<table>
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<th>PRODUCT NAME</th>
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<th>JACKET</th>
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<td>HDPE</td>
<td>HDPE</td>
<td>Polyisocyanurate</td>
<td>Welded and Insulated</td>
<td>Thrust Blocked</td>
<td>Copper Tubing</td>
<td>Min. = 25°F</td>
<td>Max. = 366°F</td>
<td>Max. = 80°F</td>
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<td>Min. = 25°F</td>
<td>Max. = 366°F</td>
<td>Max. = 80°F</td>
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</tbody>
</table>

**Notes:**
1. Pre-Engineered systems are built to job dimensions and include installation drawings.
2. Joint Closures can be supplied with Heat Shrink Tape, Pressure Sensitive Tape, or Heat Shrink Sleeves.
3. Pressure Testable Joint Closures are available on all HDPE jacketed systems.
4. Standard components are NOT part of a Pre-Engineered system and include pup footage. (Drawings provided at additional charge.)
5. Please see Specifications for further details.

For more information, visit [www.thermacor.com](http://www.thermacor.com) or contact THERMACOR PROCESS, L.P.

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THERMACOR’S "HT-406" has finally provided the answer to Engineers’, Contractors’, and User’s desires for a single insulated piping system suitable for high temperature and cryogenic fluid applications. The unique design involves utilizing thermoset polyurethane foam during testing, our electro-fusion joint closure, and our Electrical Resistance Monitoring (ERM) Leak Detection System.

**High Temperature Systems**

**FOR TEMPERATURES UP TO 250°F**

**CHEMICAL RESISTANCE**

Jet black polyurethane foam, high density polyethylene, and a proprietary soft PVC jacket are the primary components of the THERMACOR’S STEEL-THERM piping system. The jacket is manufactured into the locking seams makes our jacket watertight. Additionally, our spiral wound jacket and tunnel piping applications. This economical, high-quality product incorporates our Electro-Fusion Pressure-Testable Joint Closure, and our Electrical Resistance Monitoring (ERM) Leak Detection System.

**“HT-406” is a success because of the following five features:**

1. High Temperature Polyisocyanurate foam is the vanguard insulating material now available for high temperatures up to 366ºF. It is light in weight, and is manufactured into the locking seams makes our jacket watertight. Additionally, our spiral wound jacket provides the strength and integrity needed.

2. SPIRAL-THERM "406” is constructed for high temperature applications up to 350ºF. Projects requiring pipe to carry steam, water, or liquid plastic fluids, etc., are ideally suited for THERMACOR’S SPIRAL-THERM "406”. For projects with operating temperatures between -30 to 250ºF, Spiral Thermafoam polyurethane foam insulation is recommended.

3. THERMACOR’S D.O.O-THERM "506” is a pre-insulated piping system that provides a high temperature, durable, attractive, and flexible, and very cost-effective solution. The "506” is considered an enhanced Class "A" system because polyurethane foam and a rugged non-corrugated HD Polyethylene (HDPE) jacket surround the steam carrying pipe and cover it from any external damage. HDPE protects the outer steel conduit from corrosion, thereby eliminating the need for cathodic protection. A variety of insulation densities is available for maximum flexibility in temperature, moisture, thermal efficiency, color fills, etc. **POLYFOAM** is a ductile, flexible foam designed and built to withstand the most severe and corrosive conditions that pipe will be subjected to.

4. CLASS“A” STEEL-FOBE

THERMACOR’S CLASS“A” STEEL conduit systems are the most thermally and chemically resistant steel system available. The "A" Class Steel is an agency-approved, proprietary, and corrosion-resistant steel that is rigorously tested. The system is able to handle heavy traffic loads, high water tables, and corrosive soils. Our exclusive NOVACAT in a two-component, self-painting, chemically cured, polyurethane, high solids coating, designed to provide maximum durability, toughness, flexibility, and chemical resistance.

**Low Temperature Systems**

**FOR TEMPERATURES UP TO 210°F, Polyurethane Foam Systems**

THERMACOR’s POLYFOAM and COPPER-FLEX are designed to provide a unique insulation system for underground, on-ground, and horizontal underground applications. A special formulation of polyurethane foam and copper jackets are custom selected for the maximum efficiency of the thermal heat transfer. These unique features make POLYFOAM and COPPER-FLEX the most effective and cost-efficient piping systems available on the market today.

