ContraFlex
An Advanced Insulation Product

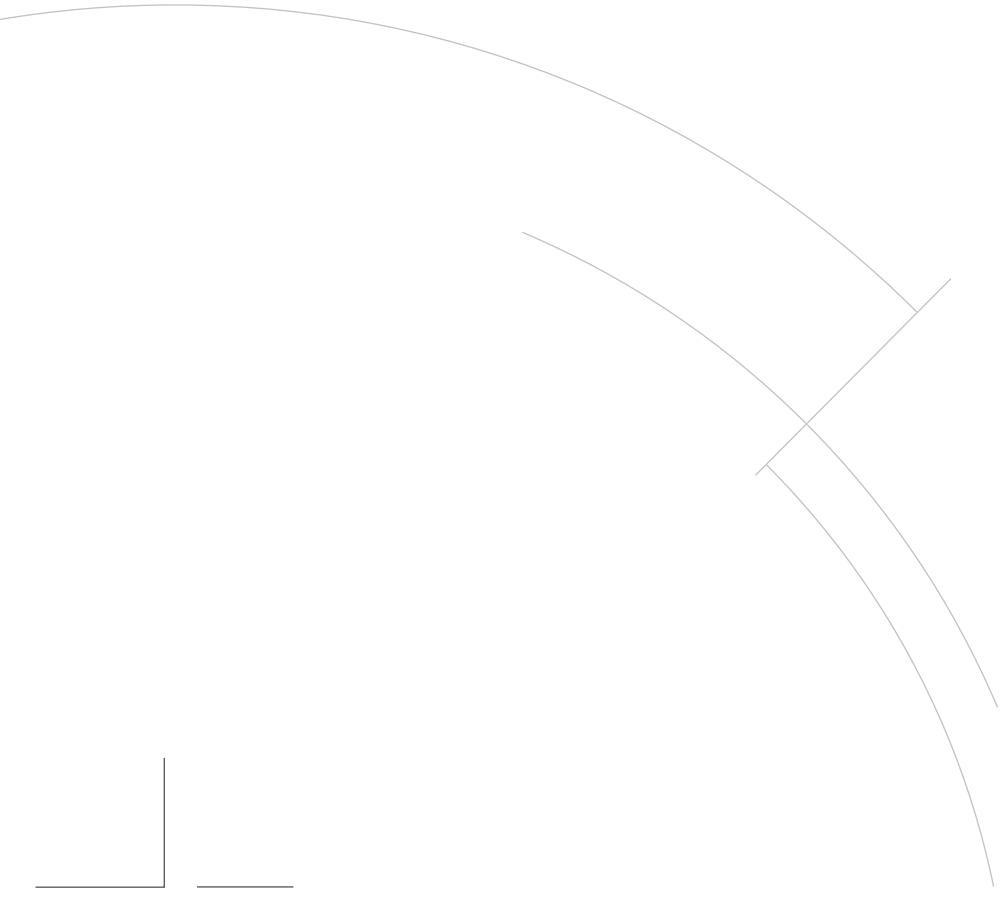
ContraFlex®

Insulation, acoustic, high temperature, winterisation and leak detection jackets

Covertherm
An Advanced Insulation Company

www.aisplc.com

Advanced
INSULATION



ContraFlex®

Contents

ContraFlex®

Advanced Insulation

Covertherm supply Contraflex® passive fire protection and insulation jackets for a wide range of applications. The jackets are designed and manufactured to suit the specific insulation requirements such as thermal, acoustic, high temperature or leak detection and chemical safety. Insulation jackets are also available with integrated trace heating for areas with low ambient temperatures. Jet fire, hydrocarbon pool fire and blast protection jackets are also available.

Bespoke Service

To meet the requirements of the client, Covertherm offer a bespoke service, which can include survey, design, manufacture and installation if required.

Survey

Covertherm can provide a full site survey for insulation jacket replacement and new installations.

Manufacture

ContraFlex® is manufactured in the form of a jacket typically constructed with an inner cloth, an insulation material and an outer cloth. The thickness of the jacket can vary to suit the requirements of the application. Manufacturing of the jackets can be undertaken at any of Advanced Insulation's facilities worldwide; United Kingdom, United Arab Emirates, Kazakhstan, Korea and Brazil to meet the capacity and time-scales of the project.

Installation

Full installation instructions can be supplied with each jacket, detailing how the components fit together around the structure/application. The jackets are held in place by simple fastening systems, such as stainless steel fixings, straps and/or hook and loop tape. Both ContraFlex® and the fixings are designed to be easily removable for maintenance, yet are suitable to withstand exposure at the site. Site supervision is also available if required.

