REUSABLE

MANUFACTURER AND SUPPLIER OF INSULATION COVERS AND INSTALLATION

REMOVABLE

Sizonke Trading

Quality Engineering Solutions & Supplies

Web www.sizonkegroup.co.za

REMOVABLE THERMAL INSULATION

OVERVIEW

Sizonke Trading to provide Solution to heat loss in Boiler Rooms at Hospitals on un-insulated items and to quote on manufacturing and supply of removable reusable thermal insulation jackets for these items. The items would need to be insulated in the shortest possible time and with the best efficiency possible. The insulation needs to be removable for access to be gained to the various valves and then easily replaced.

GOALS

1. To effectively insulate the area and items which have a maximum surface temperature of not more than 260degree celsius and to bring the cold face (after insulation) to a temperature of 43degree celsius at an ambient temperature of 21degree celsius.
2. To effectively insulate these items in as short a time as possible with required completion dates to be confirmed by the customer.

SPECIFICATION

Sizonke Trading design proposal for the insulation jackets in order to facilitate the installation and to satisfy the required temperatures and requirements.

BENEFITS OF INSULATION

A properly designed and installed insulation system offers immediate and long-term benefits. Insulation protects your personnel, your equipment, your system, and your budget.

1. Reduces energy costs
2. Prevents moisture condensation
3. Reduces capacity and size of new mechanical equipment
4. Enhances process performance
5. Reduces emissions of pollutants
6. Safety and protection of personnel

- 7. Acoustical performance: reduces noise levels
- 8. Maximizes return on investment (ROI)
- 9. Improves Appearance
- 10. Fire Protection

ENERGY SAVINGS: INSULATION REDUCES ENERGY COSTS

A properly designed, insulated, and maintained system significantly reduces energy costs, which saves money and protects the environment. An unbelievable amount of energy is lost through uninsulated valves, bare pipes, or defective insulation. It seems to be one of those maintenance things that never gets done—until somebody can demonstrate what it's costing to ignore the uninsulated system.

IMPRESSIVE RETURN ON INVESTMENT: INSULATION IS A QUICK PAYBACK

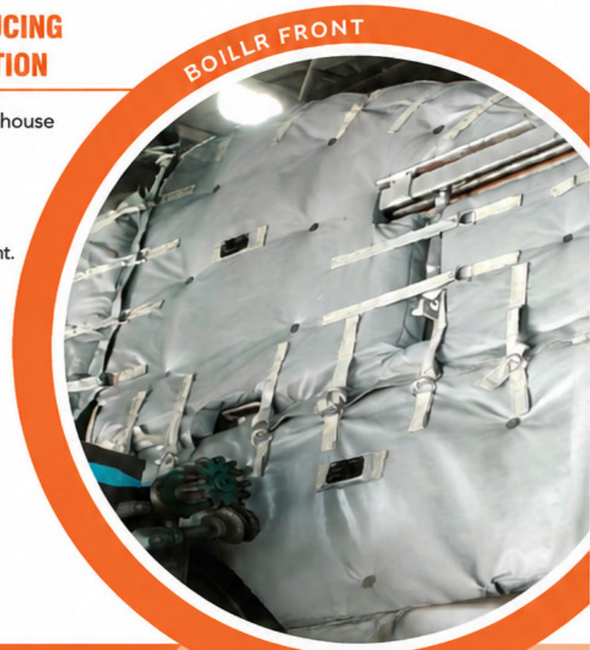
- Reduced energy cost means improved ROI.
- Addition of insulation can be the most cost-effective means of reducing O&M costs for an industrial facility or a commercial building. Insulation is a low-risk investment because the savings and the payback can be forecasted with a high degree of accuracy.
- Insulation is one of the few technologies where the payback for the investment is considered more than acceptable when compared to many other equipment or maintenance purchases.
- If the insulated system is maintained, the savings from the investment continue for the life of the facility. In fact, it costs more to not insulate properly.
- Often insulation is paid for by the maintenance budget and then it reduces the operations budget for the life of the system.
- The return on investment or payback for an investment in insulation is quick, often from 6 months to 2 years.

PROTECT THE ENVIRONMENT BY REDUCING POLLUTANT EMISSIONS WITH INSULATION

Use a well-designed and insulated system for greenhouse gas reduction

- Lower energy use means less pollution (carbon monoxide, Sulphur dioxide, etc.).
- Improved performance of pollution control equipment.

Insulation reduces energy consumption, which means that less fossil fuel is burned to produce that energy. This, in turn, decreases the amount of polluting gases such as carbon dioxide and sulfur dioxide emitted into the atmosphere. Because carbon dioxide is one of the principal greenhouse gases contributing to climate change, reducing its emissions is essential for a sustainable future.



global warming, and sulfur dioxide is the major component of acid rain, insulation plays a significant role in protecting the environment.