**FUSION BONDED EPOXY** (FBE) is a one-part, heat curing, thermosetting powder coated designed to provide maximum corrosion resistance to pipeline systems. It is a 100 percent solids epoxy applied from the powdered state onto pre-piped joints. Our exclusive NOVACAT in a two-component, self-painting, chemically cured, polyurethane, high solids coating, designed to provide maximum durability, toughness, flexibility, and chemical resistance.

**PRE-FABRICATED/ PRE-ENGINEERED SYSTEMS**

THERMACOR’S PRE-FAB SYSTEMS are part of a complete piping system designed and manufactured to facilitate design, fabricate and erect a complete pre-engineered system. Thermacor can offer stress analysis reports, load rate calculations, or design help for a piping application unique to your system. The use of stress analysis only as an engineering tool adds to the safety of your system. Therefore, accurate analysis cannot be over-emphasized. THERMACOR’S PRE-FAB SYSTEMS are part of a complete piping system designed and manufactured to facilitate design, fabricate and erect a complete pre-engineered system. No field insulation of fittings will be required because all joint closures shall be welded at straight lengths of pipe.

**PRESSURE TESTABLE JOINT KITS**

THERMACOR’S POLYCOR is a proprietary polyurethane foam that is pre-inserted into the jacket of the pipe. By applying an electric current, the wire and flux field are directed around the surrounding pipe and jacket to create a gasless, watertight seal. THERMACOR’s Polyurethane foam pre-insulated joint closures are tested at a recommended 5 psi, and become mechanically strong as the HDPE jacket itself when fused properly. The pre-insulated joint closure guarantees integrity of the critical polyurethane joint connection and can be used on all HDPE jacketed systems.

**EQUIPMENT / ACCESSORIES**

Thermacor’s polyurethane foam is 2.5 – 3.5 lbs/ ft³. Our "A" foam insulation is 90%-95% closed cell, and has a K factor of 0.14 at 75ºF.**Variations for the Low Temperature systems listed above are available. Please contact us for more information.**

**CRYOGENIC SYSTEMS**

(For temperatures up to -270°F, Cryogenic Foam Systems)

**STEEL-THERM**

THERMACOR’S STEEL-THERM is a popular FERRO-THERM line with DUCTILE IRON COUPLINGS to seal the joints between lengths of pipe. The D.I. Couplings, utilizing two EPDM rubber gaskets, eliminate welding and provide compensation for thermal expansion. The system is designed for on-ground and underground applications. The flexible, durable, and lightweight jackets can be cut to jobsite dimensions. PRE-FAB SYSTEMS are delivered to the job site as part of a completely pre-engineered system. No field insulation of fittings will be required because all joint closures shall be welded at straight lengths of pipe.
**High Temperature Systems**

- **THERMACOR’S “HT-406”** has finally provided the answer to Engineers’, Contractors’, and End Users’ dreams for a single, insulated piping system that can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to optimize the use of aluminum or steel jacketing, providing the utmost in performance and flexibility, whether outdoors or indoors, including severe and corrosive conditions that can be found in underground heat distributing systems. The HT-406 system is engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

- **THERMACOR’S “COATING,” designed to provide maximum durability, toughness, flexibility, and chemical resistance.** The system is designed with steel carrier pipe (type and grade specified) as required, polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

- **THERMACOR’S “FUSION BONDED EPOXY (FBE)” is a one-part, heat curable, thermosetting powdered epoxy coating designed for severe and corrosive conditions that can be found in underground heat distributing systems.** The FBE coating is applied to the carrier pipe and cured with a silicone cure. This system is engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

- **THERMACOR’S “COPPER-FEED”** provides a high-efficiency, pre-insulated piping system for below ground or above ground applications. The system is designed with copper carrier pipe (type and grade specified), polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

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**Low Temperature Systems**

- **Thermacor’s “thermacor” is a factory fabricated, pre-insulated piping system for below ground or above ground applications.** The system is designed with steel carrier pipe (type and grade specified), polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

