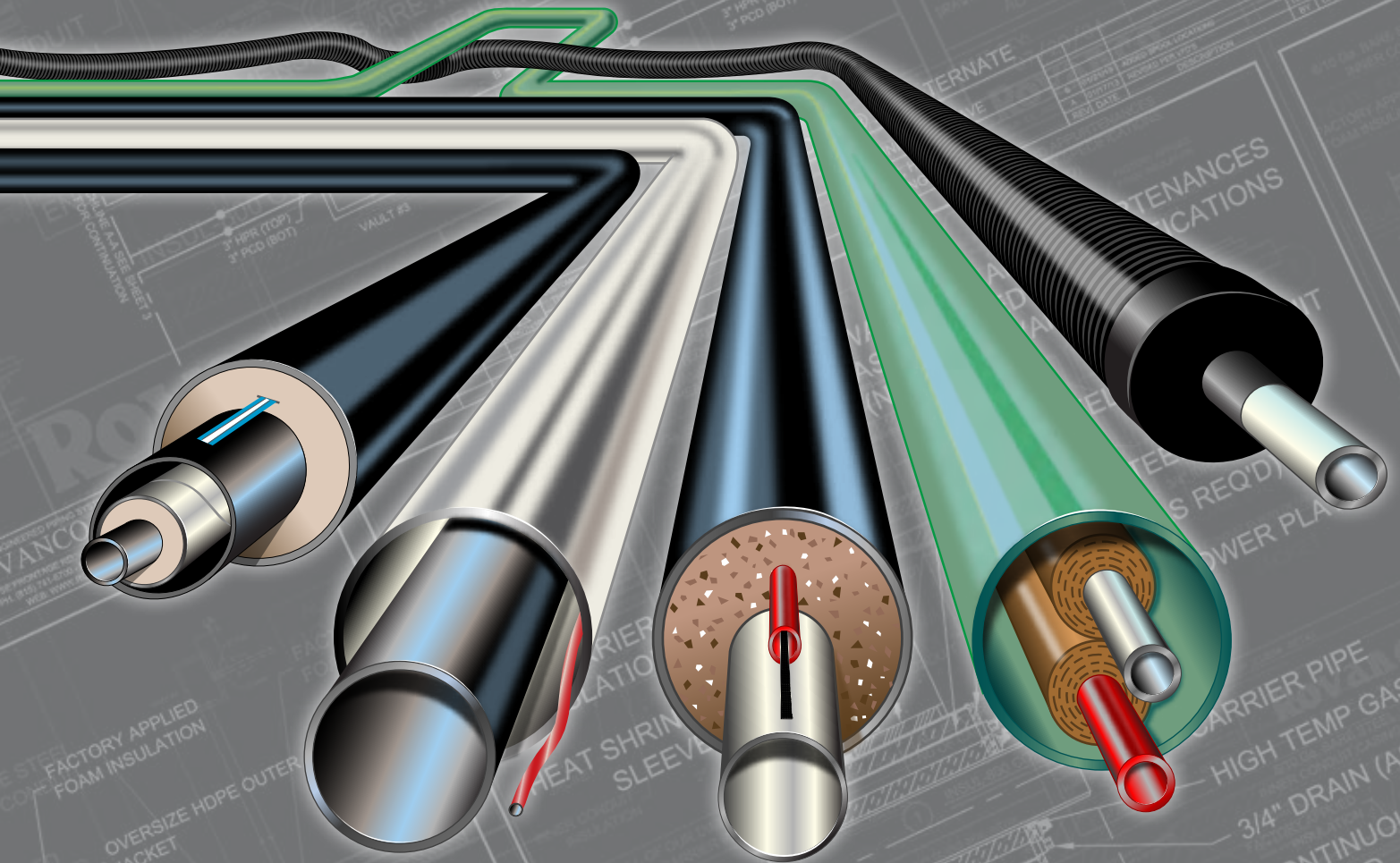


Rovanco®

Piping Systems

Providing High Quality Piping Systems Since 1969



Thousands of Miles of Experience

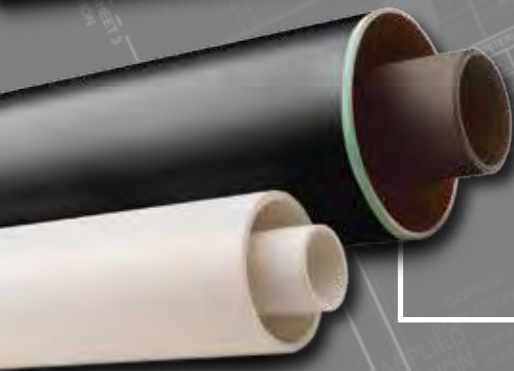
Providing High Quality Piping Systems Since 1969



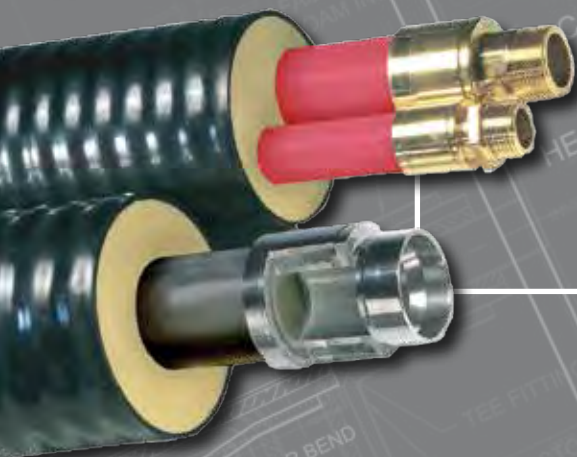
High Temp Conduit Piping



Foam Piping



Containment Piping



Flexible Pre-Insulated Piping

Sustained Success is No Accident

It's certainly no accident that Rovanco is a leading manufacturer of pre-insulated and containment piping systems in the United States.

In 1969 my brother Dick and I formed Rovanco Piping Systems in Joliet, Illinois. We founded this company with the express purpose of providing a high quality pre-insulated piping system as a replacement for hand insulated piping. Our goal was and is to be the best company to do business with in this industry.



Success didn't come overnight. But it didn't take long for our reputation for high quality products, prompt delivery, diversity of product range, commitment to innovation and service to the customer to move us to