

# SHANNON

Shannon proudly manufactures the INSULTECH® family brand of insulation products.

**FOR STEAM TRAPS & STEAM SPECIALTIES**

## SHANNON Heat Shield Insulation...

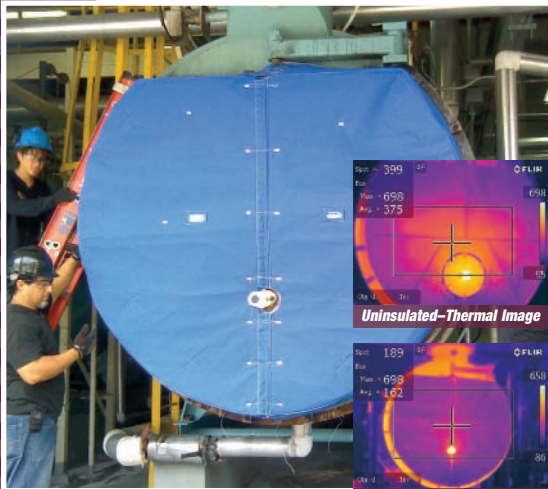


### STEAM TRAP

INSULTECH® Heat Shield  
Design: LT500HS - 1/4" thickness  
Fastener: Velcro Flaps



*"Solving the Problem with Steam Trap Radiant Heat Loss"*



### BOILER DOOR

INSULTECH® Heat Shield  
Design: LT500HS - 1/4" thickness  
Fastener: Stainless Steel Wiretwists



### STEAM MANIFOLD SERVICE TREE-STEAM TRAPS

INSULTECH® Heat Shield  
Design: LT500HS - 1/4" thickness  
Fastener: Velcro Flaps

**...is a "cost effective" thermal insulation system** designed with many of the features and benefits of a traditional blanket insulation system. INSULTECH® Heat Shield Insulation is removable and reusable for easy installation, easy removal and easy re-installation, making access to steam specialties simple. Reduce cycle times and extend trap service life.

**...will create a SAFER WORK ENVIRONMENT** by lowering surface temperatures on critical applications. Enhance your V.P.P. (Volunteer Protection Program) with a simple solution.

**...is compliant to OSHA standards** for exposed heated surfaces, if there is a potential for injury. OSHA standards include; 1910.261(k)(11), 1910.262©(9), 1910.23©(3), 1910.147 & 1910.132(a), Section 5(a)(1) of the OSHA act.

**...will SAVE ENERGY.** Steam Traps covered with INSULTECH® will show an estimated ENERGY SAVINGS of 75%. With average surface temperatures of 250°F, this reduction equates to payback periods on investment of less than 6 months. The savings will continue, year after year. A single steam trap can generate \$130.00 to \$740.00 per year in energy loss. Calculated savings will be \$95.00 to \$546.00 per year. A 15 year service life could be \$1,425.00 to \$8,190.00 for each steam trap! Following a steam trap survey can lead to very large energy savings.

**...is a custom fit, self contained insulation system.** Design LT500HS, features a sewn, self contained construction with Velcro® flaps for easy install. INSULTECH® is capable of withstanding both temperature and frequent removal. The quick release fastening system with a high quality sewn construction allows easy removal and re-installation. Trap inspection can be performed without removal through an inspection grommet, strategically placed. Labeling includes information derived from your steam trap management program.

**...is a CAD/CNC manufactured design** for exact fit and finish. With close tolerances on complex surface geometry, the INSULTECH® Heat Shield insulation system allows standardized offerings for almost any steam trap and steam specialty fitting. Applications include; Steam Traps, ATP (Automatic Pumping Traps), Condensate Pumps, Steam Tracing & Steam/Condensate Manifolds.

**INSULTECH® has become the recognized name** in the insulation industry both for its high quality and high engineering standards. As an industry leader, Shannon Enterprises can assist in solving your insulation problems. We are the market leader in design and innovation.

