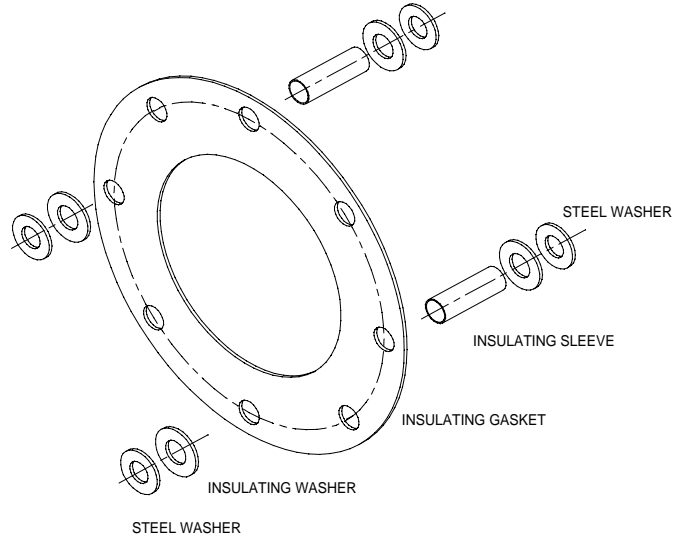


Flange Insulation Kits

To ensure effective Cathodic Protection it is essential that the sections of pipework scheduled for such protection are electrically isolated from the non-protected sections and also from other metallic structures.

Flange Insulation Kits are used in conjunction with standard flanges and flange bolting to isolate adjacent sections of pipework.



Flange Insulation Kits are available to suit all standard flanges and can also be made to suit most non-standard flanges as well.

Insulating Sleeves and Washers may be separate items as shown or may be of "Top Hat" construction with a washer moulded to the sleeve.

Type E Gaskets	Full faced gaskets with same overall diameter as pipe flange clearance holes to match bolt holes in flange to allow passage of Insulating Sleeves. Maximum diameter is 1200mm.
Type F Gaskets	These gaskets are cut to match the diameter of the flange raised face. Maximum diameter is 1200mm.
Type D Gaskets	Ring joints for RTJ flanges are available. For Cathodic Protection purposes the GasketSeal type is more suitable as it has an embedded nitrile sealing ring to provide an efficient insulating medium.

Pipeline Maintenance Limited

Cathodic Protection Engineering and Materials Supply
11 & 12 Merlin Park, Mildenhall,
Suffolk, IP28 7RD, UK
Tel: +44 (0) 1638 711955
Fax: +44 (0) 1638 711953

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website: www.pipelinemaintenance.co.uk



Gasket Material

JM 940 Faced Glass	High density fibreglass reinforced polyester resin core with thin JM 940 sheets laminated both sides
Neoprene Faced Phenolic	Laminated phenolic sheet core with thin neoprene laminated both sides.
Gasket Seal	Phenolic laminate retainer with integral nitrile or viton seals.
JM 940 Red Devil	Material does not contain asbestos and is specially formulated to provide good electrical insulating properties.

Gasket Material Specification	JM 940 Faced Glass	Neoprene Faced Phenolic	Gasket Seal	JM 940 Red Devil
Dielectric Strength V/mil	500	500	500	-
Electrical Resistance 3.2mm thick - ohms	-	-	-	300,000
Compressive Strength lbs/ins ²	43,000	24,000	24,000	-
Compressibility %	-	-	-	17
Flexural Strength lbs/ins ²	18,400	22,500	22,500	-
Tensile Strength lbs/ins ²	11,000	25,000	25,000	3,800
Water Absorption % 3.2mm thick	0.6	1.6	1.6	5
Recommended Max. Temp. ° C	149	80	107	316

Bolt Insulation Materials Specification	Insulating Sleeves	One Piece Sleeve and Washer	Insulating Washers
Material	Spiral Wound Mylar	Acetal Resin	High Strength Phenolic
Dielectric Strength V/mil	4,000	1,200	500
Max. Operating Temp. ° C	150	180	107
Water Absorption %	0.8 max	0.22 max	1.0 max

We recommend the use of Sealant/Grease to prevent the ingress of surface water into the joint assembly and, in exposed locations, the use of Flange Protectors.

Both of the above are available from **Pipeline Maintenance Limited**.

