Shannon
GLOBAL ENERGY SOLUTIONS

CSI 10 Part Format

INSULTECH® HEAT SHIELD
LT500HS-TC (LT260C-HS-TC)

Introduction:
Shannon-INSULTECH® Heat Shield is a cost effect thermal insulation solution, used on equipment, machinery and surfaces not exceeding 500˚F. Thermal "Heat Shield" exposure can be indoors and outdoors. Shannon-INSULTECH® Heat Shield is weather / water resistant, ideal for commercial / industrial settings. Shannon-INSULTECH® Heat Shield is a cost-effective insulation design with many of the features typical of a self-contained INSULTECH® Blanket Insulation design.

Applications and Markets Served:
INSULTECH® Heat Shield Applications include; Steam Traps, Condensate Pumps, Steam Tracing, Threaded Steam Fittings, Condensate Systems, Condensate Pumping Traps. Any Steam Trap

Maximum Service Temperature: This design acts as a Thermal Barrier, with a maximum service temperature of 500˚F (260˚C).

Product Components: The Outer Jacketing is composed of 16.5oz/yd² (611g/m²) PTFE Teflon® Impregnated Fiberglass Cloth. The Insulation Material is 1/8"-1/4" Thick (3.18mm-6.36mm) Non-Woven Glass Fiber.

Construction: Shannon Heat Shield Insulation construction shall be double sewn lock stitch with a minimum 7 stitches/inch (2.8 stitches/CM). All raw jacket edges will have a tri-fold PTFE Teflon® jacket binding. No raw cut jacket edge will be exposed. Stitching will be done with 100% PTFE Teflon® thread or PTFE Teflon® fiberglass thread. No "On-Site Fabrication" to assure high quality.

Fabrication Requirements: Shannon-INSULTECH® Heat Shield outer jacketing will match the treated surface and will account for thickness changes resulting from the composite addition of Non-Woven Glass Fiber insulation. This material is stitch quilted to the jacketing, producing a self-contained heat shield system, easy to install within minutes. Sewing thread will be a PTFE fiberglass.

CAD/CNC Requirements:
The outer jacket surface will be designed and manufactured via CAD/CNC for exact fit and finish. CAD design will allow a precision CNC production approach with maximum tolerances. A CAD electronic filing and storage will be necessary for future reference, establishing a part number library which will match an existing Steam Trap Management Program.

ID Plate Tagging:
For easy identification and location, a stainless steel or aluminum name plate tag is riveted to each blanket piece. 1/8" (0.32CM) embossed lettering shows location, description, size, pressure rating and tag number sequence. Each blanket will include an I.D. Plate.

Armstrong Model 880 Steam Trap

Low Point Drain Grommet: Shannon-INSULTECH® Heat Shield Insulation will accommodate inspection / survey access by providing a 3/8" diameter brass or stainless-steel grommet, placed strategically.

Installation Guideline Requirements: Shannon-INSULTECH® Heat Shield Insulation projects will include an instruction package shipped with the material. This package will include Assembly Drawings, identifying piece location, a material list of all pieces and instructions for installation on how the INSULTECH® Heat Shield will be installed. This feature will be presented for Steam Trap Manifolds & Steam Trap Assemblies.

Fit and Finish: Shannon-INSULTECH® Heat Shield Insulation will be guaranteed to fit. Warranty timeline is 18 months, from date of installation and it applies to material replacement only.

Integral Fastener: Shannon-INSULTECH® Heat Shield Insulation will include a Velcro® hook & loop fastener sewn to an outer jacketing flap. A 1" (2.5CM) wide hook will be stitched to the outer jacketing surface of heat shield and a 1" (2.5CM) wide loop fastener will be stitched to an extended outer jacketing flap. The Velcro® will be polypropylene, sewn with a PTFE Teflon® fiberglass thread.

Guidelines to Standards: To access the true limitations of this recommended design, refer to the technical data sheets on each product component. This recommended design is intended to follow those guidelines and produce the highest achievable service life possible. Blanket design quality can be reduced or enhanced by changing any one component. If a question arises regarding deviations from those stated guidelines, please contact your regional representative or call Shannon direct.

