ContraFlex

An Advanced Insulation Product

Jet Fire Rated
Flexible Protection Jackets

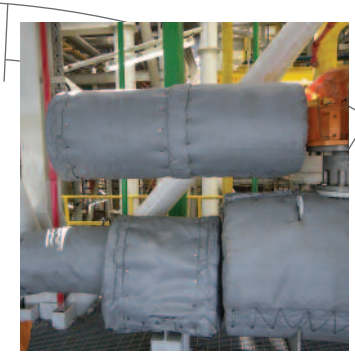
for high performance insulation
for process equipment

Advanced
INSULATION SYSTEMS

Advanced Insulation :
better products for challenging situations

ContraFlex®
Jet Fire Rated Flexible Protection Jackets

Many applications in the oil, gas and petrochemical industries require flexible, user-friendly fire protection systems that can be easily fitted without specialist tools. For ease of maintenance, such systems should be simple to remove and refit, yet be of durable construction able to withstand the rigours of service duty.



ContraFlex®, a range of tailor-made flexible jackets developed by Advanced Insulation Systems Ltd, is designed to provide high performance insulation and jet fire resistance for process equipment where frequent maintenance access is required. The ContraFlex® range includes simple, removable thermal insulation jackets that fulfil heat conservation, winterisation, personnel protection roles commonly seen in the offshore and petrochemical industries, as well as highly complex removable passive fire protection jackets. ContraFlex® is certified to International Standard ISO 22899-1 and has proven to be capable of withstanding temperatures of 1,350°C for two hours, with the back face temperature only rising by 122.9ºC, and exposure to blast overpressures of 2.57 bar.

Testing and certification

+ Tested at Advantica Spadeadam Laboratory UK
+ Certified by Lloyds Register (certificate number: SAS F090134)
+ Tested to ISO 22899-1 standard 'Determination of the resistance to jet fires of passive fire protection materials'
+ Tested to OTI 95 634 'Jet fire resistance test of passive fire protection materials'
+ Approved by State Fire Department, Republic of Kazakhstan

Advanced Insulation Systems Limited offers an extensive range of unique fire protection and insulation products and services to meet the critical safety demands.

Typical applications

ContraFlex® passive fire protection insulation jacket provides at least two hours protection to the installation. It can be readily adapted for use in a variety of applications such as :

+ Valves and actuators
+ Manways
+ Cable trays, conduits and instrument lines
+ Junction boxes and circuitry
+ Air receivers
+ Process vessels
+ Hot equipment exhausts
+ Bulkhead and localised protection

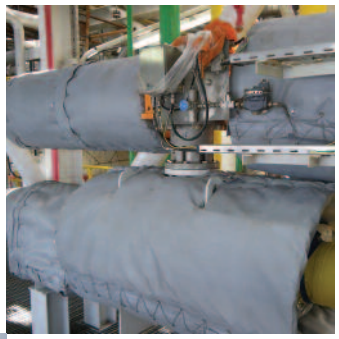
Manufacturing

To meet the requirements of the client, Advanced Insulation Systems Ltd offers a full bespoke service, including survey, design, manufacture and installation.

ContraFlex® is manufactured in the form of a jacket, usually 61mm thick. The thickness of the jacket can vary to suit the requirements of the application and duties. Manufacture can be undertaken either at our facilities or, where appropriate, at the project site.

Application

Full installation instructions are supplied with each jacket, detailing how the components fit together around the protected structure. The jacket is held in place by a simple fastening system, such as stainless steel fixings and / or Velcro straps. Both ContraFlex® and the fixings are designed to be easily removable in a maintenance situation, yet suitable to withstand exposure at the installation site.