the forefront of this industry. Our commitment to quality products and progressive R&D, has helped Rovanco continue to develop more high quality products and maintain its leadership position in this industry.

Maintaining this leadership position over the years doesn't just happen. It is the result of a team effort by the entire Rovanco staff. All of our officers and directors have the "entrepreneurial spirit" to invest for the future and not be preoccupied with short term profits.

Rovanco is financially strong, with available resources to commit to even the largest products, as evidenced by our constructing a mobile manufacturing facility to support the \$10 million Getty Oil project and the 750 mile insulated piping project in Saudi Arabia.

As you read on you will become more familiar with Rovanco, a market leader in pre-insulated piping systems. The Rovanco team awaits the opportunity to serve you!

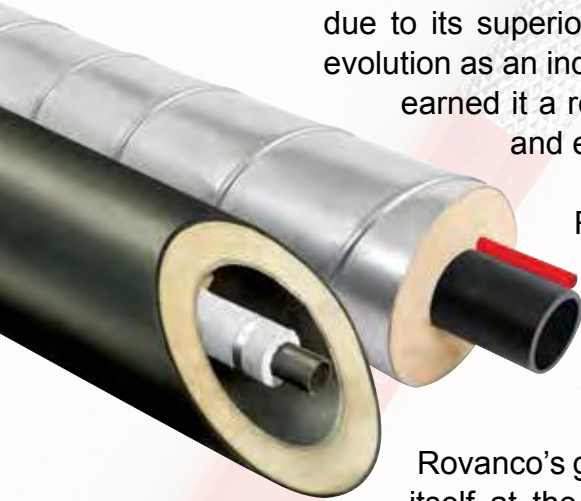
A handwritten signature in black ink that reads "Larry Stonitsch". The signature is written in a cursive, flowing style.

