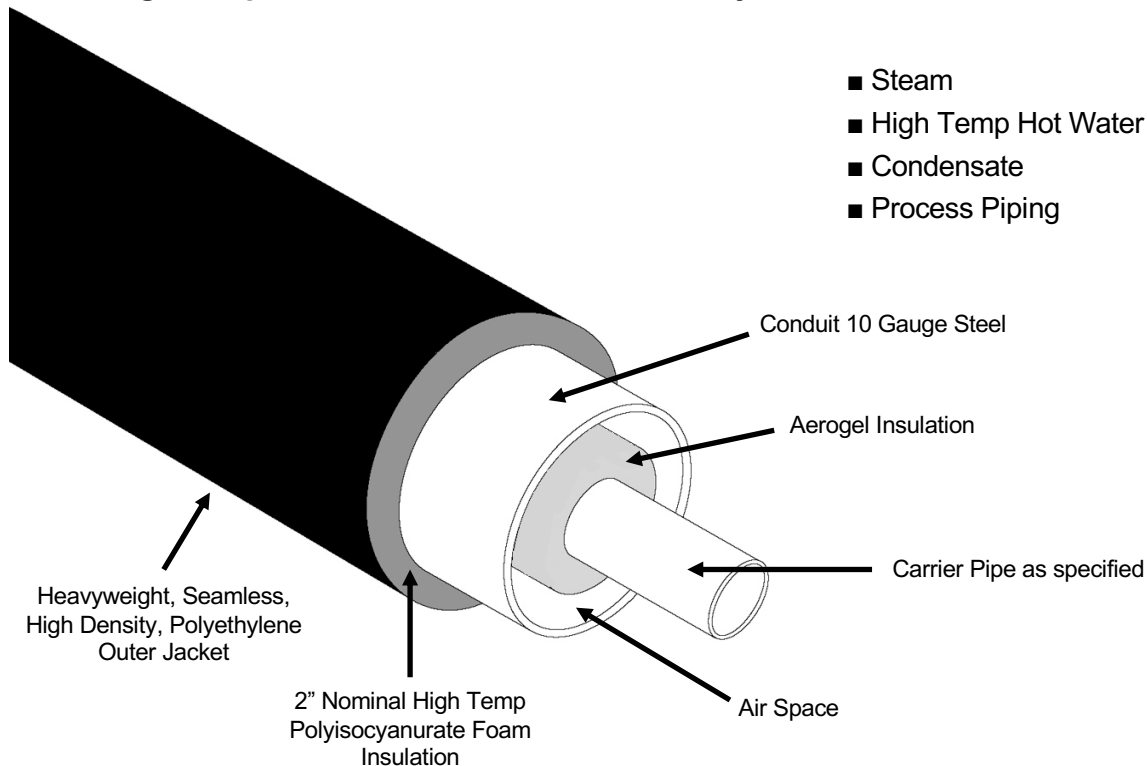


Insul-800 ELITE High Temp Foam Conduit by Rovanco

High Temperature, Pre-Insulated Conduit System



Rovanco's Insul-800 Elite High Temp Conduit is designed for below ground or concrete trench/tunnel high temperature systems (210°F and above). It is Drainable, Dryable and Air Testable. The product is composed of a steel, copper or stainless steel carrier pipe and aerogel insulation. The insulated pipe is enclosed in an inner conduit casing of a 10 gauge steel, or as specified, and insulated with a high temperature polyisocyanurate foam, rated for 300°F or 400°F continuous service, as specified. The conduit foam insulation is protected by a heavy-weight, seamless, high density polyethylene outer jacket. This combination results in an economical, high quality, high temp system, and the most energy efficient available. Since the system has a polyethylene outer jacket that is non-corrosive, the system does not require cathodic protection.

Rovanco's systems are engineered to the latest edition of ANSI B31.1.

Rovanco's Insul-800 Elite High Temp Conduit with RhinoJoints is provided with part numbered cut-to-length pieces pieces manufactured to verified field dimensions. All piping systems are spooled out with elbows, tees, anchors and end seals added to lengths of pipe at Rovanco's Joliet Illinois factory.

The piping system comes complete with all accessories of steel sleeves, joint insulation, and polyethylene shrink sleeve to make the installation completely watertight.

To find out more about Rovanco's Insul-800 Elite High Temp Conduit System, you can call your local representative, phone us at (815) 741-6700, visit our website at www.rovanco.com, or email us at marketing@rovanco.com.

The Most Energy Efficient Pre-Insulated Piping System Guaranteed

This is a generic product datasheet and is not intended for submittal use.

INSUL-800 ELITE High Temp Foam Conduit Specification

HIGH TEMP, PRE-INSULATED CONDUIT SYSTEM FOR STEAM, HIGH TEMP HOT WATER, CONDENSATE, ETC.

Carrier Pipe:

All carrier pipe shall be carbon steel A-53B ERW standard weight for steam or Schedule 80 A106B for condensate or as specified. Other carrier pipe materials available.

Carrier Pipe Insulation:

Shall be a nano porous & high temperature resistant glass fiber combined to make an aerogel blanket insulation. Aerogel blanket insulation shall either be banded on pipe with stainless steel banding on 18" center or shipped separately depending on insulation type. Insulation thickness shall be as specified.

Inner Pipe Supports:

All pipe shall be aligned and supported within the inner conduit casing with steel supports spaced on 10' centers. The carrier pipe shall bear directly on the steel support. The support shall be designed to permit drainage and free air passage.

Conduit:

Casing shall be 10 gauge steel, or as specified. The interior surface shall be smooth to permit free moisture drainage and removability of the inner assembly. The outer casing shall be sized to provide adequate annular space between the outer surface of the insulation material and the interior surface of the casing. Inner conduit casing field joint closures shall consist of bare steel and shall be field welded over adjacent units. Factory applied inner conduit coating is optional and is based on specifications. No asphalt, coal tar coating, FRP casing or any other type is allowed.

Conduit Insulation:

300°F Foam

Insulation thickness shall be nominal 2", Hi-Temp polyisocyanurate foam insulation with an initial K factor of .14, density of 2.0, closed cell content of >90%, compressive strength of 30 psi, and service temperature of 300°F. Insulation must be capable of handling intermittent temperature spikes to 350°F. Conformance with ASTM Standards D1621, 1622, 1623, 2126, 2842, 2856, and C518-91. Completely filling the annular space between the carrier pipe and jacketing. Provide written independent performance certification with submittals.

400°F Foam

Insulation thickness shall be a nominal 2" of Hi-Temp foam insulation has an initial K factor not higher than .145, density of 2.5, closed cell content of 87%, compressive strength of 30 psi, and continuous service temperature of 400°F. Insulation must be capable of handling intermittent temperature spikes to 450°F. Conformance with ASTM Standard D1621, 1622, 2126, 2842, 2856, C518 and E96. Completely filling the annular space between the inner casing and outer jacketing. Provide written performance certification with submittals.

Insulating Straight Joints:

Insulating of all straight joints shall be RhinoJoints by Rovanco or approved equal. Joint shall be certified EN 489, certification required at bid time.

Outer Jacket:

The exterior protective jacket shall be heavyweight, seamless, high impact, polyethylene conforming to ASTM D3350. Spray and wrapped polyethylene jackets are not considered to be seamless. Field joints shall be insulated with specified insulation type on carrier and half shells of high temp polyisocyanurate foam for outer insulation. No FRP jacket allowed.

Expansion Loops and Elbs:

Expansion loops, expansion elbows and other fittings shall be pre-fabricated and furnished in the same types and thickness of insulation and casing as those for the straight section of the piping system. They will be of a size to permit the inner pipe or pipes to expand and contract without damage to the insulation material.

Fittings:

All changes in direction of the carrier pipe shall be made with fittings. Mitering of pipe will not be permitted. When tee branches are smaller to the main they join, weld-o-lets may be used. All weld fittings shall be the same wall thickness as adjacent piping.

Anchor:

Anchor shall be pre-fabricated onto the piping units and shall be equipped with drain and vent openings at the top and bottom of the anchor plate. Anchor plates shall be made of minimum 1/2" steel plate and coated with Amerlock® epoxy.

End Seals and Gland Seals:

Terminal ends of conduit inside manholes, pits or buildings shall be equipped with end seals consisting of a steel bulkhead plate welded to the conduit and carrier pipe if there is an anchor within five feet of the end seal. Where there is no anchor within five feet of a terminal end, conduits shall be equipped with gland seals consisting of a high temp gasket and follower plate. End seals or gland seals shall be made of 1/2" steel plate and factory coated with Amerlock® epoxy with drain and vent openings on the vertical center line of the mounting plate.

Field Tests:

The carrier pipe shall be field tested hydrostatically to 1-1/2 times the working pressure of the line or as specified. The steel inner conduit casing shall be tested with air at 15 psig. All leaks shall be repaired and the test repeated. After test, all field joints shall be insulated and sealed water tight.

Back Fill:

Clean, granular backfill should be tamped in place so as to assure a stable surface. No rock should be used within 24" of the pipe. Top of pipe grade shall not be less than 24" to meet H-20 Highway loading.

Installation:

The installation shall be made in accordance with plans, specifications, and manufacturer's installation instructions. Pipe system supplier will provide an installation instructor on site to train the contractor on all phases of installation, if required.

Leak Detection (optional):

Contact Rovanco for optional Leak Detection.

Approved Vendors:

Insul-800 Elite manufactured by Rovanco, Joliet, Illinois, 815-741-6700, or approved equal. Any alternative supplier wishing to be approved as an equal must submit their technical data, including HDPE outer jacket and polyisocyanurate insulation material test reports, and must have a 10 year warranty.

These reports must be certified by an independent Testing Agency that the high temperature polyisocyanurate insulation and the polyethylene jacketing material have been tested to and meet all ASTM standards listed in the "inner conduit insulation" and "outer jacket" section of the specifications. These reports must be submitted to the engineer ten days prior to bid date for an alternate supplier's product to be approved in writing as an equal to the specified products.

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Contact Rovanco® for the name of your local Representative

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