

Insolion®

FS

Fire safe isolation kit

The Insolion® FS gasket is James Walker's premium performance fire safe isolation gasket and utilises a triple seal design. This incorporates a coated metallic core housing a modified u-shaped TFM seal energised with a phynox® spring.

On the inside and outside of this seal are two kammprofile sections, the inner is faced with James Walker's Fluolion® 800 modified PTFE material, and the outer with DS Pro, a proprietary high temperature material. G11 GRE material is used to face the outer section of the metallic core.

Each Insolion FS flange isolation kit is supplied with G11 bolt sleeves and a unique washer combination consisting of a metallic washer and James Walker's specially modified high temperature material.

Application guidelines

Insolion FS combines exceptional chemical compatibility and electrical isolation with the capability of maintaining sealing performance after API 6FB 3rd Edition fire test.

- Flange isolation for cryogenic applications/ LNG service.
- Media compatibility with natural gas, oils, other hydrocarbon media and many corrosive environments.
- Specified for plant wide use on the majority of flange specifications including ASME, JIS, EN, BS and DIN.
- Flange insulation and electrical isolation in conjunction with cathodic protection.
- Insulation between dissimilar metals/flanges to prevent galvanic corrosion.

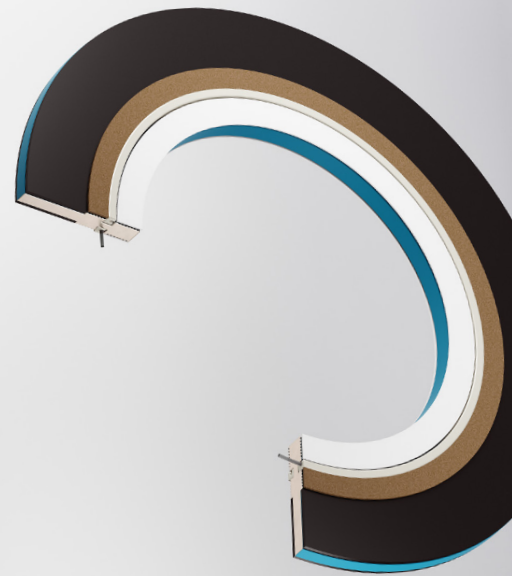
Availability

Insolion FS can be supplied in sizes from NB ½" to 40" diameter to match the majority of flange specifications and can be manufactured in IBC and full face styles. Custom dimensions and sizing options are available upon request.

Insolion FS is supplied as a kit suitable for the specific flange size and class rating required.

This kit includes:

- 1 Insolion FS gasket
- 2 G11 bolt sleeves
- 3 Isolating washers in modified high temperature DS Pro material
- 4 Metallic backup washers in 316 stainless steel



TEMPERATURE

Maximum Temperature:
+180°C (+356°F)

Minimum Temperature:
-45°C (-50°F)



PRESSURE

Maximum Pressure:
69 MPa/690 bar (10000 psi)
(ASME Class 2500)



APPROVALS



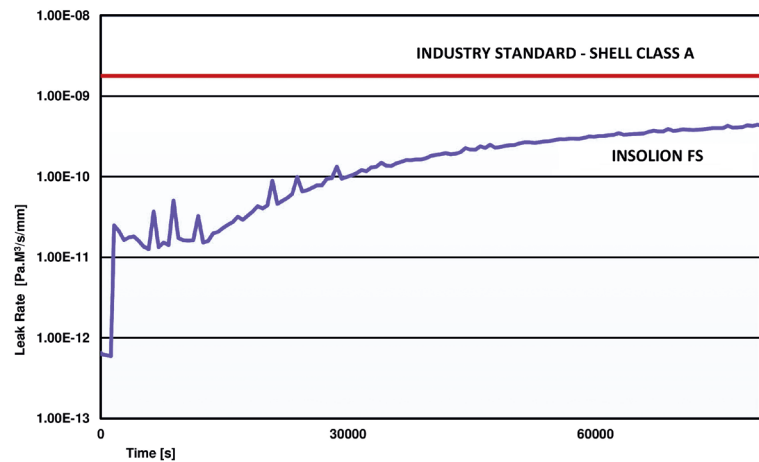
API 6FB 3rd Edition Fire Test
Shell MESC SPE 85/300 2017 3.3.2
Shell MESC SPE 85/300 2017 3.3.5
Shell MESC SPE 85/300 2017 3.3.15

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Typical performance

Fugitive Emissions

Testing in accordance with EN13555 Fugitive Emission testing has shown that the Insolion FS gasket achieved a leakage rate of 1.2×10^{-9} Pa.m³/s/mm, significantly surpassing the fugitive emissions requirements of Shell MESC SPE 85/300 3.3.2 Class A (HS).



Electrical isolation (DC)

3rd party witnessed tests conducted in accordance with Shell MESC SPE 85/300 2017 3.3.15.

Voltage applied (V)	Pass	Flange to bolt	Flange to flange
1500	> 100 MΩ	14.5 GΩ	250 MΩ

Approvals / accreditations

TAT approved to Shell MESC standard

To validate the performance of Insolion FS, 3rd party witnessed testing of critical performance parameters has been undertaken. Tests successfully completed include fugitive emissions to Shell MESC SPE 85/300 2017 3.3.2, Hot Operational tightness (HOTT) Shell MESC SPE 85/300 2017 3.3.5 and electrical 1500V isolation Shell MESC SPE 85/300 2017 3.3.15.

API 6FB 3rd Edition Fire Test

Insolion FS has been tested and approved by a third party test house to API 6FB 3rd Edition fire test. As part of this test an Insolion FS insulation kit is exposed to temperatures in excess of 800°C. The flange arrangement remains untouched after initial installation and has been shown to maintain sealing integrity throughout the temperature cycle.

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Health warning: If PTFE products are heated to elevated temperatures, fumes will be produced which may give unpleasant effects, if inhaled. Whilst some fumes are emitted below 300°C (572°F) from PTFE, the effect at these temperatures is negligible. Care should be taken to avoid contaminating tobacco with particles of PTFE or PTFE dispersion, which may remain on hands or clothing. Safety Data Sheets (SDS) are available on request.

Information given in this publication is given in good faith and represents the results of specific individual tests carried out by James Walker or third parties in accordance with the methodologies described in this publication, performed in a laboratory. No representation or warranty is given in relation to such information. Values and/or operating limits given in this publication are not an indication that these values and/or operating limits can be applied simultaneously. While such results may comprise useful additional information and are industry standard tests, they are no substitute for conducting (or procuring from James Walker) your own tests and engineering analysis and satisfying yourself as to the suitability of the product you select. Please also note that a product tested in accordance with the published methodology may not perform to such values in application and/or under different test conditions or methodologies for a variety of reasons, including but not limited to the environment in which it is used/tested or which passes through it or otherwise affects the product, or due to the handling, storage or installation, or due to the effect of housing or other parts. Our personnel will be happy to discuss any historical examples we have of a product having been previously used in a particular application.

To ensure you are working with the very latest product specifications, please consult the relevant section of the James Walker website: www.jameswalker.biz.

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