Larry Stonitsch



The Evolution Of A Leader

Since the late 1960s, demand for factory insulated piping has grown due to its superior thermal efficiency over field insulating. Rovanco's evolution as an industry leader quickly progressed over the years – and earned it a reputation for excellent products, dependable service and exceptional turnaround times.



Rovanco has developed many unique piping systems, processes and formulations. Many of these patented products and methods have served as milestones for the pre-insulated piping industry and are still embraced today.

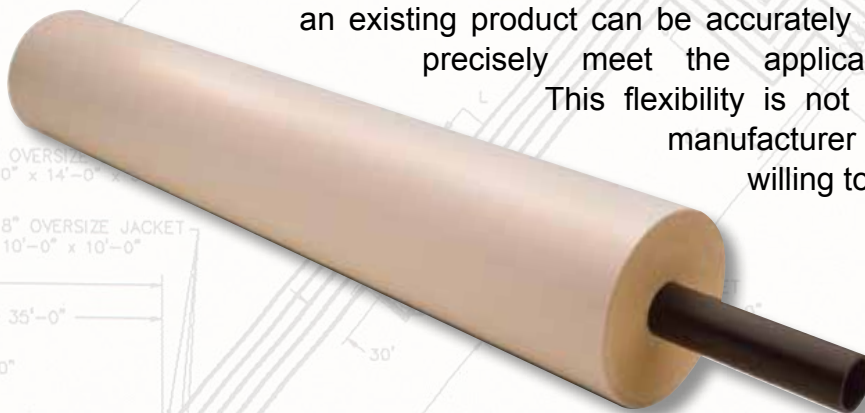
Rovanco's goal has remained consistent since 1969 – positioning itself at the forefront of the pre-insulated piping industry. With strong leadership and a dedicated staff of knowledgeable people, it is where you will find Rovanco in the future as well.

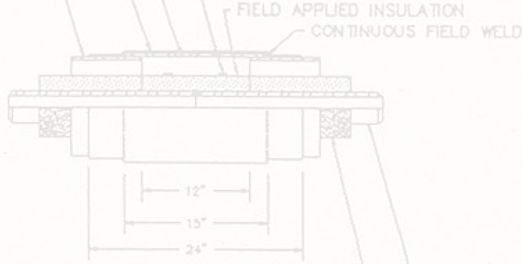
Flexibility Promotes Success

There has not been a product designed that will operate efficiently and effectively for all service requirements or in all environments. But with Rovanco's ability to adapt existing products or create new ones, it is assured a product can be found to meet the unique needs of any given piping system project.

Rovanco has always demonstrated a flexible manufacturing approach. For instance, Rovanco formulates and manufactures its own foam, so the density, compressive strength or temperature limitation of an existing product can be accurately modified to more precisely meet the application's demands.

This flexibility is not something every manufacturer is capable of or willing to pursue.





Quality Top To Bottom

Rovanco develops all its product lines from a “systems” approach. Components of a product line act as a collective group of interactive, harmoniously functioning parts. Engineering fittings, anchors, control systems for monitoring leaks and complete heat tracing capabilities come together with the piping to form a precise, cohesive system.

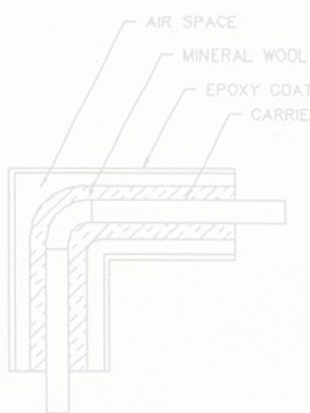
Rovanco engages in creative problem solving to identify a solution where a standard solution will not be sufficient. After thoroughly analyzing a project’s requirements and conditions, only the finest raw materials are selected. Stringent quality control methods monitor production during every phase. Piping is continually tested and compared to project parameters. When producing consistent, quality piping under tight deadlines, repeatability in the manufacturing process is critical.



