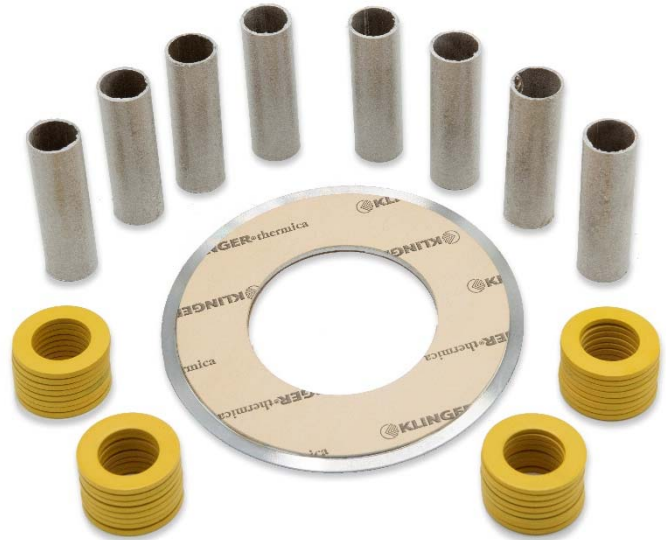




KLINGER SHIELD INSULATION SETS



Insulation sets are used to limit corrosion in pipeline systems. Where dissimilar metals are present, the sets remove the possibility of the system acting as a galvanic cell and reduce the risk of galvanic corrosion of the pipework.

Insulation sets are also used to isolate cathodically protected piping systems where they prevent the flow of electro-static charge.

Each insulation set comes with a KLINGER Shield insulation gasket, insulating washer set, high temperature insulation sleeves.



Figure 1 – Typical assembly with GW1 washers

Klinger Shield uses Thermica facing which is a CNAF fibre; using mica and NBR binder offers high flexibility, high temperature resistance and excellent compatibility across a broad range of chemicals.

COMPONENT	UNITS	KLINGER THERMICA	MICA SLEEVES
Compressibility	%	12	N/A
Recovery	%	<55	N/A
Stress Relaxation (DIN 52913, 50MPa, 16h. 300°C)	MPa	28	N/A
Density	g/cm ³	1.7	1.8
Dielectric Strength	kV/mm	15	22
Temperature Range	°C	-200 to 350	-100 to 700

GENERAL PROPERTIES

- » Continuous service up to 350°C
- » Suitable for RTJ, RF and mismatched RF to RTJ flanges
- » Suitable for pressure ratings from Class 150 to 2500
- » Compressed fibre facings of mica & synthetic fibres bound with NBR on a high strength metallic core
- » Excellent chemical resistance
- » 3xA anti-stick finish

TESTS & CERTIFICATIONS FOR KLINGER SHIELD

- » Fire-safe to DIN EN ISO 10497 / API 607
- » Fire-safe to API 6FB
- » Thermica complies with BS 7531 Grade AX

KLINGER SHIELD INSULATION SET COMPONENTS

Insulating Gasket:	Class 150 to 2500	4.6mm Thermica with metallic core
Insulating Washers:	Class 150 to 2500:	3.2mm HCS Washers 4 washers per bolt, suitable for use up to 260°C
Insulating Sleeves:	Mica, wall thickness 0.75mm, 1 per bolt	