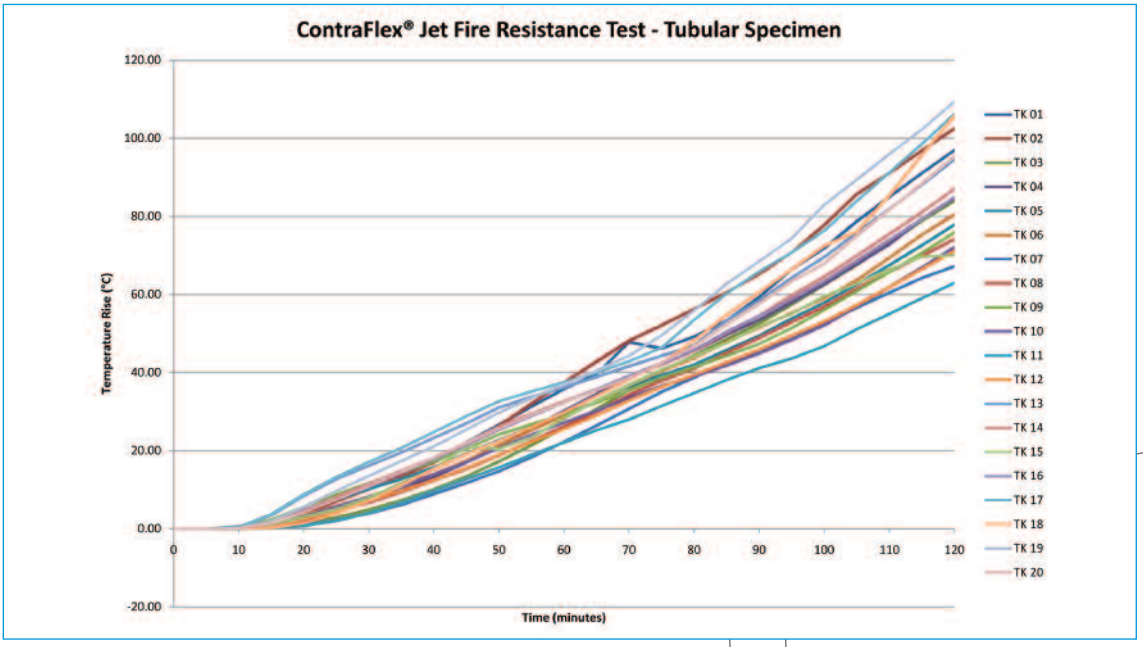


ContraFlex®
Jet Fire Resistance

ContraFlex® is currently the only flexible fire resistant insulation solution that is certified to both the International Standard ISO 22899-1 "Determination of the Resistance to Jet Fires of Passive Fire Protection Materials, Part 1: General Requirements" and to the guidance criteria of the Health and Safety Executive, Offshore Technology Report OTI 95 634 "Jet Fire Resistance Test of Passive Fire Protection Materials" (Lloyds Register certificate number: SAS F090134).

Benefits

+ Tested to ISO 22899-1 standard and certified by Lloyds Register (certificate number: SAS F090134)
+ Thinner construction – two thirds thickness of conventional systems
+ Weight reduction
+ Tailor-made
+ Can be manufactured on site anywhere in the world
+ Simplified installation technique
+ Full technical support



Advanced Insulation Systems Limited provides a full bespoke service including survey, design, manufacture, installation and disposal of existing fire protection.

Jet fire temperature

ContraFlex® has been certified by Lloyds Register to ISO 22899-1 to withstand temperatures up to 1,350°C for a period of two hours with the back face temperature only rising by 122.9°C.

Technical and environmental support

The ContraFlex® team provides a total environmental life cycle support for ContraFlex® from design to disposal. As a part of the initial survey we offer a dismantle and disposal service for any existing fire protection in order to fit ContraFlex®.

Tailor-made

The ContraFlex® team is headed up by our principal fabrics engineer who has over ten years experience in the manufacture of the flexible jackets combined with an understanding of all applications within the oil and gas industry.

Bespoke design and manufacture

The ContraFlex® team offers a full bespoke service, which includes survey, design and installation. ContraFlex® can be manufactured at the project site anywhere in the world.

Simplified installation technique

Both ContraFlex® and the fixings are designed to be easily removable during equipment maintenance or inspection periods, yet suitable to withstand exposure at the installation site. Inspection hatches and access areas can be incorporated if required.

Thinner construction

ContraFlex® is manufactured in the form of a jacket, with seven different layers, usually 61mm thick.

Thanks to this reduction in thickness, significant weight reduction is achieved.

ContraFlex®
Other Applications

The ContraFlex® range includes simple, removable thermal insulation jackets that fulfill heat conservation, winterisation, personnel protection roles commonly seen in the petroleum industries, as well as highly complex removable fire protection jackets certified by Lloyds Register to International Standard ISO 22899-1.

Winterisation

ContraFlex® provides insulation at extreme temperatures. Some equipment and systems may perform more slowly or fail to work altogether at extremely low temperatures. Consequences of this can range from a minor inconvenience to equipment failure. ContraFlex® can withstand temperatures to –60°C.

Weatherproofing

The outer weatherproof cover of ContraFlex® jackets is made of high quality silicone rubber coated glass fibre fabric with very high tolerance to temperature exposure and extreme weather conditions.

Industrial insulation

ContraFlex® can be manufactured for use in process control systems, pipe work, ducts, tanks, refrigeration, air conditioning systems, frost protection and heat management. The ContraFlex® team provides the best high and low temperature engineered solution for our customers needs.

