

## PRODUCT DATASHEET

### I-FLEX FS-HP FLANGE INSULATING SET

The Flexitallic I-Flex Fire-Safe Flange Insulating Set (FS-HP) is comprised of a fire safe insulating gasket, insulating sleeves, insulating washers and metal backing washers.

The insulating gasket is constructed from a serrated metal core with unique profile. The metal core is faced with Thermiculite® 725; a high performance, fire safe sealing material incorporating Flexitallic's proprietary vermiculite based sealing material. Correct gasket location is ensured by the inclusion of a Thermiculite® 725 spacer ring positioned around the periphery of the serrated metal core.

**Colour:** Brown

**Service:**

Flexitallic I-Flex fire-safe flange insulation sets are specifically designed to effect a seal and maintain electrical isolation across a wide range of seating stresses and flange classes in elevated temperature service. They can be utilised in load compromised connections; such as damaged and/or lined flanges and also heavily bolted connections where significant gasket stresses may be generated. In addition the relatively high compression characteristics of the facing materials ensure both seal and isolation performance can be realised over a wide range of flange surface finishes. The use of Thermiculite® 725 as the sealing material pushes the performance of the fire-safe insulation set beyond the capability of traditional insulation sets based on phenolic resin or glass/epoxy sealing technology.

**Operational pressure range:**  
**Maximum flange pressure class:**  
2500 Class ASME 16.5  
EN1092 PN400, ASME 16.47  
5000 Class API 6A

**Operational temperature range:**  
From -120°C to 150°C

**Fire safe compliance:**  
API 6FB (Third edition)

Thermiculite® 725 facing material is suitable for sealing across a wide range of chemicals (pH 0-14) and sweet and sour gaseous and liquid hydrocarbons.

Gasket and washer metallurgy is selected to suit the particular application. Unless specified all materials are NACE (MRO175) compliant.

The insulating gasket and washers have been designed and developed for use in standard pipeline flanges requiring cathodic protection, a high integrity fire safe seal pipeline flanges requiring cathodic protection and a high integrity fire safe seal. For non-standard bolted connections please consult the Flexitallic Applications Engineering Department.

Sealing performance for high pressure flanged connections ie. ASME B16.5 class 2500 pressure systems, has been independently verified for ambient and maximum temperature/pressure combinations. Additional information is available on request.

This Data Sheet refers to the material as supplied. The information contained herein is given in good faith, but no liability will be accepted by the Company in relation to same.

We reserve the right to change the details given on this Data Sheet as additional information is acquired. Customers requiring the latest version of this Data Sheet should contact our Applications Engineering Department.

The information given and, in particular, any parameters, should be used for guidance purposes only. The Company does not give any warranty that the product will be suitable for the use intended by the customer.

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### Insulating Gasket Properties:

Core Thickness	2.5mm to 4mm
Facing Thickness	0.75mm (x2)
ASME Gasket Factor (m)	4.00
ASME Minimum Seating Stress (Y)	3625 psi
Thermiculite® 725 - Dielectric Strength (ASTM D149a)	6.1 kV/mm

*Note: The above properties apply to the gasket only. The insulating set is comprised of many different materials that need to be considered, and is dependent on the application.*

### Insulating Sleeves / Tubes – Thermal / Dielectric Properties:

G10	– Temperature Range	150°C
G10	– Dielectric Strength	19.7 kV/mm

### Insulating Washers - Thermal / Dielectric Properties:

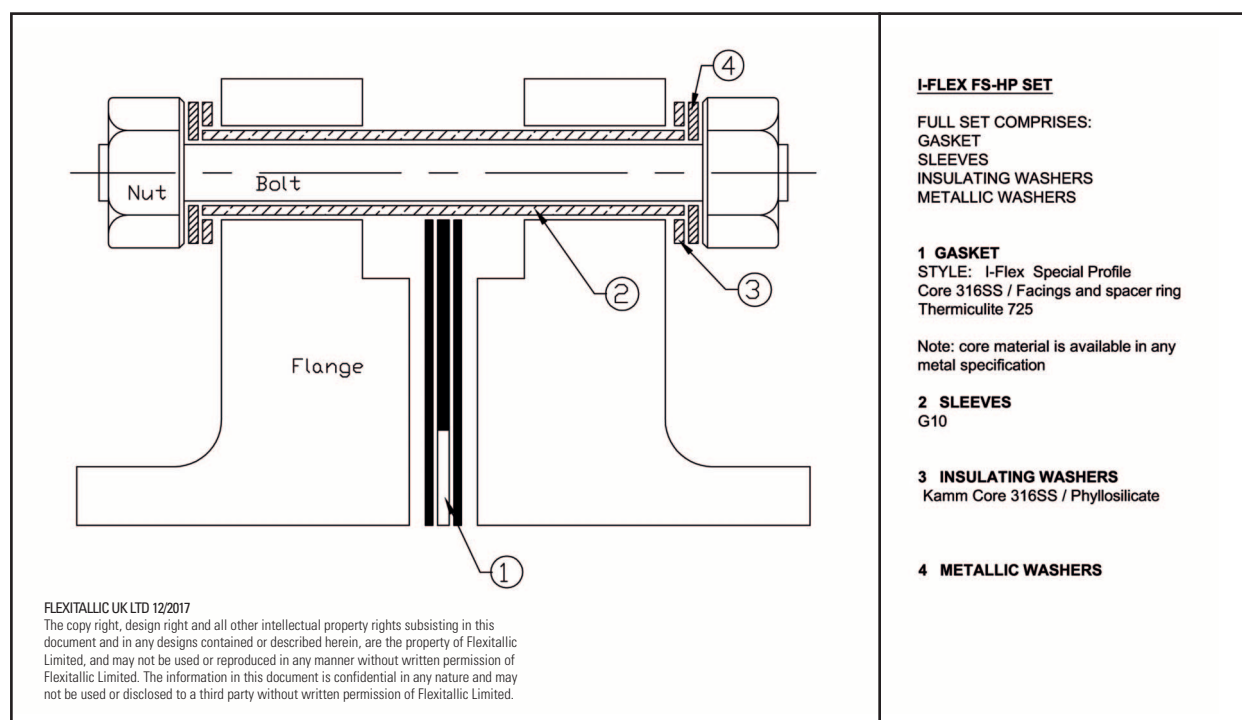
Kamm/Phyllosilicate	– Temperature Range	900°C
	– Dielectric Strength	20 kV/mm

### Metallic Backing Washers:

Stainless Steel Washers	3mm thk
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*Note: Other washer material can be provided to suit the application.*

### General Assembly:



### Each I-Flex FS-HP insulating set comprises of the following components:

Fire-safe Insulating Gasket	Kamm	1 per flange	– up to 2500 class ASME 16.5 – 5000 class API 6A
G10 Insulating Sleeves		1 per flange bolt	
Phyllosilicate Insulating Washers		2 per flange bolt	
Metallic Backing Washers		2 per flange bolt	

Maximum temperature: from -120°C to 150°C

Please contact the Flexitallic Applications Engineering Team when specific operating parameters requires confirmation of appropriate materials.