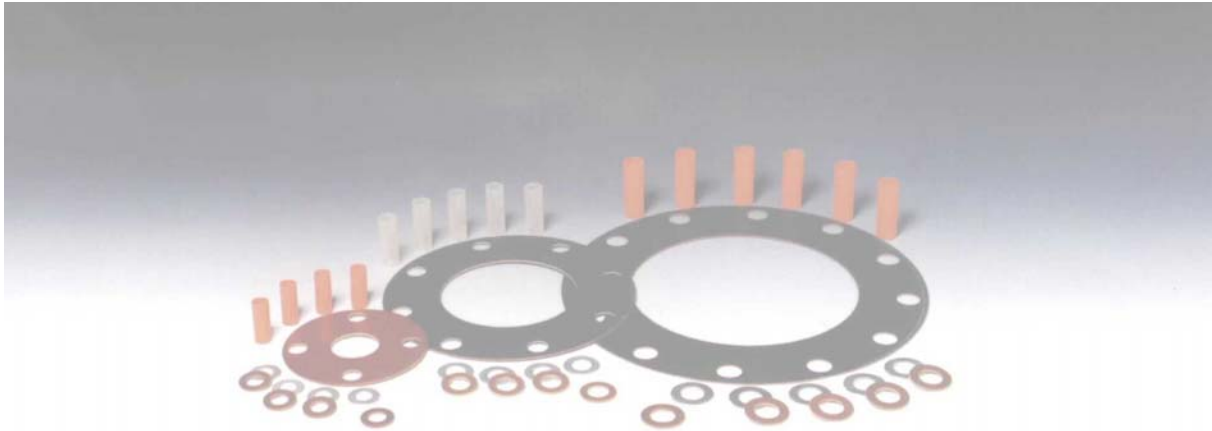




## FLANGE INSULATING MATERIALS

ICP 0002



### Standard Flange Insulation Kit

Unless otherwise specified shall consist of the following:

- a) Gasket
- b) Insulating sleeves
- c) Insulating washers (2 sets)
- d) Cadmium plated steel washers (2 sets)

Sleeves and washers fit standard studbolts for ANSI rated flanges

### Ordering

When ordering Flange Insulating Kits please specify:

- a) Quantity
- b) Pipe size
- c) Pressure rating
- d) Gasket type
- e) Gasket material

### **Cathodic Protection Technology Pte Ltd**

No. 4 Tuas Drive 1 Singapore 638671 Tel: (65) 68623551 Fax: (65) 68616436

Email: [cpotech@singnet.com.sg](mailto:cpotech@singnet.com.sg)

<http://www.cpotech.net>



If uncertain about material selection, advise CP Tech the product in the pipe and the expected operating temperature range. CP Tech can then recommend suitable insulating materials.

### **Packaging**

Each Flange Insulating Kit is individually packaged, with the sleeves and washers enclosed in a polythene bag. This bag and the central gasket are securely packed in a cardboard box. The kit box is clearly labeled as to size, style, material etc enclosed, making identification on the shelf or in the field straight forward. Large diameter kit materials are packaged in specially made boxes to accommodate the gasket and sleeving.

### **Gasket Types**

Type "E" gaskets.

The "E" gaskets have the same outside diameter as the flange in which they will be used. Each gasket has precision located bolt holes and is available in any of the materials described below. The principal advantages to type "E" gaskets are:

- a) Positive assurance that conducting material cannot get between the portion of the flanges outside the raised face.
- b) Ease of centering the gasket with the flange ID.

Type "F" gaskets.

Type "F" gaskets are made to fit the raised face portion of flanges. The OD is made to fit within the ID of the bolt hole circle. They are available in any of the materials described below. In order to prevent shorts in flanges caused by conductive material getting between the flanges outside the gasket, the annulus should be filled with a suitable sealant.

Type "D" gaskets.

Type "D" gaskets are insulating ring joint gaskets made specifically to fit into the ring groove of RFJ flanges. They are available in reinforced phenolic materials only. Similarly, to prevent short in flanges caused by conductive material getting between the flanges outside the gasket, the annulus should be filled with a suitable sealant.



## Gasket Material Specifications

Materials used in insulating gaskets should be selected to assure long term effective sealing and electrical insulating of flanged joint. Gaskets can be made of combinations of materials to take advantage of the best characteristics of each. To assist with the selection, the following table lists some of the more important characteristics.

Specifications	N* Neoprene Faced Phenolic	R Plain Phenolic	K Klingerit	KO Klingeroilli	GA* Asbestos Faced Glass	AP* Asbestos Faced Glass	D Durabla
Dielectric strength Volts/Mil	500	500	+	+	500	500	+
Electrical resistance MΩ (1/8" thick)	+	+	10.000 min	7.000 min	+	+	20.000 min
Comprehensive strength lbs/in <sup>2</sup>	42.000	42.000	22.000	22.000	43.000	24.000	+N.A.
Compressibility %	1.7	1.7	11	10.5	+	+	17
Flexural strength lbs/in <sup>2</sup>	20.300	20.300	N.A.	N.A.	18.400	22.500	N.A.
Impact strength Izod-ft lb/in of notch	0.25	0.25	N.A.	N.A.	8.0	1.2	N.A.
Rockwell hardness scale "M"	90	90	N.A.	N.A.	101	85	N.A.
Shear strength lbs/in <sup>2</sup>	12.300	12.300	N.A.	N.A.	12.000	10.000	N.A.
Tensile strength lbs/in <sup>2</sup>	12.300	12.300	5.000	1.000	11.000	25.000	3.800
Water absorption %	1	1	5	6	0.6	1.6	5
Recommendation max°C temp. for cont. use	**90	120	370	315	150	105	460

\* These values apply to the core material - Asbestos or neoprene facing for sealing purposes only.

\*\* This value applies to Neoprene material only. Other values are based on the core material.

+ Not applicable.