Insulation is not generally associated with pollution control. If energy is saved, then all of the pollution associated with the generation of that energy is also saved. And, given the amount of energy reduced by the use of insulation—and the fact that we now have tools to calculate the emission reduction numbers with the use of insulation—emission reduction is a significant benefit of insulating in today's green environment.

PERSONNEL PROTECTION

A well-designed and insulated system will protect personnel by:

- Lowering hot surface temperatures; and
- Preventing accidental burns.

CONSTRUCTION AND LAYERS OF THERMAL JACKETS

1. Sizonke Trading 8 grade Chemiflex 440-1SC single side PTFE coated glass fabrics will be used on the hot face. This PTFE coated fabrics will provide a barrier to ingress of liquids into the jackets as well as providing a chemical resistant and easy to clean surface on the inside of the jackets. While the coated fabric will provide a barrier it is simply not possible to eliminate completely any ingress as we do have seams of materials which are stitched together and will result in small needle holes along these seams.
2. Isover ThermalMat 3 at 50mm thick be used as the insulation layer in order to reduce the temperature as much as possible and to get down to the final calculated temperature above. Any joints in material would be staggered to prevent heat loss as much as possible.
3. Sizonke Trading grade Chemiflex 440-1SC – single side PTFE coated glass fabrics will be used on the cold face as above
4. Fastening will be done through a series of straps and D-Rings. Straps manufactured from Grade Chemiflex 440-1SC fabric and D-Rings from stainless steel.
5. Sewing thread used will be a Kevlar covered stainless steel thread suitable for operation up to 500 deg C. While the Kevlar will discolour and weaken at high temperature, the SS thread will remain.
6. Flaps will be fitted to cover the joints between jackets and will facilitate the run-off of any liquid from the surface over the jacket.
7. Bracket and fixings will be incorporated before installation. Where possible we will endeavor to "pop revert, bolt-on" rather than "weld-on".

DESIGN APPROVAL

The final specification of the jackets must be signed and approved by the customer before manufacture will commence. Once the customer has approved the design and the specification of the jackets, the expected performance of the jackets will be assumed to be approved.

BUDGET QUOTATION

Quotation will be submitted. This will be a budget quotation based on certain assumptions and costs available at the time of quoting. This budget quotation will be valid for 30 working days from submission of the quotation.

DESIGN APPROVAL

The final specification of the jackets must be signed and approved by the customer after a site visit by Sizonke Trading before manufacture will commence. Once the customer has approved the design and the specification of the jackets, the expected performance of the jackets will be assumed to be approved.

FITTING AND APPROVAL

Once the quotation is accepted, the order for the set of jackets must be placed before we continue with final design and fitting. The cost of the set of jackets will include any additional design work and any additional changes to the design as long as these are not "substantial" in nature and do not account for a movement in cost of 5% or more in either direction, for the design moving forward.

It is further noted that initial fitting of jackets onto the items are included in this quotation and will be for the account of Sizonke Trading. Furthermore Sizonke Trading will assist in providing necessary training for the customer during initial installation for future customer teams to be able to remove and re-install.

RATE OF MANUFACTURE AND DELIVERY TO SITE

Lead time for basing the final design will be determined by the clear brief from the client however we estimate 20 working days once the final design is approved.

Delivery to site will be effected by Sizonke Trading at agreed upon times and dates. Costs of deliveries are included in the final Quote.

While we will endeavour to meet deadlines set out and requested by the customer, the time taken for the set of jackets and for the purchase order to be placed must be taken into account in relation to the final date required.

While we are quoting and providing lead times based on our experience and in good faith, with production of such products we cannot be held liable for any delays in production resulting from factors outside of our control.

DESIGN NAME	HOT FACE MATERIAL	LAYER 1	COLD FACE MATERIAL	AMBIENT TEMPERATURE (DEG C)	HOT FACE TEMPERATURE (DEG C)	COLD FACE TEMPERATURE (DEG C)
Lazwi 1	Grade Chemiflex 440-1SC PTFE Coated Glass Fabric	25mm -50mm E-LITE RBH Glass Wool	Grade Chemiflex 440-1SC PTFE Coated Glass Fabric	21	260	43
Lazwi 2	Grade Chemiflex 440-1SC PTFE Coated Glass Fabric	75mm-100mm E-LITE RBH Glass Wool	Grade Chemiflex 440-1SC PTFE Coated Glass Fabric	21	260	30

UN-INSULATEED BOILER FRONT (COAL FIRED BOILER)

INSULATED DUCTING PIPE

INSULATED VALVES & STRAINER

INSULATED DUCTING PIPE

INSULATED BOILEB ERONT (ELECTRIC POWEEED BOILER

COMPRESSOR

BURNER

INSULATED DUCTING PIPE

CONTROL VALVE

EXTRUDER BARREL JACKET