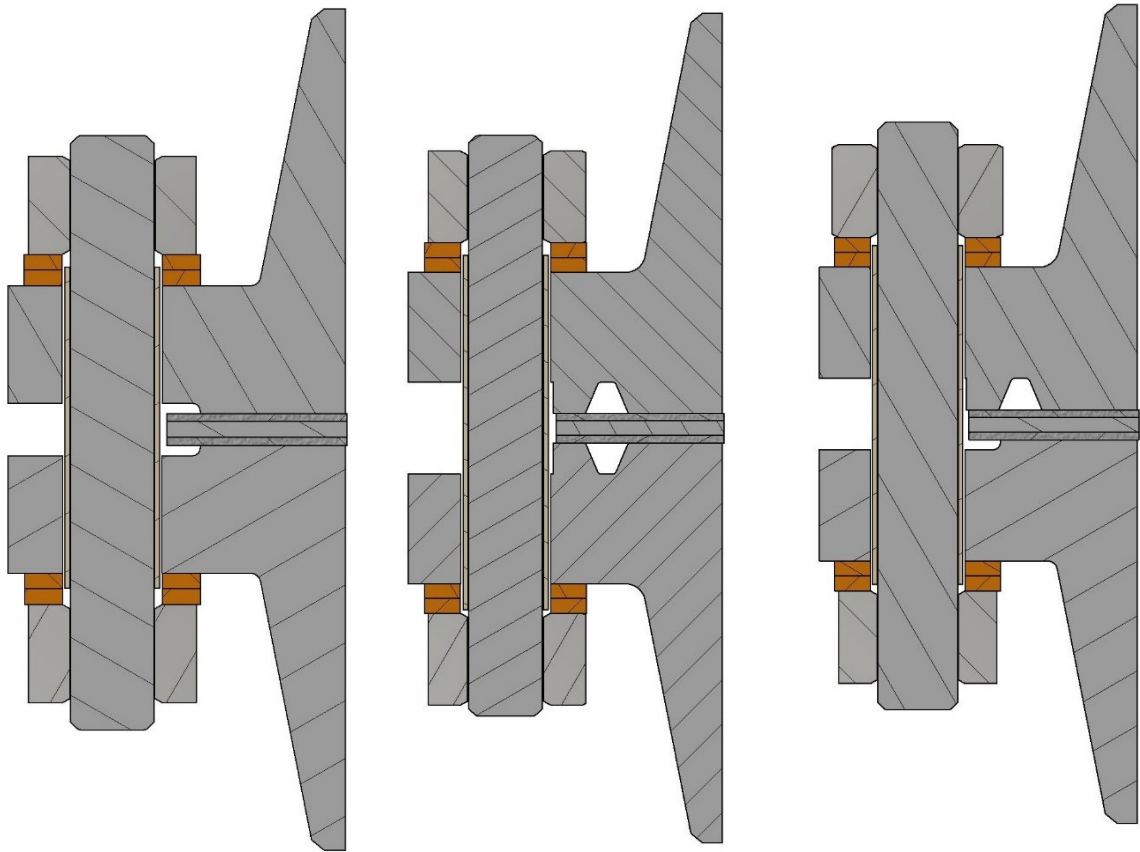


Figure 2 – Shield HT Insulation sets can be used between raised face & RTJ flanges and mismatched combinations. Washers shown are HCS type.



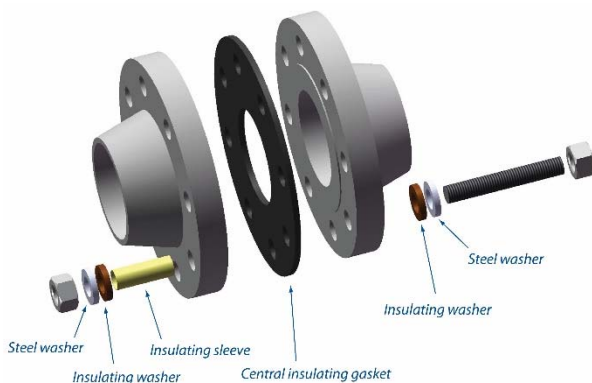
INSULATION SET KLINGERSIL C-4430



Insulation sets are used to limit corrosion in pipeline systems. Where dissimilar metals are present, the sets remove the possibility of the system acting as a galvanic cell and reduce the risk of galvanic corrosion of the pipework

Insulation sets are also used to isolate cathodically protected piping systems where they prevent the flow of electro-static charge.

Each flange insulation set comprises one central gasket, one insulation sleeve per bolt and two insulating and two plated steel washers per bolt. The sets are individually packed and clearly labelled with the flange rating, size, type and material combination.



GENERAL PROPERTIES FOR C-4430

- » Excellent creep resistance
- » Good steam resistance
- » Resistant to oils, fuels, hydrocarbons etc.
- » WRAS approved for use in hot and cold potable water
- » Fire-safe
- » 3xA anti-stick finish on both sides

TESTS AND CERTIFICATIONS FOR C-4430

- » BS 7531 Grade X
- » Firesafe ISO EN 10497
- » Firesafe ISO 19921
- » WRAS Approval
- » TA-Luft
- » DIN-DVGW
- » DIN-DVGW W 270
- » DVGW VP 401
- » Elastomer Guideline
- » BAM Tested
- » Germanischer Lloyd

KLINGERSIL C-4430

Optimised combination of synthetic fibres and glass-fibre bound with NBR. Premium quality jointing with high temperature resistance in steam and water as well as excellent resistance to oils and hydrocarbons.

Property	Units	C-4430 Gasket
Compressibility	%	9
Recovery	%	50
Stress Relaxation (DIN 52913, 50MPa, 16h, 300°C)	MPa	35
Dielectric strength	kV/mm	21
Water Absorption	%	10.6
Maximum Temperature	°C	250

INSULATION SLEEVES

Property	Units	Mylar * Sleeves	Glass reinforced epoxy resin	Nomex	HT Sleeves
Dielectric strength	kV/mm	157	12.2	15.75	22
Water Absorption	%	0.8	0.04	0.8	-
Maximum Temperature	°C	180	150	230	650

*Denotes standard insulation sleeve material

INSULATION WASHERS

Property	Units	G10 *	G11	HCS
Compressive strength	MPa	475	345	>500
Dielectric strength	kV/mm	31.5	19.7	15.75
Water Absorption	%	0.05	0.085	-
Maximum Temperature	°C	150	200	250

*Denotes standard insulation washer material



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