Personnel protection

The ContraFlex® team designs each system to the specific project and client requirements. The design includes any maintenance areas, access panels, venting, cable and service lines. A site survey by the ContraFlex® team is recommended and it is followed by drawings for the client's approval prior to commencement of manufacture of ContraFlex®.

Property	Value
Jet Fire Resistance (ISO 22899-1)	J120 (standard thickness)
Back Face Temperature Rise	122.9°C
Temperature Resistance	From -60°C to 1,350°C
Blast Overpressure Resistance	2.57 bar
Standard Thickness	61mm

Thickness of ContraFlex® can vary to suit the requirements of the application.

Jet fire resistant composite layer

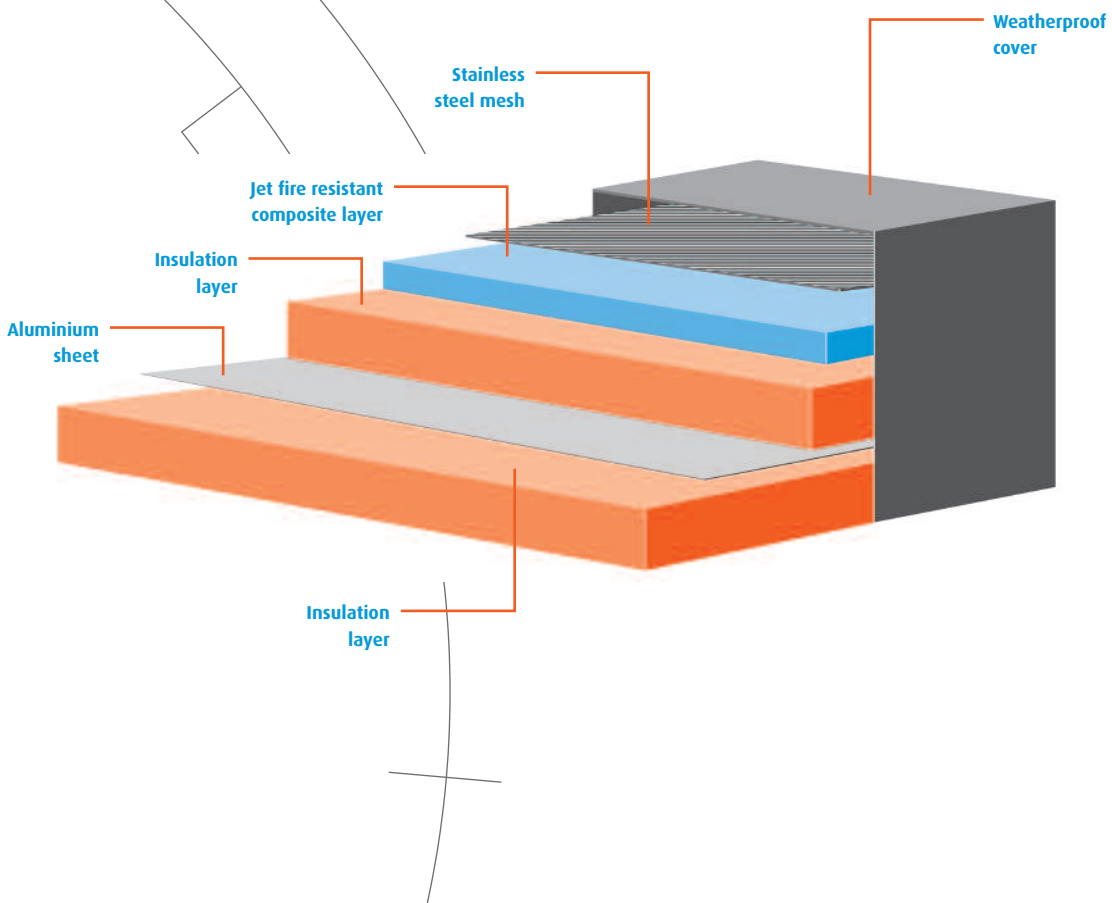
Following extensive research Advanced Insulation Systems Ltd has developed a jet fire resistant composite layer with thermal conductivity values as low as 0.02W/m°K. Thanks to this, the thickness of ContraFlex® can be reduced by as much as two thirds compared to conventional systems making it ideal for use in constricted spaces.

Insulation layer

The insulation material is a combination of conventional mechanically bound glass fibre batts and novel microporous fabric technologies.

Weatherproof cover

The outer weatherproof cover is made of high quality silicone rubber coated glass fibre fabric with very high tolerance to temperature exposure and reduced discolouration.



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An Advanced Insulation Product

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We offer full technical support service for all our products regardless of location or application. For further information please contact us to discuss your requirements and/or request product trial reports.

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