**Thermal Efficiency . . . . . Safety . . . . . Noise Reduction**



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**FOR STEAM TRAPS & STEAM SPECIALTIES**

## Energy Survey Sample

**Presented By:** Shannon Enterprises  
**Contact:**  
**Phone / Email:** (716)693-7954  
**Project Name:** Sample Steam System  
**Project Contact:**  
**Phone / Email:**  
**Shannon Proj. #:** 2378

**Survey Date:** 8/31/2015  
**Proposal Date:**  
**Fuel Cost (\$/mmBTU):** \$12.80  
**Steam Cost:** \$17.07  
**Product Specification:** LT500HS-AG  
**Insulation Thickness:** 0.25 Inches  
**Fastener Type:** Velcro Flaps ONLY

QTY	Description / Location	Amb. Temp	Meas. Surface Temp	Oper-ating Hours	Bare Heat Loss (BTU/Hr)	Bare Oper. Cost (\$/Year)	Insulated Heat Loss (BTU/Yr)	Insulated Oper. Cost (\$/Year)
25	Armstrong 813	90	352	7884	118,293.00	\$15,919.86	341,998,904	\$5,837.92
25	Gestra MK-45	90	352	7884	33,012.00	\$4,442.75	95,441,555	\$1,629.19
25	Spirax Sarco FT-15/FT-30	90	352	7884	41,265.00	\$5,553.44	119,301,943	\$2,036.48
25	Spirax Sarco TD52	90	352	7884	14,580.30	\$1,962.22	42,153,353	\$719.56
25	Armstrong 800	90	352	7884	46,767.00	\$6,293.90	135,208,869	\$2,308.02
25	Armstrong 15-B4	90	352	7884	45,941.70	\$6,182.83	132,822,830	\$2,267.29
25	Watson McDaniel WFT-15	90	352	7884	47,042.10	\$6,330.92	136,004,215	\$2,321.59
25	Dunham-Bush (MEPCO) 44/45	90	352	7884	47,317.20	\$6,367.94	136,799,562	\$2,335.17
25	Armstrong 15-J8	90	352	7884	250,341.00	\$33,690.86	723,765,123	\$12,354.67
25	Spirax Sarco FTB-175/200	90	352	7884	217,053.90	\$29,211.09	627,528,222	\$10,711.91
25	Gestra MK-45	90	352	7884	33,012.00	\$4,442.75	95,441,555	\$1,629.19
25	Hoffman TD6428	90	352	7884	17,881.50	\$2,406.49	51,697,509	\$882.48
25	Armstrong 811 Steam Trap	90	352	7884	30,261.00	\$4,072.52	87,488,092	\$1,493.42

### Heatloss Calculation

$$Q = K (\Delta T) / L + (K / Ht)$$

Q = Heatloss (BTU / Hr. / SF)  
 K = Bare Surface Thermal Conductivity (K = 26.9)  
 $\Delta T$  = Surface Temp - Ambient Temp  
 L = Insulation Thickness  
 K = Insulated Surface Thermal Conductivity (K = 0.525 @ 300 F)  
 Ht = Combined Coefficients (Ht = 3.2 @ 300 F)  
 (Radiation, Convection & Conduction)

Emissions Savings #1 Natural Gas (mm BTU):		Emissions Savings #2 #6 Fuel Oil (mm BTU):	
	2960.59		2960.59
CO2 (Tons)	444.21	CO2 (Tons)	264.43
NOx (lbs)	444.21	NOx (lbs)	1163.55
N2O (lbs)	6.42	N2O (lbs)	*
SO2 (lbs)	1.66	SO2 (lbs)	3318.72
PM10 (lbs)	5.47	PM10 (lbs)	211.40
VOC (lbs)	15.93	VOC (lbs)	34.01
CO (lbs)	71.10	CO (lbs)	105.82

\* (Amount is less than 0.05 Lbs)

### Energy Survey Summary

Total Heatloss - Bare (BTU/Year):	7,432,780,546.80
Total Heatloss - w/ Insulation (BTU/Year):	2,725,651,732.48
<b>Heatloss Savings - w/ INSULTECH® (BTU/Year):</b>	<b>4,707,128,814.32</b>
Total Annual Operating (Steam Cost) - Bare:	\$126,877.56
Total Annual Operating (Steam Cost) - w/ Insulation:	\$46,526.88
<b>Annual (Steam Cost) Savings - w/ INSULTECH®:</b>	<b>\$80,350.69</b>
<b>* Lifetime (Steam Cost) Savings (15 Yrs):</b>	<b>\$1,172,348.56</b>
Total Cost (INSULTECH® Blanket System):	\$32,911.77
<b>Total Cost:</b>	<b>\$32,911.77</b>
<b>Payback (Months):</b>	<b>8</b>
Number of Fittings:	325

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Representation By: