

Fire-Safe Certified Gaskets

- ***Certified to API 607 – ISO 10497***
- ***Suitable for high pressure applications***
- ***PTFE inner seal ideal for corrosive media***
- ***Proven high-performance design***
- ***Corrugated and spiral wound variants cover broad range of applications***



As a premier supplier to the chemical and hydrocarbon processing industries, James Walker has seen an increasing demand for 'fire safe' products across a broad range of applications.

Our basic design philosophy aims to exceed customer expectations, industry and safety standards by a comfortable margin. In this case, to meet industry demand, we have taken two of our proven, multi-purpose gaskets and undertaken further development work to create fire-safe certified products with the same levels of sealing efficiency.

The result – peace of mind for our customers who now have two fully certified fire-safe gaskets that can be specified with confidence across a broad range of high pressure applications in corrosive environments.

Metaflex® SG/IR Fire-Safe and Corrusafe FS are designed for use in areas where it is essential to prevent leakage of flammable, toxic or corrosive products under emergency fire conditions. Both products combine the benefits of a PTFE chemically inert inner seal to eliminate the risk of process contamination, resistant to operational temperatures of up to 260° C, with an outer sealing element of graphite that provides a secondary seal under fire conditions.

Fire Test certification to API 607 – ISO 10497

ANSI/API Standard 607, Fifth edition, June 2005

ISO 10497-5:2004 (identical), testing of valves – fire type-testing requirements

The third party tests were carried out by CEWAC / EID and witnessed by LLOYDS in July 2008.

Each test comprises three parts; an initial hydro pressure test to establish seal tightness. This is followed by exposure to fire for a minimum of 30 minutes at an average temperature of at least 650° C and average pressure of 20 bar. After a cooling down period the assembly is again tested for leakage.

Both our Metaflex® SG/IR Fire-Safe and Corrusafe FS products completed the test successfully, recording zero leakage under all conditions.

Test	Metaflex® SG/IR Fire-Safe	Corrusafe FS
Preliminary hydro test		
Minimum test time	10 minutes	10 minutes
Average pressure	27.5 bar / 400psi	27.5 bar / 400psi
Assembly and rig watertightness	No leakage	No leakage
Fire Type-testing		
Minimum test time	30 minutes	30 minutes
Average pressure	20.6 bar / 300psi	19.9 bar / 290psi
Minimum cooling time	8 minutes	7.5 minutes
Combined external leakage	No leakage	No leakage
Permissible combined external leakage	17.0 ml	17.0 ml
Post burn leakage test		
Minimum test time	5 minutes	5 minutes
Average pressure	19.9 bar / 290psi	20.1 bar / 292psi
Upstream flange external leakage	No leakage	No leakage
Downstream flange external leakage	No leakage	No leakage
Permissible external leakage	500 ml	500 ml

Metaflex® SG/IR Fire-Safe

James Walker Metaflex® spiral wound gaskets are designed to seal flanges where temperature, pressure, vibration or flow rates are beyond the capability of conventional jointing materials. They are wound in a special V-shaped section metal strip and a softer filler material so that flange surfaces are presented with a spiral of alternate metal/filler layers.

The PTFE inner sealing element of these gaskets makes them ideally suited for use in highly corrosive or extreme purity applications.

Typical applications include pipelines and pressure vessels on steam, petrochemical, nuclear, marine and hydraulic plant; and heat-exchangers.



Composition: 316L stainless steel inner support ring, winding strip with PTFE inner seal, graphite outer seal and carbon steel outer ring material on standard design. Other specialist materials are also available including Hastelloy, Monel, Inconel etc.

Temperature: Continuous Max: +260°C (+500°F)

Pressure: Maximum: 350 bar (5,000psi)

Sizes: DN 10 to DN 1200 : pressure ratings PN10 to PN40
1/2" to 48" pressure ratings 150 to 600

Meets Specification: Products are manufactured in accordance with all relevant gasket standards to suit flange designations: ASME B16.5, BS1560, ASME B16.47 Series A (MSS-SP44), ASME B16.47 Series B (API605), BS EN 1092 (BS4504); plus DIN, JIS and NF.

Metaflex® gaskets with graphite or PTFE fillers are certified as meeting TA-Luft emission control requirements.

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Corrusafe FS

James Walker Corrusafe FS gaskets are corrugated stainless steel support rings with dual material sealing facings to the inner and outer boundaries. These gaskets are designed to seal flanges where temperature, pressure, vibration or flow rates are beyond the capability of conventional jointing materials.

The PTFE inner sealing element of these gaskets makes them ideally suited for use in highly corrosive or extreme purity applications.

Typical applications include pipelines and pressure vessels on steam, petrochemical, nuclear, marine and hydraulic plant; and heat-exchangers.



Composition: 316L stainless steel corrugated ring with PTFE inner envelope and graphite outer seal material.

Temperature: Continuous Max: +260°C (+500°F)

Pressure: Maximum: 50 bar (710psi)

Sizes: DN 10 to DN 1200 : pressure ratings PN10 to PN40
1/2" to 48" pressure ratings 150 to 600

Meets Specification: Products are manufactured in accordance with all relevant gasket standards to suit flange designations: ASME B16.5, BS1560, ASME B16.47 Series A (MSS-SP44), ASME B16.47 Series B (API605), BS EN 1092 (BS4504); plus DIN, JIS and NF.

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Health warning: If PTFE or fluoroelastomer (eg, FKM, FFKM, FEPM) products are heated to elevated temperatures, fumes will be produced which may give unpleasant effects, if inhaled. Whilst some fumes are emitted below 250°C from fluoroelastomers or below 300°C from PTFE, the effect at these temperatures is negligible. Care should be taken to avoid contaminating tobacco with particles of PTFE or fluoroelastomer, or with PTFE dispersion, which may remain on hands or clothing. Material Safety Data Sheets (MSDS) are available on request.

Information in this publication and otherwise supplied to users is based on our general experience and is given in good faith, but because of factors which are outside our knowledge and control and affect the use of products, no warranty is given or is to be implied with respect to such information. Specifications are subject to change without notice.

Statements of operating limits quoted in this publication are not an indication that these values can be applied simultaneously. Material Safety Data Sheets (MSDS) are available on request.

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