■ Site survey report with cost savings through insulation

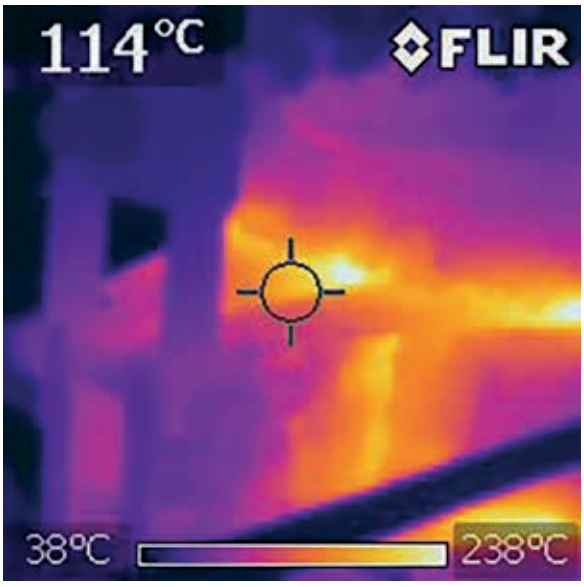
Before insulation	
Calculated annual heat loss	109,670 kWh
Calculated annual heat loss cost	£5,987.97
Calculated annual CO_2 emission	20,314 kg
After insulation	
Calculated annual heat loss savings	99,646 kWh
Calculated insulated heat loss	10,024 kWh
Calculated annual cost savings	£5,440.67
Calculated annual CO_2 emission reduction	18,457 kg
Executive summary	
Estimated Annual Savings	£5,440.67
Estimated Annual CO_2 Reduction	18,457 kg
Return On Investment Period	6.5 mths

■ Sample data from a site survey of a natural gas main plant room of a large hotel complex including all associated equipment

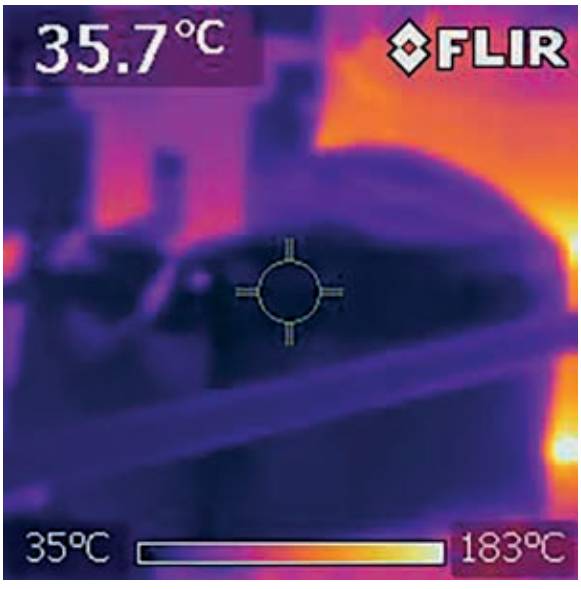
ContraFlex®

Why Insulation Jackets?

Temperature (°C)	Thermal conductivity (K Value)
400	0.10
600	0.16
800	0.23
1000	0.31



■ Hanger before insulation



■ Hanger after insulation

Heat Conservation

ContraFlex® jackets can be tailored to provide thermal insulation to the requirements of the particular application according to ISO 12241:2008 calculation rules. Standard ContraFlex® Alkaline Earth Silicate (AES) insulation wool jackets with an infill of 50mm provides the following thermal conductivity. Other thickness designs are available with also a multiple jacket option for greater heat conservation if required.

Reduced Down-time

With a flexible jacket solution, removing the insulation for regular maintenance or inspection need not be a challenge. With simple fastening systems, the jacket can be easily removed and replaced in a fraction of the time in comparison to fixed insulation systems such as renders or fibrous/metal clad valve boxes. Furthermore, a flexible jacket system is less likely to sustain damage than traditional stainless steel cladding that can easily be dented and allow moisture ingress.

ContraFlex® jackets were supplied to a nuclear power station, providing savings of £1.7 million per day through means of a 3 day fitting schedule in comparison to a 7 day installation schedule using traditional methods. Even for smaller scale HVAC insulation projects, ContraFlex® jackets can save up to a third in installation time in comparison to more traditional systems.

The integrity of ContraFlex® jackets is not reduced after unfastening and fastening and continues to insulate effectively throughout the product's lifespan. If an item of ContraFlex® insulation should become damaged then it can be easily replaced with a new section.

Personnel Protection

Surface temperatures can be effectively reduced using high temperature jackets, insulating high temperature equipment and reducing the risk to personnel from burns. ContraFlex® jackets can also provide an effective covering of sharp edges of application equipment and thus providing a safer working environment.

ContraFlex®

Why Insulation Jackets?