A Promising Future

Rovanco recognizes customers have unique needs and requirements. Through an aggressive R&D program, careful analysis of each project scope and the identification of the best materials/processes to utilize – Rovanco pledges to find a project’s optimal solution.

Rovanco’s leadership position in the industry continues to strengthen. Its dedication to customers and their needs assures the industry will continue to look to Rovanco for tomorrow’s technological advancements in pre-insulated piping.



PRE-FAB CONDUIT 90° ELBOW

ENGINEERING APPROVAL AND CERTIFICATION OF FIELD DIMENSIONS

THIS DRAWING HAS BEEN REVIEWED FOR DESIGN CONFORMANCE TO APPLICABLE STANDARDS AND SPECIFICATIONS AND DETAILS REVIEWED FOR ACCURACY.

DATE: _____

BY: _____

CONTRACTOR/OWNER FIELD DIMENSION APPROVAL

DATE: _____

WRITTEN APPROVAL MUST BE RECEIVED BY ROVANCO CORP. BEFORE PROJECT IS RELEASED FOR FABRICATION. DRAWINGS WILL BE ISSUED AND PROJECT SCHEDULED FOR PRODUCTION.

DESIGN CRITERIA				
SERVICE	DESIGN TEMP.	AMBIENT TEMP.	TEMP. Δ	LENGTH/100'

ENGINEERED PIPING SYSTEM BY

Rovanco CORP.

20535 SE FRONTAGE RD. JOLIET, IL 60438 (815)741-XXXX

FOR

CHAUTAUQUA CORRECTIONAL FACILITY

CUSTOMER: Mc DURNAY PLUMBING & HEATING

ENGINEER: _____

Two High Temp Conduit Piping Systems To Choose From For Steam, Condensate, High Temp Hot Water And Process Fluid Applications

Insul-800®

Outer Jacket

Insul-800 has a heavyweight, seamless, high-density, polyethylene outer jacket.

Outer Insulation Layer

Insul-800 has a nominal 2" thick high temperature foam, making it the most energy efficient system in the market place with optional leak detection!

Inner Casing

Insul-800 has a 10 gauge inner conduit casing making this a Class "A" DDT type drainable, dryable and testable system.

Air Space

The carrier pipe is aligned, centered and supported within the inner casing by supports every 10 feet.

Carrier Pipe

Rovanco offers the option of almost any carrier pipe within our system in addition to our standard carbon steel – Schedule 40 A53B for steam and Schedule 80 SMLS for condensate.

Carrier Pipe Insulation

Rovanco has the flexibility to insulate the carrier pipe with mineral wool, fiberglass, calcium silicate, Pyrogel® XT-E, foam glass, Perlite or Rovanco's high temp foam insulation with metal cover.

Optional **Silvertip® Endseal** metalized exclusively from Rovanco

Outer Jacket

Rhinocoat has a steel outer jacket coated with 20 mils of fusion bonded epoxy. This is 40% thicker than the world wide standard. A galvanized or red mill coated outer jacket is used for above ground applications.

Air Space

The carrier pipe is aligned, centered and supported within the inner casing by supports every 10 feet.

Carrier Pipe Insulation

Rovanco has the flexibility to insulate the carrier pipe with mineral wool, fiberglass, calcium silicate, Pyrogel® XT-E, foam glass, Perlite or Rovanco's high temp foam insulation with metal cover.

Carrier Pipe

Rovanco offers the option of almost any carrier pipe within our system in addition to our standard carbon steel – Schedule 40 A53B for steam and Schedule 80 SMLS for condensate.