- **THERMACOR’S “FERRO-THERM” is a factory fabricated, pre-insulated piping system for below ground or above ground applications.** The system is designed with steel carrier pipe (type and grade specified), polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

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**Cryogenic Systems**

- **Thermacor’s “cryocor” is a factory fabricated, pre-insulated piping system for below ground or above ground applications.** The system is designed with steel carrier pipe (type and grade specified), polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

- **THERMACOR’S “CROCODILE-K” is a pre-insulated piping system designed for below ground or above ground applications.** The system is designed with steel carrier pipe (type and grade specified), polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

- **THERMACOR’S “CROCODILE-K” is a pre-insulated piping system designed for below ground or above ground applications.** The system is designed with steel carrier pipe (type and grade specified), polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.

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- **THERMACOR’S “CROCODILE-K” is a pre-insulated piping system designed for below ground or above ground applications.** The system is designed with steel carrier pipe (type and grade specified), polyurethane foam insulation, and an HDPE or aluminum jacket or steel jacket. The system can be engineered to meet the needs of the world’s most demanding systems. The HT-406 system is designed to provide maximum durability, toughness, flexibility, and chemical resistance.
**High Temperature Systems**

**PTHERACOR'S** "HT-606" has finally provided the answer to Engineers’, Contractors’, and End Users’ dire needs for a single insulated piping system that is extremely durable and can withstand high temperatures.  Our exclusive NOVAFOAM is a two-component, self-plumbing, chemically cured, polyurethane, high solids coating, designed to provide maximum durability, toughness, flexibility, and chemical resistance.

**H-606** is a success because of the following features: High Temperature Polyuremacylon foam insulation, a High Density Polyethylene (HDPE) jacket designed for polyurethane foam during curing, our electric-fusion joint closure, and our Electrical Resistance Monitoring (ERM) Leak Detection System.

**FLOW-THROUGH** is a two-component, chemically cured, flexifiable polyurethane foam designed for the underground service envelope of the system, HIPS jacket only used to support the electric-fusion joint closure, it is also the most widely used jacket over the world for the foam distribution system. Additionally, high quality polyurethane is also cast in place. Our High Temperature Polyuremacylon foam is the vacuum insulating material now available for high temperatures up to 100°F in steam. It is 87% closed cell foam with a superior insulating factor of 3.8 at 79°F and 26.5 at 150°F in accordance with ASTM C517.

**SPiral-THReM**

**THERMACOR'S SPIRAL-THReM** is a pre-insulated piping system designed to provide maximum safety for transporting hazardous fluids above or below ground. THERMACOR's "A" System is an all-steel System designed to provide maximum safety for transporting hazardous fluids above or below ground. THERMACOR's Standard Components, Pre-Fab Systems & Pressure Testable Joint Closures

**Low Temperature Systems**

**THERMACOR'S FERRO-THerm** is a factory fabricated, pre-insulated piping system for below ground or above ground distribution of chilled water, steam, oil or viscous fluids. The System is designed with steel carrier pipe (Type C and grade specified), as required, polyurethane foam insulation, and a high density polyethylene (HDPE) jacket as a Type A System.

**COPPER-TERM**

**THERMACOR'S COPPER-TERM** is a pre-insulated piping system using Type "C", "C-4", or "C-4M" (ASTM B-88) copper pipe in sizes 1/2” through 8” as the carrier pipe, polyurethane foam insulation, steel jacketing, and a HDPE jacket for underground service. The system can also be designed for above ground installation. The HDPE jacket only used to support the electric-fusion joint closure. It is also the most widely used jacket over the world for the foam distribution system. The electric-fusion joint closure is cast in place. Our High Temperature Polyuremacylon foam is the vacuum insulating material now available for high temperatures up to 100°F in steam. It is 87% closed cell foam with a superior insulating factor of 3.8 at 79°F and 26.5 at 150°F in accordance with ASTM C517.

