

INSULTECH®

Thermal Blanket Insulation

**FOR THE
PROCESS
INDUSTRY**



BIO-CHEMICAL PLANT

Main Steam Supply Header - Post M&V Survey
Design: LT450TT - 1.5" thickness (Green PTFE Fabric)

SHANNON ENTERPRISES OF W.N.Y. INC. INSULTECH®

THERMAL BLANKET INSULATION

...is the insulation solution to problem insulation areas on all types of steam process equipment. The removable, reusable features of *INSULTECH*® drastically lower operation costs, shorten down time, save valuable energy, improve the work environment and reduce labor costs associated with installation, removal and reinstallation.

...is a custom designed, self-contained insulation system. This means quality construction for specific application needs, quality designs retrofitted to field conditions and design features which make *INSULTECH*® user friendly to the field mechanic.

...utilizes CAD technology for maximum design accuracy. Through years of information gathering, standardized designs as well as custom designs are possible for all types of equipment. Our CAD file base includes standardized designs on Gate Valves, Condensate Pumps, Pressure Reducing Valves, Slip and Bellows Expansion Joints, Ball Joints, Strainers and Steam Traps. Even the most difficult geometric surfaces such as Steam Turbines can be engineered for blanket treatment.

...is self-contained insulation system, constructed of a high density insulation filler with a fully encapsulated outer jacketing. The outer jacketing is double sewn and bound at the closing seams. The jacketing and sewn construction ensure long lasting protection to the insulation filler.

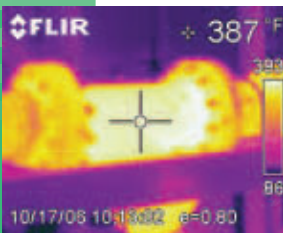
...can withstand extreme conditions such as steam tunnels and manholes. High chloride environments with high humidity and possible flooding have little or no effect on specific blanket designs. *INSULTECH*® offers a wide range of specialty designs to accommodate these extreme conditions.

...comes equipped with all necessary fastening hardware. The fasteners are an integral part of the blanket design and become the dominant feature in making installs and removals quick and easy. All metal hardware is stainless steel for added strength and durability. Velcro can be sewn into both the belting system as well as to the outer jacketing flap.



HEAT EXCHANGER HEAD & BODY

Design: LT450TT - 1.5" thickness (white PTFE)
Fastener: Velcro Flaps / Stainless Steel Wiretwists



(Before)
Bare Y Strainer



(After) Blanketed Y Strainer
"Thermal Imaging Photography"

Thermal Efficiency Safety Noise Reduction

APPLICATIONS



SHANNON ENTERPRISES OF W.N.Y. INC. **INSULTECH**[®]
THERMAL BLANKET INSULATION



GATE VALVES AND FLANGED ENDCAPS

Design: MT800SGM - 2" thickness
Fastener: Stainless Steel Wiretwists



THERMAL BATH RESERVOIR

Design: LT450TT - 1" thickness
Fastener: Stainless Steel Wiretwists and Velcro[®] Flaps



FOOD PROCESSING – COMMERCIAL BAKING OVEN

Design: LT500LFP – Food Grade
Fastener: 4" Wide Double "D" Ring Straps w/Stainless Steel Rod Supports



PAPER MILL – HP STEAM SRV DISCHARGE PIPING

Design: LT450TT - 1.5" thickness
Fastener: Double "D" Ring Straps
Double Tagging w/ No Asbestos Tags

...includes a 3.5" x 1.5" identification tag for each blanket piece. The tag includes 1/8" embossed lettering for individual piece labeling. The tag is riveted directly or indirectly to the outer jacketing surface. The tag becomes an integral part of the blanket. In the event a blanket is removed, the tag will identify its rightful place at the time of installation. Tags come in both stainless steel and aluminum.

...will accommodate varying temperature extremes (Ambient to 1100°F). With many design specifications established as industry standards, optimum service life can be expected with cost efficiency. Consult a factory representative for further information on specifying.

...is not just a product purchase. Our ultimate goal is problem-solving at many levels. Shannon Enterprises can offer "Energy Surveys" for steam and process systems, "Sound Surveys" for noisy equipment or "Engineering Services" for packaged systems. Our knowledge in the field of insulation is broad and our abilities as a full service blanket insulation manufacturer are unprecedented in the industry.