Shannon
GLOBAL ENERGY SOLUTIONS

CSI 10 Part Format

INSULTECH® HEAT SHIELD
LT500HS-TC (LT260C-HS-TC)

Assembly Drawing Requirements
Each Heat Shield Insulation project will include an instruction package shipped with the blanket material. This package will include Assembly Drawings identifying piece location, a Material List of all pieces and Instructions for Installation on how Heat Shield Insulation will be installed. Accurate CAD files & project records must be kept by the manufacturer. All blankets are to be CAD designed / CNC produced to assure the highest quality and precise fit.

Production Drawing Record Keeping
The correlating Project Production Drawings will also be kept on file with the manufacturer. The latest revisions, if any after installation, will be recorded on the CAD drawing system. This file will also be kept for a minimum of ten years to assure accuracy in re-orders of replacement parts.

Project Qualifications
All items insulated will require a site visit prior to bid submittal. Upon receipt of project contract, each item must be field measured for "Custom Fitting" to existing field conditions. Each item must be tagged and or marked for installation reference. At the time of installation, blankets must have a corresponding tag on the blanket and must match to an existing tag on the fitting. No generic standard blanket designs will be accepted. This will assure a "Custom Fit" design with maximum thermal efficiency.

Project Accuracy and Effectiveness
Demonstrate the efficacy of precision, through the use of State-Of-The Art CAD Design. The efficacy of precision markings with the ability to maintain a high degree of repetitiveness and control of manufacturing tolerances for locations of I.D. tags, stitch lines, cut lines for stuffing, cutting of jacketing materials and cutting of insulation through the use of State-Of-The-Art CNC cutting systems & software.

Warranty
We guarantee that all Shannon Heat Shield Insulation will accommodate vibration probes, gauges, tubing, piping, brackets, etc. and fit correctly for optimum performance as per the design specification provided in the quotation process. In addition, for 18 months we will cover the cost of replacing the blanket should the failure be due to premature degradation of any component utilized in the blanket construction, as well as any defects due to poor workmanship.

Preparation
Apply Shannon Heat Shield Insulation on clean, dry surfaces and avoid trapping oils, greases or combustible materials.

Installation Guidelines
Shannon Heat Shield will follow these simple guidelines:

- Once material is received, open boxes with care. DO NOT "cut" deep into container to avoid damaging blankets.
- Locate the Instructions for Installation.
- Follow the Material List to determine blanket part number.
- Refer to the Assembly Drawing for orientation of each blanket part number and installation details of each part.
- Locate the Identification Tag on each blanket, for correct description and sequence of blankets.
- Material is installed in tag number sequence.
- Use leather gloves to install material.
- A physical effort is required for proper placement and fit.

Storage
Once shipment is received, protect Shannon Heat Shield Insulation from water damage and/or other abuses prior to installation. Shannon Heat Shield Insulation will be shipped in cardboard boxes or crated for export shipping. Packaging is not designed for outdoor storage, thus a tarp or covering of some type is necessary if stored outdoors until installation is completed.

Caution
Typical industry handling practices should be exercised for the protection of the worker. The field mechanic should wear long-sleeve loose-fit clothing, wear proper head covering, leather gloves, wear proper fitted eye protection and use appropriate respiratory protection when handling, inspecting, installing and removing Shannon Heat Shield Insulation. The worker should wash with soap and warm water after exposure. Since there is a likelihood of fiberglass exposure and the fiberglass is considered a nuisance fiber, it is recommended that you wash and rinse work clothes separately. For specific handling practices, refer to the component product MSDS sheets.

Notes
The chemical and physical properties of Shannon Heat Shield Insulation represent typical average values determined in accordance with accepted test methods. The data is subject to normal manufacturing variations and is supplied as a technical service subject to change without notice. In addition, test data are average results of tests conducted under standard procedures and are subject to variation. Results should not be used for specification purposes. Design Guidelines are as follows: To access the true limitations of this recommended design, refer to the technical data for each product component. Following these guidelines will produce the highest achievable service life. Shannon Heat Shield Insulation design quality can be reduced or enhanced by changing any one component. If a question arises regarding deviations from those stated guidelines, or to insure the information is most current please contact your regional representative or call Shannon Enterprises direct.

Typical Product Properties Specifications

Physical Properties	Performance Measures	Test Methods
Thermal Conductivity	0.21 @ 75˚ F 0.27 @ 250˚ F 0.40 @ 500˚ F	ASTM-C177 / C518
Insulation Density	7.5 lb/ft3	
Upper Use Temperature Limit	1200˚ F (Insulation Rating)	UL 94V-0 Non-Flammability