**THERMACOR'S HILL-TERM** is a pre-insulated piping system designed with PVC plastic pressure carrier pipe, polyurethane foam insulation, and a HDPE jacket for the underground distribution of chilled water. The plastic carrier pipe is by Class 160 (SDR 11), Class 269 (SDR 17) 498/956, Schedule 40 or Schedule 80 PVC. The most economical choice for chilled water distribution systems.

**FIBER-TERM**

**THERMACOR's FIBER-TERM** is a pre-insulated piping system designed with fiberglass reinforced plastic carrier pipe, polyurethane foam insulation, and a HDPE jacket. The fiberglass pipe is the vanguard insulating material now available for high temperatures up to 250°F. DUO-THERM "505" is pre-insulated piping system designed for high temperature applications up to 350°F. Projects requiring pipe to carry steam, but not liquid, process fluids, etc., are usually insulated for傳 plausible explanation without any out-of-context information.

**FERRO-THERM**

**THERMACOR'S FERRO-THERM** is a factory fabricated, pre-insulated piping system for below ground or above ground distribution of chilled water, steam, oil or viscous fluids. The System is designed with steel carrier pipe (Type C and grade specified), as required, polyurethane foam insulation, and a high density polyethylene (HDPE) jacket as a Type A System.

**STeel-THERM**

**THERMACOR'S STEEL-THERM** is a factory fabricated, pre-insulated piping system designed by combining our popular FERRO-TERM line with BUTYLIC INSOULATING COUPLINGS to seal the joints between lengths of pipe. The ISI Couplings, utilize electric-fusion wire for expansion and contraction, thereby eliminating the need for expansion loops or expansion joints.

**Cryogenic Systems**

**Thermacor's cryocor®-k and dual** are a combination of either single or dual line Type K Copper; Type C Copper, brass, or stainless seamless or welded piping systems which will be insulated with efficient thermal barrier of low density polyurethane foam and covered with a PVC jacket. These products are ideal for transporting cryogenic fluids and gases such as CO, Liquid Nitrogen, Liquid Oxygen, and liquid Natural Gas.

**Cryogenic Systems**

**Thermacor’s cryocor®-k and dual** are a combination of either single or dual line Type K Copper; Type C Copper, brass, or stainless seamless or welded piping systems which will be insulated with efficient thermal barrier of low density polyurethane foam and covered with a PVC jacket. These products are ideal for transporting cryogenic fluids and gases such as CO, Liquid Nitrogen, Liquid Oxygen, and liquid Natural Gas.
**PRODUCTS GUIDE**

Your Authorized THERMACOR Representative is:

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<th>INSULATION</th>
<th>OPERATING CONDITIONS</th>
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<td>HDPE or PVC</td>
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<td>Carbon Steel</td>
<td>Max. = 250°F</td>
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<td>Fiberglass, Stainless Steel or Calcium Silicate or Same as Above w/ a Split Sleeve</td>
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<tr>
<td>HDPE or PVC</td>
<td>Field Kits or Pre-fabricated, Pre-engineered Insulated Steel-Therm (2” thru 12”), Pre-fabricated, Pre-engineered Steel-Therm (2” thru 12”), Pre-fabricated, Pre-engineered Polyurethane, or PTJC insulated, Solvent Weld Elbows, Spirals-Therm insulated, Polycor HDPE or Ductile Iron, Push or Mechanical Joint Components</td>
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<td>HDPE or PVC</td>
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5 Please see Specifications for further details.

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<td>HDPE or PVC</td>
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<td>Steel Barrels</td>
<td>Carbon Steel</td>
<td>Welded and Insulated</td>
<td>Split Soldered</td>
<td>Heat Sensitive Tape</td>
<td>Polyurethane</td>
<td>Max. = 250°F</td>
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<td>HDPE or PVC</td>
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3 Pressure Tolerant Joint Closures are available on all HDPE jacketed systems.
4 Standard components are NOT part of a Pre-Engineered system and include pup footage. (Drawings provided at additional charge.)
5 Please see Specifications for further details.

THERMACOR® Pre-insulated Pipe Comparisons

1 Pre-engineered systems are built to job dimensions and include installation drawings.
2 Joint Closures can be supplied with Heat Shrink Tape, Pressure Sensitive Tape, or Heat Shrink Sleeves.
3 Please contact your THERMACOR representative for further information.