Thermal Efficiency Safety Noise Reduction



DISTILLATION COLUMN – HEAD, VESSEL FLANGES & PIPING

Design: LT450TT - 1.5" thickness
Fastener: Stainless Steel Wiretwists and Velcro® Flaps



FOOD PROCESSING – STEAM PASTEURIZING HEAT EXCHANGER, PIPING & FITTINGS

Design: LT500LFP – "Food Grade"
Fastener: PTFE Cross Film Straps and Non-Metallic Side Release Buckles



CHEMICAL PLANT – TOP OF BOILER – STEAM DRUM & MANWAY

Design: LT450TT - 1.5" thickness
Fastener: Stainless Steel Wiretwists

Energy Surveys – Shannon Enterprises will offer a calculated heat loss review of your steam system. With a number of survey formats to choose from, *INSULTECH*® Blanket Insulation can be proposed on flanged piping systems which lack proper thermal performance. Through the use of *INSULTECH*® proposed for all or any exposed areas (Valves, Flanges, Fittings, PRV's, Strainers, etc.), heat loss calculations can be run and tallied. From the heat loss calculations, operating costs and eventually an overall payback period can be determined. The "Energy Survey" becomes a personalized heat loss summary of your steam system, with detailed descriptions of specific locations and fittings. Typical "Energy Surveys" show payback periods well within one year's time. When calculating the economic benefit of the initial investment, gains are as high as 15 times the initial investment. Not many capital projects can match these economies.

Engineering Services – Shannon Enterprises is a market leader in design, product development and application. Product line catalogs are available for both *INSULTECH*® Thermal and *INSULTECH*® Acoustic. We are one of the few blanket manufacturers which bridges the gap between theory and application.

Support – Shannon supplies insulation systems not only to the domestic end user market but also the O.E.M. and international markets as well. With a strong representation network, Shannon will continue to emerge as an industry leader, progressive with the changing world.



PROCESS PUMP STATIONS

Design: LT450TT - 1.5" thickness
Fastener: Stainless Steel Wiretwists and Velcro® Flaps

INSULTECH[®]

Thermal Blanket Insulation

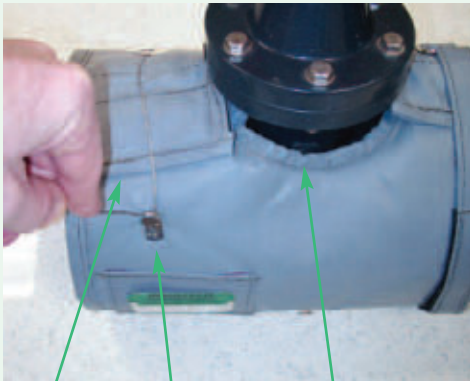
**FOR THE
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INSULTECH[®] Performance Highlights...

| Operating Temp. | Thick. | Surface Temp. | Thick. | Surface Temp. | Thick. | Surface Temp. |
|-----------------|--------|---------------|--------|---------------|--------|---------------|
| 250°F (121°C) | 1" | 100.2°F | 1.5" | 92.0°F | 2" | 87.4°F |
| 300°F (149°C) | 1" | 108.6°F | 1.5" | 98.2°F | 2" | 92.3°F |
| 350°F (177°C) | 1" | 117.2°F | 1.5" | 104.6°F | 2" | 97.4°F |
| 400°F (204°C) | 1" | 126.0°F | 1.5" | 111.2°F | 2" | 102.7°F |
| 450°F (232°C) | 1" | 135.0°F | 1.5" | 118.0°F | 2" | 108.0°F |
| 550°F (288°C) | 1" | 154.0°F | 1.5" | 132.0°F | 2" | 120.0°F |
| 650°F (343°C) | 1" | 175.0°F | 1.5" | 148.0°F | 2" | 133.0°F |
| 750°F (399°C) | 1" | 197.0°F | 1.5" | 165.0°F | 2" | 147.0°F |
| 850°F (454°C) | 1" | 221.0°F | 1.5" | 184.0°F | 2" | 163.0°F |

- The above reference cold face surface temperatures should be used as guidelines for blanket thickness design.
- The cold face surface temperature of the blanket should approach ambient temperature conditions.
- The economic thickness of the blanket should consider blanket cost to thermal performance.
- Heat loss calculations are based on a 70°F ambient using a flat surface condition.

INSULTECH[®] Design Features...



■ Overlapping 1-1/2" Fabric Flap at Closing Seams

■ Stainless Steel Lacing Hardware with Featured Wiretwist Fastener

■ Double Sewn and Binded Seams



■ Two-piece Construction (Separate Body and Bonnet)

■ Low Point Stainless Drain Grommet

■ Stainless Steel or Aluminum Embossed Identification Tag (Riveted to Outer Jacketing)

■ (Optional) Wind Flap with Draw Chord



■ Durable Silicone Impregnated Fiberglass Cloth

■ (Optional) "D" Ring Strap with Velcro[®] Tab (Double Sewn)

Representation By:

