



quotes@tipes.co.uk

## Insulation Jackets

Flexible thermal insulation, personnel protection, acoustic, leak detection and burn prevention jackets

Tel: 01626 201092

# Better products for challenging situations

quotes@tfpes.co.uk



Oil & Gas



Petrochemical



Nuclear



LNG



Industrial

---

Tel: 01626 201092

# Contents

<b>04</b>	Insulation and Protection
<b>05</b>	Benefits of Insulation Jackets
<b>06</b>	Design to Protect, Built to Last
<b>07</b>	Weather Protection
<b>08</b>	Insulation Types Available
<b>09</b>	Thermal Insulation
<b>10</b>	High Temperature Insulation Jackets
<b>13</b>	High Temperature Turbine Insulation
<b>14</b>	Acoustic Insulation
<b>17</b>	Trace Heating Jackets
<b>18</b>	Leak Detection Jackets

# Insulation and Protection

**Insulation jackets are manufactured from high-quality materials dependent on the user requirements**

From a global supplier of Insulation (Topside and Subsea), Passive Fire Protection (PFP), Cryogenic Spill Protection (CSP), Composite Blast and Fire Walls, Buoyancy Products and Cable Protection Systems.

The company designs, manufactures and installs Insulation jackets to protect equipment and personnel across a range of industries; from the rigours of offshore oil and gas to petrochemical plants, defence, marine, LNG, Food and Beverages (F&B), and other industrial plant rooms including in schools and hospitals.

The Jacket is designed to improve process in accordance with health and safety or process guidelines, whilst providing energy savings and return on investment.

Jackets can be applied to any new-build application, or retrofitted as a replacement in, or an enhancement to existing plants.



**Tel: 01626 201092**

# Benefits of Insulation Jackets

Insulation Jackets are a tailor made removable solution bespoke to each piece of equipment

quotes@tipes.co.uk

- + Up to three times more efficient than conventional insulation materials
- + Reduces carbon footprint and energy costs on existing plants
- + Significant reduction in energy losses from boilers (95%), valves and other equipment
- + Designed and optimised for use in highly congested areas with clash points
- + Operating temperatures -36°C to +1100°C dependent on insulation materials and cloth specification
- + No sharp edges or hot surfaces minimise health and safety risks
- + Impact resistant
- + Reduced on-site application time, saving up to 70% in installation costs
- + Reduced need for costly scaffolding
- + Waterproof outer cloth, water shedding design and drain plugs to reduce Corrosion Under Insulation (CUI) risk
- + Jacket design enables quick and easy maintenance/inspection programmes



## 70% time saving

On installation & maintenance



## Energy saving

Insulation reduces carbon footprint

Tel: 01626 201092

# Designed to Protect, Built to Last

Insulation jackets are designed for equipment with regular inspection and maintenance requirements

The jackets are the product of years of investment and development in material selection, manufacturing processes, CAD and modelling capability, in-house and external testing to create a bespoke solution for a range of harsh and challenging environments.

Each jacket installation is subject to site measurement to enable an engineered solution to be manufactured, maximising its efficiency and life-cycle.

Insulation jackets come in a variety of types, using a range of infill

materials and/or outer cloths depending on the application and process requirements.

Jackets are bespoke, meaning each one is tailored to specification.



quotes@tfpes.co.uk

Tel: 01626 201092

# Weather Protection

**Insulation jackets have been extensively tested to ensure durability in challenging harsh environments**

Insulation jackets can be manufactured to ensure minimal water ingress for use in harsh weather environments. Testing conducted on ContraFlex® silicone coated outer cloth includes:

- + ISO 20340:2009 - Performance Requirements for Protective Paint Systems for Offshore Structures for 4,200 hours in cycles of:
  - + 72 hours accelerated UV weathering ISO 11507
  - + 72 hours neutral salt spray exposure ISO 9227
  - + 24 hours steady state low-temperature testing at -20°C
- + IACS UR S14.2.3 - Testing Procedures of Watertight Compartments, a requirement of NORSOK R-004

quotes@tfrp.co.uk



## **Weatherproofing**

Tested in extreme weather conditions

**Tel: 01626 201092**

# Insulation Types Available



## Thermal Insulation

Energy saving heat conservation



## Leak Detection

Acid, steam and alkaline burn prevention



## High Temperature

Personnel protection and heat conservation



## Specialist Technical

Bespoke for any type of installation



## Acoustic Insulation

Sound reduction and vibration dampening



## Trace Heating

Temperature control and frost prevention



Tel: 01626 201092

**Plant Room Success Story:****\*Return on Investment 12 months**

Annual heat loss before insulation: 143,575 kWh

Insulated heat loss: 11,688 kWh

**Annual heat loss savings: 131,887 kWh**

Annual heat loss cost: £2,843

Insulated heat loss cost: £231

**Annual cost savings: £2,612****Projected savings over 5 years: > £13,000****Energy Survey Executive Summary**Estimated Annual Savings (£): **£2,612**Estimated Annual Heat Loss Savings (kWh):  
**131,887 kWh**Estimated Annual CO<sub>2</sub> Reduction: **24,429 kg**

# Thermal Insulation

**Thermal Insulation jackets save energy, CO<sub>2</sub> output and costs on plant room equipment and boilers.**

**Thermal energy savings**

Qualified to measure dimensional and heat loss information from valves, flanges and other plant room equipment. This information can be fed back to a unique heat loss survey program in order to calculate the expected savings in CO<sub>2</sub> and energy costs.

**Example 4" valve in a plant room with 50mm insulation jacket:****Uninsulated**Annual Heat Loss: 7682kWh  
Annual CO<sub>2</sub>: 1,423 kg  
Annual Cost: £152 (\$190)**Insulated**Annual Heat Loss: 614kWh  
Annual CO<sub>2</sub>: 119 kg  
Annual Cost: £13 (\$17)

Insulation jackets provide extremely short term returns on investment, whilst also protecting personnel against elevated temperatures.

\*Actual UK example

# Tel: 01626 201092

# High Temperature Insulation Jackets

**High Temperature jackets conserve heat and provide personnel protection on boiler pods, exhausts and turbines**

High Temperature Insulation jackets are utilised where application operating temperatures are anywhere up to 1,100°C. Hot surfaces dissipate heat quickly so it is important to maintain equipment temperatures as well as protect personnel from potentially harmful burns.

These jackets are often used to effectively insulate turbines, boilers, pipes, flanges, valves and vessels.

Where traditional materials would fail, high temperature insulation jackets

come equipped with specifically selected infills, fabrics and fixings for the desired application.

A range of insulation infill materials are available including needlemat, AES wool or Pyrogel® depending on the application temperature and specification.

## Approved Supplier

**Pyrogel**

Of Pyrogel® high temperature insulation



## Advanced Materials

Range of high temperature cloths and infills



**Tel: 01626 201092**



quotes@hps.co.uk

Tel: 01626 201092



# High Temperature Turbine Insulation

**High Temperature Insulation jackets have a large track record on steam and gas turbine installations worldwide**

High Temperature Turbine Insulation jackets provide a removable solution up to three times more efficient than traditional methods, dramatically reducing shut-down times. Overall cost savings through reduced manpower, scaffolding and ease of installation.

The brand has been used by EDF Energy at nuclear power stations across the UK, including EDF Hartlepool - where it was used to insulate a number of applications including IP and HP governors and stops, IP cylinders, MBFP cylinders and at Hinkley Point B, covering similar applications.

With shutdown periods costing a typical nuclear power station in excess of £1million per day, ContraFlex® reliably delivers fast turnaround and significant savings for contractors and end users alike.

Jacket patterns can be tailored to all turbine manufacturers specifications globally.



**Tel: 01626 201092**

# Acoustic Insulation

Acoustic insulation jackets have been tested in accordance to ISO 15665 for use on piping, flanges and valves.

Acoustic insulation jackets are available where sound reduction is required to improve site working conditions, by reducing noise and vibration across structures.

Standard insulation jackets can be modified to include a layer of mass loaded vinyl to provide noise protection.

Due to oil and gas and industrial requirements, there is a

dedicated range of acoustic insulation jackets for use on piping, flanges and valves as per ISO 15665 class A, B, C and Shell DEP 31 specifications. In addition, ContraFlex® Acoustic insulation jackets meet the NORSOK R-004 specification for acoustics Class 6, 7 and 8.

Acoustic insulation jackets have been tested at the world renowned Peutz B.V. facility, Netherlands and developed using a variety of insulation materials.



## ISO 15665 Class A, B, C

Acoustics for piping, flanges and valves



## Shell DEP 31

Acoustics for piping flanges and valves



## NORSOK Class 6, 7, 8

R-004 specifications for acoustics



## 70% Time Saving

On installation & maintenance



Tel: 01626 201092

quotes@tfpes.co.uk

Tel: 01626 201092



quotes@tfpes.co.uk

Tel: 01626 201092



# Trace Heating Jackets

Jackets can be fitted with integrated trace heating to maintain equipment temperatures and/or prevent frost

Trace Heating jackets provide a solution for flow assurance, to prevent the formation of waxes or crystallisation. Each jacket can be fitted with a trace heated cable and a thermostat or regulator for quick and easy removal and re-installation.

If the temperature drops below the desired level, the trace heated cable can raise the temperature of the equipment back up to the relevant operating temperature.

Equipment located in harsh environments, particularly in the winter months, can be subject to freezing. Trace Heating jackets provide winter protection for water treatment plants, refineries and offshore facilities where flow assurance is critical.

Jackets can be designed and manufactured in accordance with the Norsok R-004 specification for frost protection.



## NORSOK Class 4

R-004 specification for frost protection



## Trace Heating

Temperature control and frost prevention



## Weatherproof

Tested in extreme weather conditions

# Leak Detection Jackets

Leak Detection jackets detect, protect and notify personnel by using advanced colour changing materials

Leak Detection jackets come in four main configurations depending on the reagent type. ContraFlex® Leak Detection jackets provide personnel protection in the form of a spray shield,

whilst providing an indication of the type of fluid within the contained leak. Leak Detection jackets can be provided with thermal insulation where necessary.



## Acid / Alkaline

Changes colour dependent on reagent type



## Steam

Changes white when in contact with steam



## Alkaline

Turns brown on contact with alkaline



## Acid

Turns yellow in contact with acid