Rovanco's High Temperature Conduit Systems are specially designed to distribute steam, condensate, high temperature water, process fluids and fuel oil. These systems arrive on-site as a complete, trouble-free, long lasting, watertight heat distribution system.

- Insul-800 systems ordered with Rhino-Joints and Silvertip carry a 10-year warranty at no additional charge.
- Rovanco's High Temperature Conduit Systems are Class "A" (DDT) type drainable, dryable and air testable.
- Rhinocoat Conduit System has a nominal 20 mils of fusion bonded epoxy coating on the steel jacket.
- The Rhinocoat Conduit system is engineered to withstand hostile soil and water environments.
- Pre-manufactured at the Rovanco plant assures uniformed quality and eliminates any costly field fabrication.
- All systems are engineered and factory fabricated to your specifications.
- These Conduit piping systems have a wide range of carrier pipe sizes (1/2" through 36") and insulation materials from which to choose.
- Both systems are available with Pyrogel® XT insulation encasing the carrier pipe – which is featured on Rovanco's "Elite" Conduit piping line.



5' x 15' x (12"x16")
OVERSIZED CONDUIT
(HPR ONLY)



Foam Insulated Piping System

Applications: Heating Hot Water, Chilled Water, Hot & Cold Domestic Water, Mining, Glycol, LN2, CO2, Condensate, Process Piping, Fuel Oil.

- Leak Detection Available
- Heat Trace Capabilities

Outer Jacket

Available in HDPE, PVC, fiberglass, aluminum and galvanized steel.

Polyisocyanurate Foam Insulation

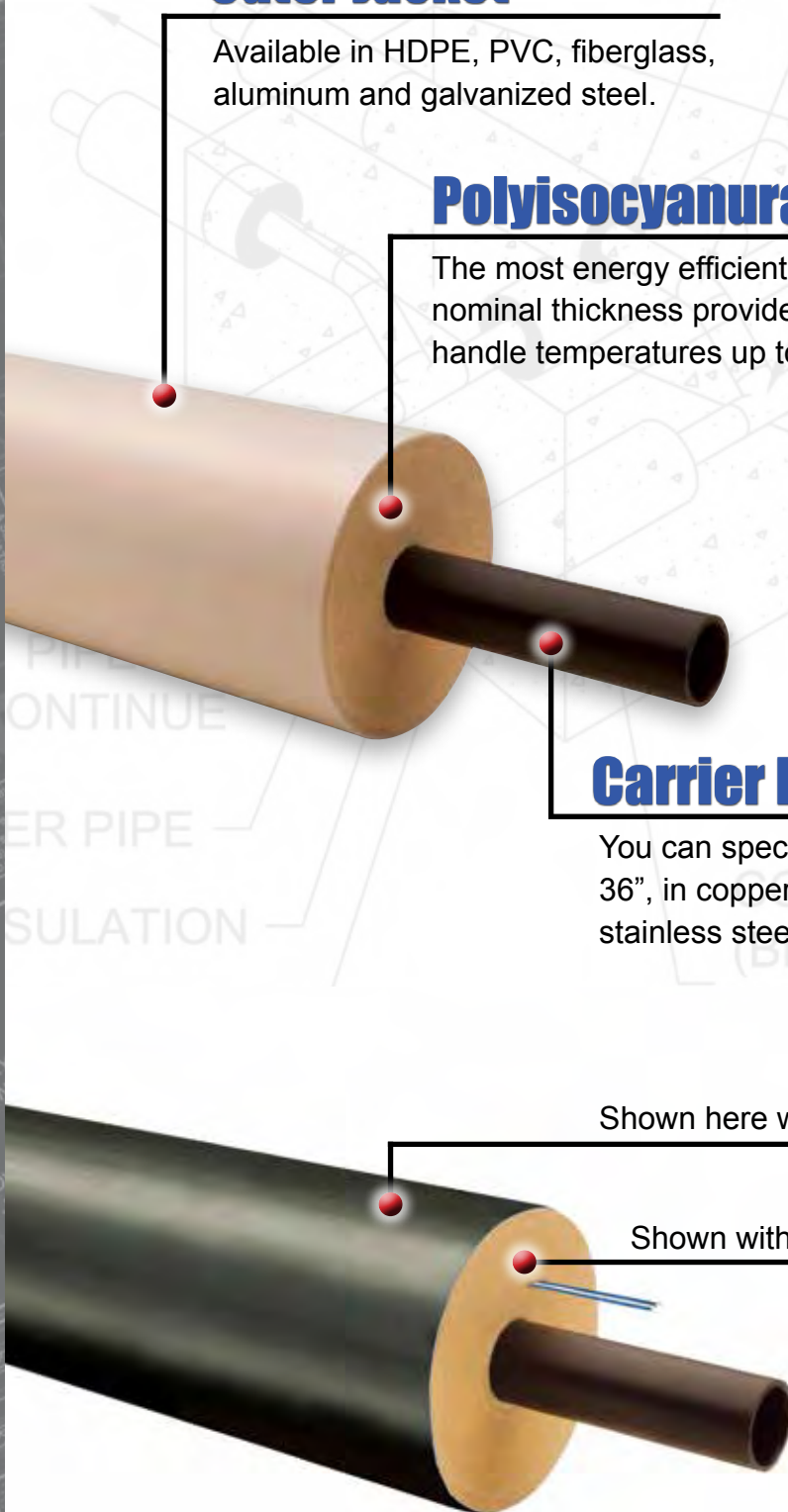
The most energy efficient polyisocyanurate foam in nominal thickness provides unequalled insulation to handle temperatures up to 400°F.

Carrier Pipe

You can specify various sizes, from 1/4" to 36", in copper, steel, HDPE, PVC, fiberglass, stainless steel or ductile iron.

Shown here with HDPE Outer Jacketing

Shown with optional leak detection cable



Foam Insulated Piping Systems are designed to be thermally efficient and energy saving. These systems are ideal for transferring liquids at temperatures ranging from -350° F to 400° F for below ground and above ground applications.

- Have Rovanco do a heat loss analysis to show you the savings!
- These systems have the capabilities to be heat traced by means of steam, glycol or electrical.
- Outer jacketing is available in many different materials including, PVC, fiberglass, HDPE, galvanized and aluminum.
- These systems can also be monitored by a leak detection cable that runs the length of the system.
- Carrier pipes are available in a variety of materials including, PVC, HDPE, copper, steel, ductile iron and fiberglass.
- Utilizes proprietary, non-corrosive spacers to ensure the pipe is centered within the casing and a uniformed amount of polyisocyanurate foam is on all sides of carrier pipe.
- Infrared heat sensing device is used to scan the full length of the pipe checking for any voids after filling.
- Dramatic labor savings for field insulation and jacketing of joints and fittings.



Containment Piping System

Applications: Fuels, Chemicals, Process Piping, Hazardous Waste

- Pre-Engineered & Pre-Fabricated
- Leak Detection Capabilities
- Heat Trace Capabilities

Outer Jacket

A variety of outer jacket options including fiberglass, PVC, 10 gauge steel conduit with red mill (Above Ground) and 10 gauge steel conduit with 20 mils of fusion bonded Rhinocoat® epoxy coating (Below Ground).

Carrier Pipe

Numerous carrier pipe options are available including carbon steel, stainless steel, FRP and PVC schedule 40/80.

Leak Detection

Available with optional leak detection able to detect any liquid.

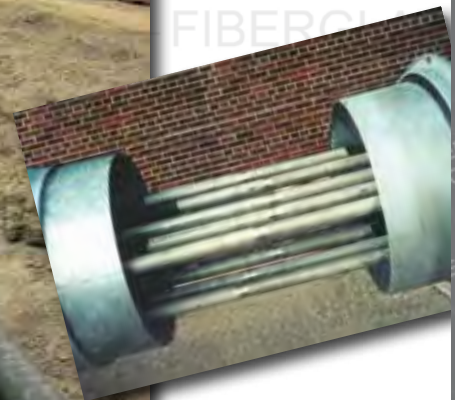
Air Space

Carrier pipe aligned and supported within casing by centering supports in air space area every 10'.

Rovanco supplies flexible stainless steel containment!

Containment Piping Systems are engineered to contain fluids within the piping system that could leak out of the primary pipe.

- Prevents material being transferred from endangering personnel or contaminating the soil, ground water or air.
- Ideal for transferring heating oil, natural gas, chemicals, jet fuel, solvents, process waste, gasoline and acids.
- Typically made of PVC, FRP or steel, but a wide selection of both carrier pipe and jacket materials are available.
- Available with heat tracing components integrated into the system.
- Leak monitoring and detecting systems via Continuous Wire System allows for pinpoint location of leaks. Low Point Sumps offer leak detection at intervals as an economical alternative.
- Can be manufactured with more than one inner pipe when several products are being conveyed to the same location.
- Multiple carrier pipes can be made of different materials.
- Special supports guide the pipes allowing them to expand and contract without over-stressing them or the fittings.
- On-site instruction for the installation crew available.
- Optional vacuum leak detection is available on flexible stainless steel containment piping



Flexible Pre-Insulated Piping System

Rhinoflex™

Applications: Heating Hot Water, Chilled Water, Domestic Hot & Cold Water, Brine Lines, Snow-Melt, Low Temp Condensate, Glycol, Radiant Heating, Low Temp Solar

Outer Jacket

The polyethylene outer jacket is corrugated to be flexible and the heaviest available in the industry for maximum protection.

Insulation

The high thermal efficiency of Rhinoflex's urethane foam allows for a smaller outer jacket size and lower heat losses.

Carrier Pipe

PEX-A for hot service up to 204° F is the highest quality crosslinked polyethylene pipe available.

HDPE for cold service, high density polyethylene (PE) carrier pipe is suitable for temperatures up to 140°F and as low as -20°F.

Available in single or dual carrier pipe configuration.

Fitting Options Available



Electrofusion Weld Fittings – PEX & HDPE



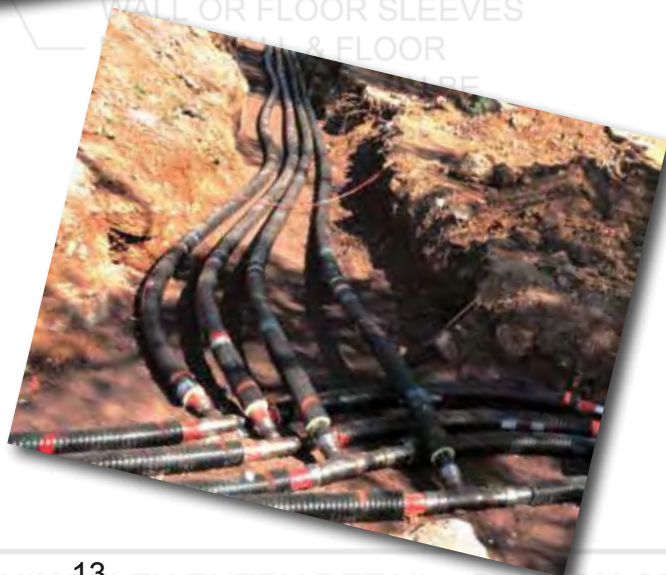
Brass Compression Fittings



Brass and Steel Press-Fit Fittings

The Rhinoflex™ Flexible Pre-Insulated Piping System leads the market for applications requiring up to 5 1/2" and smaller pre-insulated pipe. It continues to prove why it is the best solution where piping needs to traverse curves and go around corners or obstacles.

- Flexible characteristics result in few or no underground joints.
- A proven product – more than 500 miles installed in the U.S. and 30,000 miles worldwide over the last 30 years!
- The lowest installed cost of any pre-insulated pipe.
- Saves up to 60% in labor costs – yielding a total installed savings of 25 to 40%!
- Longest continuous lengths available in the marketplace.
- Coils can be handled easily by 2 people.
- Rovanco's Rhino Roller is available for all projects, it greatly reduces labor and installation time.
- No expansion/contraction issues.
- All components are non-corrosive!
- 25-year warranty!



Pre-Fabricated Manholes

Rovanco's Pre-Fabricated Steel Manholes arrive at the job site pre-fabricated, pre-piped and pre-insulated. These self-contained, ready to install manholes are a time and cost saving alternative to field built concrete manholes.

- Play an important role in your underground heat distribution system.
- Create a dry ventilated environment for your valves, steam traps and expansion joints.
- Dramatically reduce construction costs.
- Factory coated and equipped with a 50 year cathodic protection system.
- Shape of manholes can be round, square, rectangular or oblong.
- Large size range – up to 45' long, 10 foot wide, and 10 foot high.
- Totally welded steel
- Factory pressure tested
- Leak Proof
- Accelerate the placement of manholes – streets open in one to two days.
- Optional Leak Detection



"Take it off the truck and put it in the ground!"



Clean, dry environment



Manholes can be custom designed



Pipe factory tested and insulated

Thousands Of Miles Of Experience

Providing High Quality Piping Systems Since 1969

The following list is just a few of the thousands of miles of projects
Rovanco has successfully accomplished.

Military Bases

- Ft. Wainwright
- King Abdul Aziz Military Base (740 miles)
- Ft. Greeley
- Pearl Harbor
- Vance Air Force Base

Industrial

- General Motors
- Boeing
- IBM
- Getty Oil (108 miles)
- Alaskan Pipeline

Institutions

- Cornell University
- Northwestern University
- University of Minnesota
- Michigan State
- Stanford

Energy Companies

- Commonwealth Edison
- Trigen
- Citizens Thermal
- Veolia
- WE Energies

Railroads

- Norfolk & Southern
- BNSF
- CP Railway
- Grand Junction
- Union Pacific

Airports

- Miami International
- Indianapolis
- Reagan National
- Chicago O'Hare International
- King Salmon
- Dulles

Waste Water Treatment Plants

- Sullivan County Biomass
- Stickney
- Ann Arbor
- Monroe
- Cambridge

Housing Authorities

- Chicago
- Chicopee
- Boston
- Lynn
- Will Rogers

Hospitals

- Big Fork
- Mayo Clinic
- Providence
- Cleveland Clinic
- Kaiser

Miscellaneous

- White House
- Statue of Liberty
- Freedom Tower
- National Archives, Washington, D.C.
- Yellowstone National Park

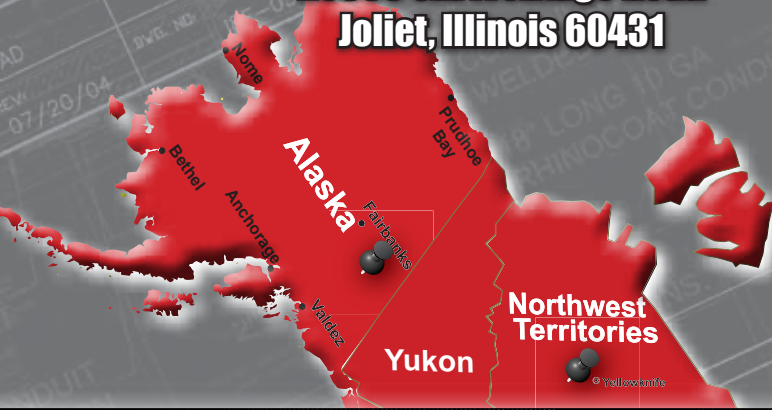
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**Service Is Provided By A Network Of
Experienced Representatives**