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ASA Flange Information for Insulation Kits

Class 150 Weld Neck Flanges -BS 1560 : 1958

Nominal Pipe Dia	Flange Dia	Studs No	Studs Size	Studs Length	Dia of Bolt Circle	Dia of Bolt Hole	Flange Thickness*
2"	6	4	0.625	3.625	4.750	0.750	0.625
3"	7.5	4	0.625	3.875	6.000	0.750	0.750
4"	9	8	0.625	4.250	7.500	0.750	0.9375
6"	11	8	0.750	4.625	9.500	0.875	1.000
8"	13.5	8	0.750	4.875	11.750	0.875	1.125
10"	16	12	0.875	5.250	14.250	1.000	1.1875
12"	19	12	0.875	5.375	17.000	1.000	1.250
14"	21	12	1.000	5.875	18.750	1.125	1.375
16"	23.5	16	1.000	6.000	21.250	1.125	1.4375
18"	25	16	1.125	6.500	22.750	1.250	1.5625
20"	27.5	20	1.125	6.750	25.000	1.250	1.6875
24"	32	20	1.250	7.375	29.500	1.375	1.875
NB Quoted Stud lengths include for flange insulation washers							
*Flange thickness 2" - 3" includes 1/16" raised face							
> 4" excludes 1/16" raised face							

Class 300 Weld Neck Flanges -BS 1560 : 1958

Nominal Pipe Dia	Flange Dia	Studs No	Studs Size	Studs Length	Dia of Bolt Circle	Dia of Bolt Hole	Flange Thickness*
2"	6.500	8	0.625	4.125	5.000	0.750	0.875
3"	8.250	8	0.750	4.875	6.625	0.875	1.125
4"	10.000	8	0.750	5.125	7.875	0.875	1.250
6"	12.500	12	0.750	5.500	10.625	0.875	1.4375
8"	15.000	12	0.875	6.125	13.000	1.000	1.625
10"	17.500	16	1.000	6.875	15.250	1.125	1.875
12"	20.500	16	1.125	7.375	17.750	1.250	2.000
14"	23.000	20	1.125	7.625	20.250	1.250	2.125
16"	25.500	20	1.250	8.125	22.500	1.375	2.250
18"	28.000	24	1.250	8.375	24.750	1.375	2.375
20"	30.500	24	1.250	8.625	27.000	1.375	2.500
24"	36.000	24	1.500	9.625	32.000	1.625	2.750
NB Quoted Stud lengths include for flange insulation washers							
*Flange thickness Includes 1/16" raised face							

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Class 400 Weld Neck Flanges -BS 1560 : 1958

Nominal Pipe Dia	Flange Dia	Studs No	Studs Size	Studs Length	Dia of Bolt Circle	Dia of Bolt Hole	Flange Thickness*
2"	6.50	8	0.625	4.875	5.000	0.750	1.000
3"	8.25	8	0.750	5.625	6.625	0.875	1.250
4"	10.00	8	0.875	6.125	7.875	1.000	1.375
6"	12.50	12	0.875	6.625	10.625	1.000	1.625
8"	15.00	12	1.000	7.375	13.000	1.125	1.875
10"	17.50	16	1.125	8.125	15.250	1.250	2.125
12"	20.50	16	1.250	8.625	17.750	1.375	2.250
14"	23.00	20	1.250	8.875	20.250	1.375	2.375
16"	25.50	20	1.375	9.375	22.500	1.500	2.500
18"	28.00	24	1.375	9.625	24.750	1.500	2.625
20"	30.50	24	1.500	10.125	27.000	1.625	2.750
24"	36.00	24	1.750	11.125	32.000	1.875	3.000
NB Quoted Stud lengths include for flange insulation washers							
*Flange thickness Excludes 1/4" raised face							

Class 600 Weld Neck Flanges -BS 1560 : 1958

Nominal Pipe Dia	Flange Dia	Studs No	Studs Size	Studs Length	Dia of Bolt Circle	Dia of Bolt Hole	Flange Thickness*
2"	6.500	8	0.625	4.875	5.000	0.750	1.000
3"	8.250	8	0.750	5.625	6.625	0.875	1.250
4"	10.750	8	0.875	6.375	8.500	1.000	1.500
6"	14.000	12	1.000	7.375	11.500	1.125	1.875
8"	16.500	12	1.125	8.250	13.750	1.250	2.1875
10"	20.000	16	1.250	9.125	17.000	1.375	2.500
12"	22.000	20	1.250	9.375	19.250	1.375	2.625
14"	23.750	20	1.375	9.875	20.750	1.500	2.750
16"	27.00	20	1.500	10.625	23.750	1.625	3.000
18"	29.250	20	1.625	11.375	25.750	1.750	3.250
20"	32.000	24	1.625	11.875	28.500	1.750	3.500
24"	37.000	24	1.875	13.375	33.000	2.000	4.000
NB Quoted Stud lengths include for flange insulation washers							
*Flange thickness Excludes 1/4" raised face							

Studbolts: Grade B7: UNC: BS 4882

Nuts: Grade 2H: UNC

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