Design

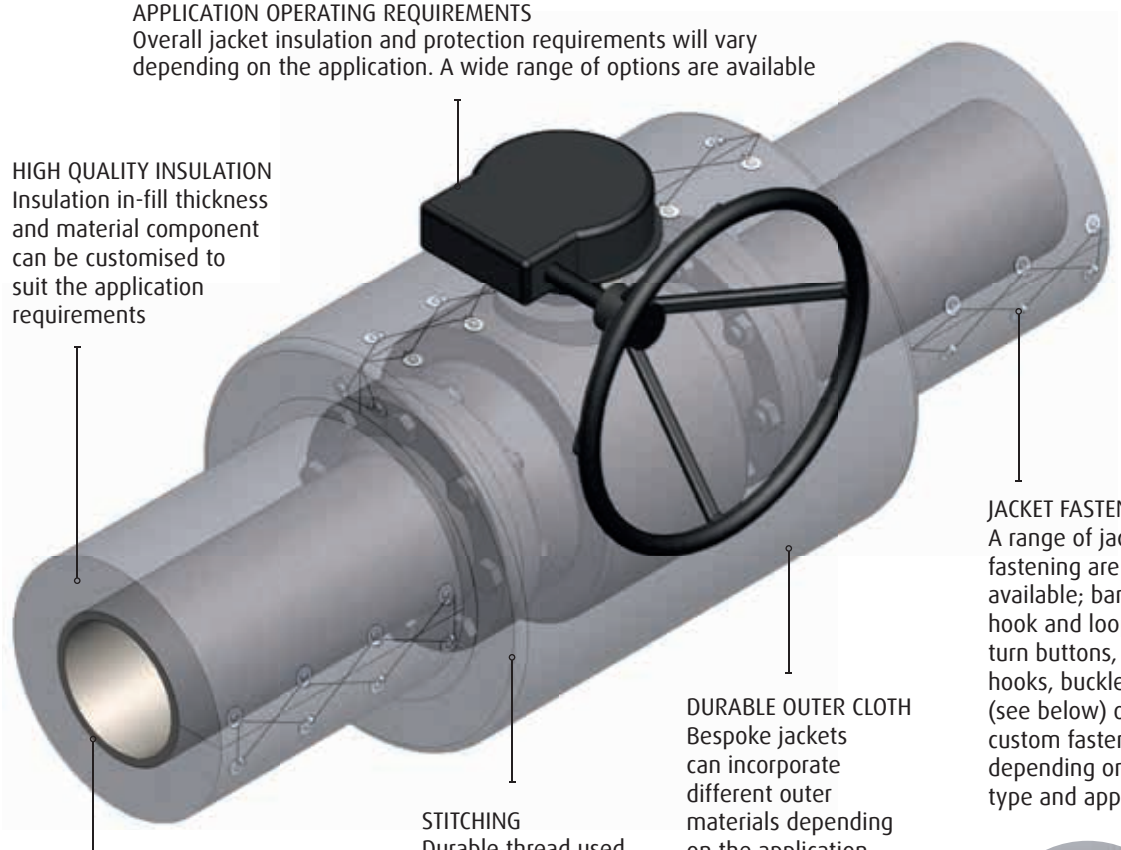
ContraFlex® jackets are designed to meet application requirements. Thermal and acoustic insulation jackets are available along with high temperature, winterisation and leak detection jackets.

Benefits across the different ranges include:

+ Designed to fit closely around awkward pipe features, valves, vessels, flanges and actuators to maximise insulation and remove possible sharp edge hazards.
+ Designed to insulate the application which it is applied to, ranging between -20°C to +1100°C.
+ Durable outer cloth can be supplied with weather and oil resistance.
+ Jacket fastenings such as hook and loop, lacing hooks or turn buttons mean that a speedy removal can be achieved for the purpose of maintenance or repair.
+ Insulation is fully sealed to avoid any airborne contamination and possible harm to personnel.
+ Specific labelling can be provided so insulation jackets that are removed for maintenance, they can be easily replaced.

APPLICATION OPERATING REQUIREMENTS
Overall jacket insulation and protection requirements will vary depending on the application. A wide range of options are available

HIGH QUALITY INSULATION
Insulation in-fill thickness and material component can be customised to suit the application requirements

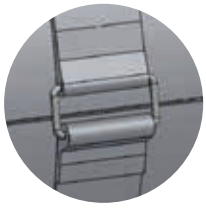


JACKET FASTENINGS
A range of jacket fastening are available; banding, hook and loop, turn buttons, lacing hooks, buckle straps (see below) or other custom fastenings depending on jacket type and application

DURABLE OUTER CLOTH
Bespoke jackets can incorporate different outer materials depending on the application requirements. Weather resistant materials are available

STITCHING
Durable thread used, Kevlar coated high quality stainless steel thread for high temperature jackets

INNER CLOTH
Various materials are available depending on the surface temperature of the application, up to 1100°C constant temperature



ContraFlex®

Insulation Jackets Overview

Standard Insulation
ContraFlex® standard insulation jackets are available where thermal and energy insulation is required both for improving application performance but also for personal safety.

Acoustic Insulation
ContraFlex® acoustic insulation jackets are available where sound reduction is required to improve health, safety and environmental standards.

High Temperature
ContraFlex® high temperature jackets are used extensively where application temperatures are between 240°C and 1100°C for high temperature processing equipment such as pipes, flanges, valves and vessels.

Winterisation
ContraFlex® winterisation jackets provide frost protection with integrated trace heating. Trace heating maintains a background temperature and can be integrated within acoustic or standard insulation ContraFlex® jackets depending on the requirement.

Leak Detection
Leak detection jackets help prevent hazards caused by leaking valves and flanges. With the red alert indicator sleeves that change colour when reagents make contact with them, the particular chemical can be traced quickly and efficiently, aiding the removal of the jacket and maintenance of the pipe.

In addition to the above range of insulation jackets, the ContraFlex® range also includes passive fire protection insulation jackets which can be tailored to provide hydrocarbon jet fire or hydrocarbon pool fire protection as per ISO 22899-1 and UL1709. Further details can be found on page 18 of this brochure.

Hydrocarbon Jet Fire
ContraFlex® passive fire protection jackets are available for insulating equipment against hydrocarbon jet fire tested to ISO 22899-1.

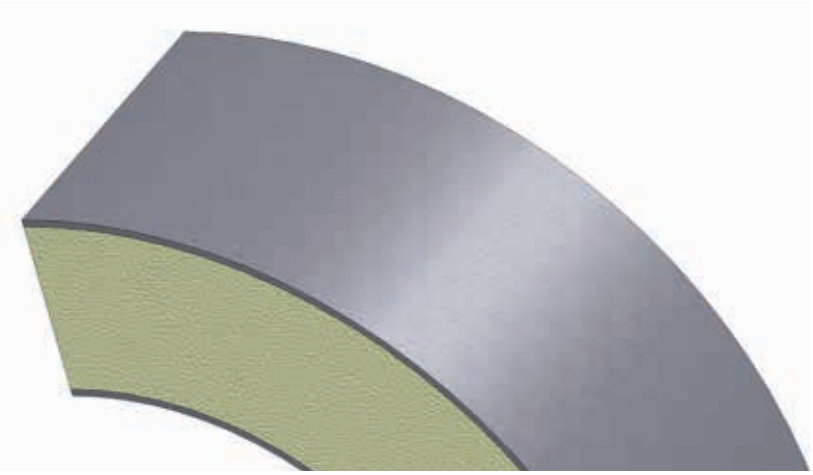
Hydrocarbon Pool Fire
ContraFlex® passive fire protection jackets are available for insulating equipment against hydrocarbon pool fire tested to UL1709.

ContraFlex®
Standard Insulation Jacket

Product Summary

ContraFlex® standard insulation jackets are available where thermal and energy insulation is required both for improving application performance but also for personal safety. Optional integrated trace heating is also available for standard insulation jackets.

Product Construction



Outer Cloth:	40/40 'E' glass fabric: flame retardant, alkali free silicone polymer coated material for interior use. Other fabrics available upon request.
Insulation:	25-50mm man-made mineral fibre insulation, 45kg/m^3. Other bespoke materials available upon request.
Inner Cloth:	40/40 'E' glass fabric: flame retardant, alkali free silicone polymer coated material for interior use. Other fabrics available upon request.
Thread:	Spun and doubled stainless steel yarn, PTFE coated to improve hydrophobic ability.
Fastenings:	A range of jacket fastenings are available; banding, hook and loop tape, turn buttons, lacing hooks, buckle straps. Other custom fastenings available on request.

Features and Benefits

Heat Conservation:	Large scale facilities such as schools, hospitals, social housing, commercial and retail centres all require, to varying degrees, constant temperatures to provide a stable environment. Heating or refrigeration can be energy intensive and is therefore essential that energy loss is reduced through effective insulation, creating cost savings.
Low maintenance and inspection time:	ContraFlex® insulation jackets can be safely and easily removed for ease of maintenance and therefore keep downtime to a minimum. Furthermore, insulation jackets can be removed and refitted by maintenance personnel directly, excluding the requirement for specialist sub-contractors.

ContraFlex®
Standard Insulation Jacket

Features and Benefits

Low installation time:	Insulation jackets by ContraFlex® are flexible and therefore easier to handle and install in relation to conventional cladding.

Typical Applications

Standard ContraFlex® jackets can be used to effectively insulate pipes, fittings, flanges, valves, actuators, junction boxes, vessels and other process equipment.

Heating, Ventilation and Air Conditioning (HVAC)
Boilers, cooling systems and related piping systems are all suitable specific applications within the HVAC category for ContraFlex® insulation jackets. Specific market sectors include but are not limited to schools, hospitals, social housing and retail, where large scale heating, ventilation and air conditioning is required, creating large energy and cost savings. For example, ContraFlex® insulation jackets have been successfully used by a number of clients in relation to social housing, NHS foundations and national councils and authorities.

Manufacturing and processing equipment
Equipment for food and drink, pharmaceuticals, petrochemical and process plants can be insulated with ContraFlex® jackets or mattresses to improve heat conservation and ease of maintenance. For example, ContraFlex® was effectively used in a major external project for a £350m world scale bioethanol plant with over 37,000 jackets measured, manufactured, supplied and fitted.

Performance and Properties

Thermal Conductivity
Temperature resistance: Up to constant temperatures of 230°C
Weight of insulation at 50mm: 2.3kg/m^2
Thermal conductivity (insulation):

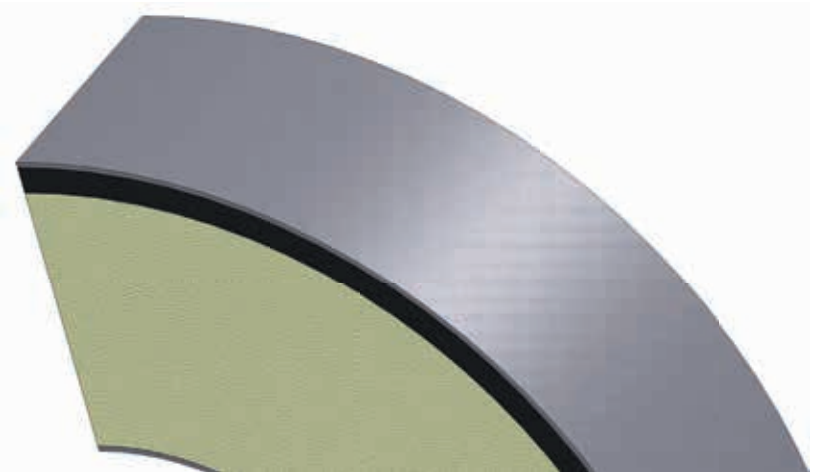
Mean insulation temperature (°C)	K value (W/mK)
10	0.033
50	0.040
100	0.050
150	0.063
200	0.079

ContraFlex®
Acoustic Insulation Jacket

General Description

ContraFlex® acoustic insulation jackets are available where sound reduction is required to improve health, safety and environmental standards.

Product Construction



Outer Cloth:	40/40 'E' glass fabric: flame retardant, alkali free silicone polymer coated material for interior use. Other fabrics available upon request.
Polymeric Barrier	Optional 2.5mm thick, 5kg/m^2 polymeric barrier provides an additional boundary layer to provide a barrier to reduce high frequency noise transfer.
Insulation:	Absorptive 25-50mm man-made mineral fibre insulation, 45kg/m^3. AES wool, 128kg/m^3 can also be used to increase the absorptive properties of the jacket.
Inner Cloth:	40/40 'E' glass fabric: flame retardant, alkali free silicone polymer coated material for interior use. Other fabrics available upon request.
Thread:	Spun and doubled stainless steel yarn, PTFE coated to improve hydrophobic ability.
Fastenings:	A range of jacket fastening are available; banding, hook and loop tape, buckle straps.

ContraFlex® jackets have been tested to ISO15665:2003 class A1, A2, B1 and B2 for flange/valve applications utilising 80/80 silicone 'E' glass fabric and 50mm AES wool.

Features and Benefits

Sound Reduction:	Varying thickness and types of materials along with compact seals, can be incorporated into the design to improve sound reduction performance.
Low Maintenance and Inspection Time:	ContraFlex® insulation jackets can be safely and easily removed for ease of maintenance and therefore keep downtime to a minimum. Furthermore, insulation jackets can be removed and refitted by maintenance personnel directly, excluding the requirement for specialist sub-contractors.

ContraFlex®
Acoustic Insulation Jacket

Features and Benefits

Low installation time:	Insulation jackets by ContraFlex® are flexible and therefore easier to handle and install in relation to conventional cladding.

Typical Applications

Acoustic ContraFlex® jackets can be used to effectively insulate engines, exhausts, boilers, pipes, fittings, flanges, valves, actuators and other process equipment.

Vehicles, engine rooms and exhaust sets
Vehicles including agricultural and marine use where engines and exhaust sets require insulation, benefit with ContraFlex® insulation with the advantages of sound reduction, personnel protection and ease of maintenance and space saving.

Insulation jackets have been successfully supplied to Harris Pye- a specialist company providing repair of marine and industrial boilers. The bespoke jackets for the engine rooms created a safer environment for engine operatives to work in- both in terms of sound reduction and safety from minimising hot surface areas that could cause significant injury

Performance and Properties

Acoustic Insulation
Options available for NORSOK R-004 class 6 and 7 on valves and flanges utilising 50mm AES wool. Independently tested to BS ISO15665:2003. Offering up to 34dB noise reduction for frequency ranges 125Hz up to 8000Hz.

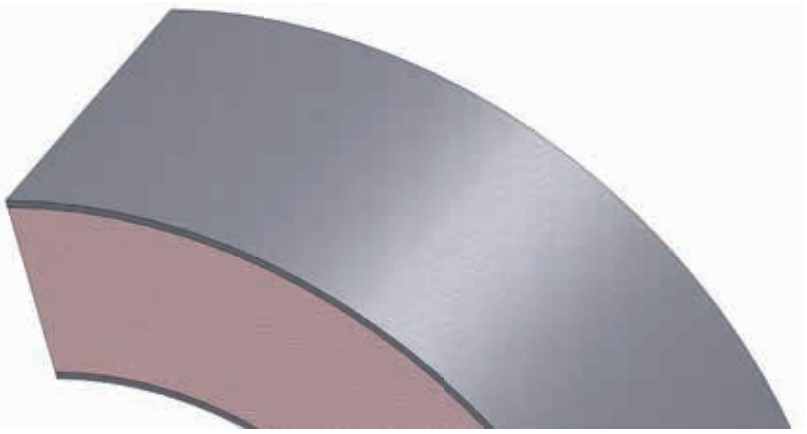
As well as providing acoustic insulation, ContraFlex® jackets can also provide a combination of heat conservation, personnel protection and to withstand temperatures up to 1100°C.

ContraFlex®
High Temperature Insulation Jacket

General Description

ContraFlex® high temperature jackets are used extensively where application temperatures are between 240°C and 1100°C for high temperature processing equipment such as pipes, flanges, valves and vessels.

Product Construction



Outer Cloth:	80/80 'E' glass fabric: flame retardant, alkali free silicone polymer coated material for external temperatures below 240°C. Other fabrics available upon request.
Insulation:	MEDIUM TEMPERATURE: Aerogel insulation for close tolerance applications up to 650°C with thickness from 10mm. HIGH TEMPERATURE: AES wool up to 1100°C with thickness from 25mm
Inner Cloth:	Graphite with or without incorporated mesh available for maximum allowable surface temperatures up to 1100°C.
Thread:	High temperature stainless steel with a Kevlar covering, providing strength and stability. Withstands 1100ºC without high strain; 600ºC with mechanical strain
Fastenings:	A range of jacket fastenings are available; banding, hook and loop tape, lacing hooks, buckle straps. Other custom fastenings available on request.

Features and Benefits

Low maintenance and inspection time:	ContraFlex® insulation jackets can be safely and easily removed for ease of maintenance and therefore keep downtime to a minimum. Furthermore, insulation jackets can be removed and refitted by maintenance personnel directly, excluding the requirement for specialist sub-contractors.
Personnel safety	With hazardous surface temperatures of turbine equipment safely insulated, risks to personnel are reduced. Similarly, insulation jackets can also protect against sharp edges of the equipment

ContraFlex®
High Temperature Insulation Jacket

Features and Benefits

Heat Conservation:	Large scale facilities such as schools, hospitals, social housing, commercial and retail centres all require, to varying degrees, constant temperatures to provide a stable environment. Heating or refrigeration can be energy intensive and is therefore essential that energy loss is reduced through effective insulation, creating cost savings.
Low installation time:	Insulation jackets by ContraFlex® are flexible and therefore easier to handle and install in relation to conventional cladding.

Typical Applications

High temperature ContraFlex® jackets can be used to effectively insulate turbines, boilers, pipes, fittings, flanges, valves, actuators, junction boxes, vessels and other process equipment. Multiple jacket options are also available which can provide increased performance.

Power Generation
Turbines, with accompanying equipment such as exhausts, inlet piping and valves require a number of solutions to resolve heat loss, personnel safety issues and to some extent, acoustic problems. Insulation jackets provide a time saving, cost effective solution in contrast to expensive wet finish and heavy, time intensive insulation options.

ContraFlex® jackets provide a fast and effective turnaround for removal of damaged insulation and installation of new. For example, ContraFlex® jackets were supplied to a nuclear power station, providing savings of £1.7 million per day through means of a 3 day fitting schedule in comparison to a 7 day installation schedule using traditional methods..

Performance and Properties

Thermal Conductivity
MEDIUM TEMPERATURE: Aerogel insulation
Reduced thickness for installation to close tolerance applications.
Temperature resistance: Up to 650°C constant temperature.
Thermal conductivity (insulation):

Mean insulation temperature (°C)	K value (W/mK)
300	0.035
600	0.089

HIGH TEMPERATURE: AES wool
Temperature resistance: Up to 1100°C constant temperature.
Thermal conductivity (insulation):

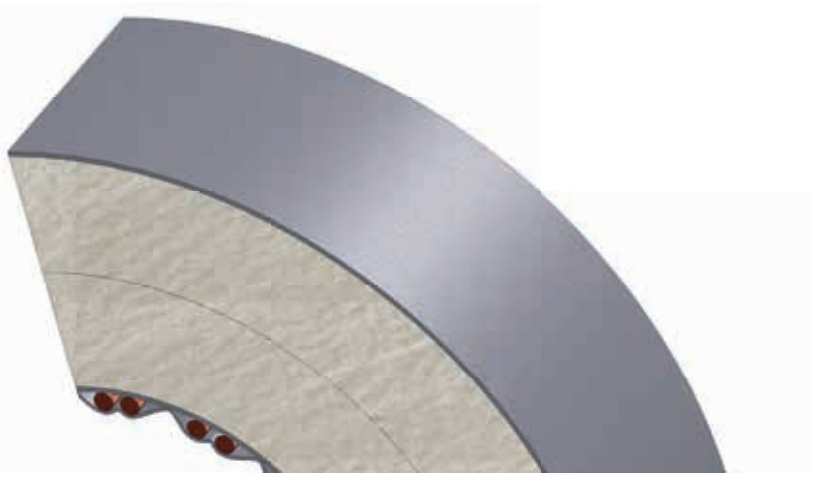
Mean insulation temperature (°C)	K value (W/mK)
600	0.12
1000	0.29

ContraFlex®
Winterisation Jackets

General Description

ContraFlex® winterisation jackets provide frost protection with integrated trace heating. Trace heating maintains a background temperature and can be integrated within acoustic or standard insulation ContraFlex® jackets depending on the requirement.

Product Construction



Outer Cloth:	80/80 'E' glass fabric: flame retardant, alkali free silicone polymer coated material for exterior use and improved weatherability. Other fabrics available upon request.
Insulation:	20-50mm man-made mineral fibre insulation, 45kg/m^3. Other bespoke materials available upon request.
Heat Tracing:	Heat tracing element cables operate at 230V (110V also available) utilising tinned copper conductors, max temperature 65°C (energised).
Inner Cloth:	Durable 'E' glass fabric: flame retardant, alkali free silicone polymer coated material to accommodate heat tracing. Other fabrics available upon request.
Thread:	Spun and doubled stainless steel yarn, PTFE coated to improve hydrophobic ability.
Fastenings:	A range of jacket fastenings are available; banding, hook and loop tape, turn buttons, lacing hooks, buckle straps. Other custom fastenings are available on request.

Features and Benefits

Heat Conservation:	Large scale facilities such as schools, hospitals, social housing, commercial and retail centres all require, to varying degrees, constant temperatures to provide a stable environment. Heating or refrigeration can be energy intensive and is therefore essential that energy loss is reduced through effective insulation, creating cost savings.
Integrated heat tracing:	Improved speed of maintenance as only one system needs removing rather than separate components.

ContraFlex®
Winterisation Jackets

Features and Benefits

Low maintenance and inspection time:	ContraFlex® insulation jackets can be safely and easily removed for ease of maintenance and therefore keep downtime to a minimum. Furthermore, insulation jackets can be removed and refitted by maintenance personnel directly, excluding the requirement for specialist sub-contractors.

Typical Applications

Winterisation ContraFlex® jackets can be used to effectively insulate pipes, fittings, flanges, valves, actuators, junction boxes, vessels and other process equipment.

Water treatment works
Water treatment works can greatly benefit with winterisation ContraFlex® insulation jackets with integrated trace heating. Ideally suited for external equipment such as fire hydrants, pipes or vessels or other systems, providing frost resistance as highlighted in BS5422:2009.

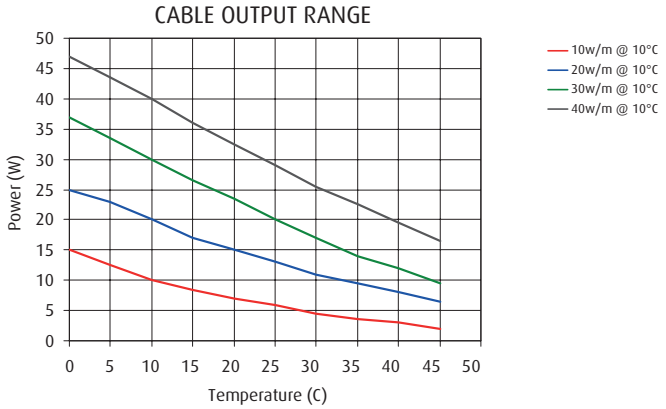
Generator sets
Bespoke insulation jackets for generator sets can be manufactured to suit the project requirements; acoustic insulation, personnel protection or thermal insulation. With generator sets often in remote areas and in harsh conditions, ContraFlex® jackets are ideally suited for ease of installation and maintenance.

Performance and Properties

Thermal Conductivity
Temperature resistance: Up to constant temperatures of 230°C
Weight of infill at 50mm: 2.3kg/m^2
Thermal conductivity (insulation):

Mean insulation temperature (°C)	K value (W/mK)
10	0.033
50	0.040
100	0.050

Heat trace equipment
Cables: Operate at 230V (110V also available) utilising tinned copper conductors, max temperature 65°C (energised), range of powers available. Protection type C to BS EN 60898: 1991.
Thermostat: Air sensing or pipe sensing thermostats available to initiate heat trace at required temp.

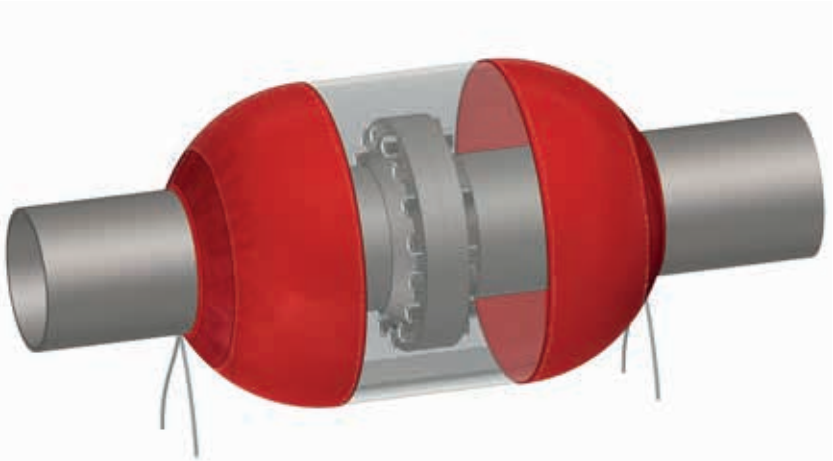


ContraFlex®
Leak Detection Jackets

General Description

Leak detection jackets help prevent hazardous spray-outs from leaking valves and flanges. With the red alert indicator sleeves that change colour when reagents make contact with them, the particular chemical can be traced quickly and efficiently, aiding the removal of the jacket and maintenance of the pipe.

Product Construction



Outer Cloth:	Polymer coated fabrics with uniform composition. Polymer based on poly (vinyl chloride) resins with suitable additives to insure pliability, performance, colour fastness and presence of acids. Clear sectioned polymer fabric to allow for visible leak detection.
Fastenings:	Jacket fastened in place with hook and loop tape and draw cord to fit tight around pipe to prevent any splash out.

Features and Benefits

Personnel safety:	Leak detection jackets help prevent hazardous spray-outs from leaking pipes, joints and fittings. With a clear area to view the application itself, any visible sign of a leak can be easily identified.
Chemical identification:	Indicator sleeves change colour when reagents make contact with them, the particular chemical can be traced quickly and efficiently, aiding the removal of the jacket and maintenance of the pipe.
Low installation time:	Insulation jackets by ContraFlex® are flexible and therefore easier to handle and install for a timely installation schedule.

ContraFlex®
Leak Detection Jackets

Typical Applications

ContraFlex® leak detection jackets can be used with pipes, fittings, flanges, valves and other process equipment.

Manufacturing and processing equipment
Equipment for food and drink, pharmaceuticals, petrochemical and process plants can be insulated with ContraFlex® jackets or mattresses to improve heat conservation and ease of maintenance. Furthermore, the ContraFlex® leak detection jacket is ideally suited to improve safety when working with hazardous chemicals.

Performance and Properties

Orange acid indicator cloth: For use with valves and flange covers where acids are used. Colour changes according to reagent presence:

Reagent	Concentration	Reaction	On Face Side
Hydrobromic	48	Bright Yellow- Immediately	Bright Yellow
Hydrochloric	38	Bright Yellow- 5 minutes	Colourless Area
Hydrofluoric	50	Yellow - 10 minutes	Slight Stain
Nitric	30	Bright Yellow - 2/3 minutes	Bright Yellow
Phenol	5	Oily Mark	Oily Mark
Sodium Hydroxide	50	Light Yellow - 3 minutes	Light Yellow
Sulphuric	30	Light Yellow - 3 minutes	Light Yellow

ContraFlex®

Passive Fire Protection Jackets

Covertherm can provide an additional range of passive fire protection ContraFlex® jackets which can be tailored to provide hydrocarbon jet fire or hydrocarbon pool fire protection as per ISO 22899-1 and UL1709.

Key Features

+ Tested to International Standard ISO 22899-1 for a range of PFP jackets offering up to 180 minutes of jet fire protection.
+ Tested to UL1709 for a range of PFP jackets offering up to 180 minutes of hydrocarbon pool fire protection.
+ Third party certified by Lloyds Register, ABS
+ Proven capable of withstanding blast over-pressures resistance of 2.15 bar
+ Weather tested to IACS UR S.14.2.3
+ Tested on tubular, planar and structural articles as well as corners and edges for valve and actuator protection

Hydrocarbon Pool Fire tested to UL1709

Name	Test	Thickness (mm)	Weight kg/m²	Average Temperature Rise (°C)				
				30 mins	60 mins	90 mins	120 mins	180 mins
H30/60	Assembly	60	17.8	11.0	58.0	-	-	-
H120	Column	61	13.4	30.0	100.0	187.0	271.0	-
H180	Column	61	13.4	30.0	100.0	187.0	271.0	435.0

Jet Fire tested to ISO 22899-1:2009

Name	Test	Thickness (mm)	Weight kg/m²	Test Article	Hp/A**	Maximum Temperature Rise (°C)				
						30 mins	60 mins	90 mins	120 mins	180 mins
J60	Tubular	73	15.0	4" SCH40	176	-	171.0	-	-	-
JF60 XS	Tubular	51 + 61.3*	22.3	2" SCH80	199	21.2	166.4	-	-	-
JF120	Tubular	61	13.7	8" SCH40	128	24.8	48.1	83.0	122.9	-
JF120	Panel C&E	61	15.0			56.3	146.1	198.4	224.7	-
JF120HT	Tubular	55 + 61.3*	25.5	2" SCH80	199	10.9	44.7	132.8	306.8	-
JF180HT	Tubular	65 + 50*	26.7	4" SCH80	127	6.5	22.0	43.0	71.0	160.0
JF180MT	Tubular	65 + 46.3	24.5	4" SCH80	127	14.0	34.0	69.0	122.0	257.0
JF180P	Planar	73	13.9	10mm Plate		20.0	81.0	130.0	165.0	183.0
JF180XS	Tubular	65 + 55*	27.9	2" SCH80	199	11.0	13.0	41.0	72.0	238.0
JF180XHT	Tubular	65 + 50*		4" SCH40	176	3.3	26.5	71.0	144.0	386.0

* Two layer system
** Section factor: Heated perimeter/Area

ContraFlex®

NORSOK R-004

NORSOK R-004 is an influential standard developed by the Norwegian petroleum industry that is used worldwide to replace oil company specifications for thermal, personnel protection, fire protection and pipe penetration insulation.

NORSOK Insulation Jacket Features

- Silicone coated cloth prevents water ingress and is tested to IACS UR S 14.2.3
- Jackets have accelerated age testing to ISO 20340 for minimum of 4200h
- The fireproofing & insulation material alkali earth silicate (AES) complies with NORSOK R-004
- The AES material used complies with thermal conductivity required by NORSOK R-004
- Insulation classified as non-combustible as per NS-EN ISO 1182
- Standard drain plugs can be used for ContraFlex® insulation and intumescent jet fire rated drainage plugs for PFP jackets
- ContraFlex® systems can accommodate a 100mm overlap onto incoming insulated pipe
- Hatches are optional and can be included
- ContraFlex® jackets use a combination of hook and loop tape flap and drawstring fastenings along with banding and steel wire
- All fastening materials (external fixing accessories) are AISI 316
- Identification name plate specifying vendor name, line no., tag, cover number, design requirement (insulation/fire class)
- ContraFlex® PFP jackets can provide jet fire or hydrocarbon pool fire protection as per ISO 22899-1 and UL1709

Class 1: Heat Conservation

ContraFlex® insulation jackets contain AES material for maximum thermal performance. For piping insulation, Advanced Insulation have in house programs for the calculation of insulation thickness in line with NS-EN ISO 12241 based on maximum temperatures and other safety requirements.

Class 4: Frost Protection

ContraFlex® winterisation jackets can accommodate heat trace cabling within the inner surface in the jacket depending on the insulation requirement. The heat trace cabling is chosen specific to the temperature requirements of the application. The heat trace cabling can be connected to a thermostat to switch on below certain temperatures, or be set to constant depending on the control interface used.

Class 5: Fire Protection

The ContraFlex® PFP jackets have been developed to cater for a variety of different scenarios, providing up to 180 minute jet fire or 180 minute hydrocarbon pool fire protection on a range of different applications (tubular/planar/assemblies). Jackets are tested in line with ISO 22899-1 and UL1709.

Class 6 + 7: Acoustic Insulation

ContraFlex® insulation jackets have been tested in accordance to BS EN ISO 15665:2003 for Class A1/A2 and Class B1/B2 which correspond to NORSOK Class 6 and Class 7. Results show ContraFlex® jackets may be used up to NPS650 as an acoustic jacket across valves and flanges.

Advanced
INSULATION

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