














Uni Klinger - compressed gasket materials



Material Properties

	Material Description	Operating Guidelines	(see note below*)	Typical Specifications		Typical Original Properties (1.5mm)			Typical Properties after Fluid Immersion (1.5mm)		
	Top quality service sheet for steam, gas, water, alkaline media, non-agressive solvents and many other chemicals such as aliphatic alcohols, esters, ketones and amines composed of SBR binder and high grade chrysotile asbestos. Colour:Red/Brown.	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : Gr. W/1 & O/1)	550 ^o C 130 bar	British German American French	BS 1832 Grade A & O DIN 375-4 IT 400 ASTM F104-F112 551 M8 NFT 48001 Cat. D.	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation	ASTM F152 ASTM F36A ASTM F36A BS 1832	35 N/mm ² 1.95 gm/cm ³ 8% 55% 30 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 20 ^o C 5 hours 23 ^o C	20% 0-10% 15%
	Top quality universal sevice sheet suitable for nearly all media such as : hydrocarbons, alkalines and medium strong acids. Composed of NBR binder and high grade chrysotile asbestos. Particularly suitable for use in aviation industry, hot oil and thermic fluids. Colour : Blue. † Do not retorque fasteners at cryogenic temperatures	Max. Temperature Max. Pressure Min. Temperature (Indian Standard IS 2712 / 1998 : Gr. O1 & W/1)	550 ^o C 140 bar -200 ^o C	British German American French	BS 1832 Grade A and O BS F125 (Types 1 and 3) DIN 3754 IT 400 DIN 3754 IT C DIN 3754 IT O ASTMF104-F112121 M8 NFT 48001 Cat. D	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation	ASTM F152 ASTMF36A ASTMF36A BS 1832	42 N/mm ² 1.95 gm/cm ³ 8% 55% 30 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 20 ^o C 5 hours 23 ^o C	8% 0-10% 12%
	Top grade material based on UKL 3XA but reinforced with wire mesh for demanding and extreme services. Especially suitable and recommended for condition of fluctuating pressures and temperatures, i.e. when steam hammers might occur or in automotive applications. Composed of SBR binder and high grade chrysotile asbestos. Delivered with graphited surfaces. Colour : Graphite black.	Max. Temperature Max. Pressure	550 ^o C 200 bar	There are no standards to cover wire reinforced materials however refer to UKL, 3 X A for typical properties		Minimum tensile strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation	ASTM F152 ASTMF36A ASTMF36A BS 1832	33 N/mm ² 2.1 gm/cm ³ 8% 50% 31 N/mm ²	As there are no standards to cover wire reinforced materials, refer to UKL 3XA for typical properties		
	Top quality oil and petrol resistant material suitable for fuels, oils, solvents including aromatic and chlorinated hydrocarbons for high mechanical and thermal demand. Excellent resistance and compatibility for natural and town gas, water, steam, alkalines, mild acids and many other chemicals. Composed of chrysotile asbestos and NBR binder. Also available in metallic Colour : Black. † Do not retorque fasteners at cryogenic temperatures	Max. Temperature Max. Pressure Min. Temperature (Indian Standard IS 2712 / 1998 : Gr. O/1 & W/1)	500 ^o C 130 bar -200 ^o C	British German American French	BS 1832 Grade A and O DIN 3754 IT O ASTM F104-F112120 M8 NFT 48001 Cat. D. Approved by the Water Research Council for use with potable water	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation	ASTM F152 ASTMF36A ASTMF36A BS 1832	38 N/mm2 1.95 gm/cm ³ 8% 55% 30 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 20 ^o C 5 hours 23 ^o C	6% 0-10% 8%
	High quality acid resistant material based on chrysotile asbestos and special binders compatible with strong organic and inorganic acids. Widely used in the chemical industry. Colour : White	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : Gr. A/1)	400 ^o C 100 bar	British German American French	— DIN 3754 IT S ASTM F104-F112000 NFT 48001 Cat. E.	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery	ASTM F152 ASTMF36A ASTMF36A	30 N/mm ² 1.90 gm/cm ³ 8% 50%	Thickness increase 96% Sulphuric acid 95% Nitric acid 50% Nitric acid		5% Not suitable 15%
	High quality grade similar to UKL 3XA widely used in the petro-chemical industry. Especially suitable for steam, gas, water, alkalines and other non-aggressive media. Composed for chrysotile asbestos and SBR binder Colour : Grey † Do not retorque fasteners at cryogenic temperatures	Max. Temperature Max. Pressure Min. Temperature (Indian Standard IS 2712 / 1998 : Gr. W/1 & O/2)	510 ^o C 100 bar -200 ^o C	British German American French	BS 1832 Grade A and O DIN 3754 IT 400 ASTM F104-F112551M8 NFT 48001 Cat. D.	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation	ASTM F152 ASTMF36A ASTMF36A BS 1832	30 N/mm ² 1.95 gm/cm ³ 8% 55% 29 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 20 ^o C 5 hours 23 ^o C	25% 5-15% 17%
	A Medium Grade Product for hydrocarbon service, fuels and oil solutions. Good resistance for medium pressure gases, water, steam, alkalines & acids. Colour : Black	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : Gr. O/1)	400 ^o C 80 bar	German	DIN 3754 IT O	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation	ASTM F152 ASTMF36A ASTMF36A BS 1832	22 N/mm ² 1.95 gm/cm ³ 10% 40% 25 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 23 ^o C	10% 12%
	Good quality suitable for most applications of steam, gas, water, alkalines and other non-aggressive media under less demanding conditions. Composed of chrysotile asbestos fibre bonded with SBR. Colour : Red/Brown.	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : W/2)	400 ^o C 40 bar	British German American	BS 1832 Grade B DIN 3754 IT 200 ASTM F104-F112750 M7	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation	ASTM F152 ASTMF36A ASTMF36A BS 1832	22 N/mm ² 1.95 gm/cm ³ 8% 55% 26 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 20 ^o C 5 hours 23 ^o C	30% 5-20% 20%
	Medium quality for general purpose use. Contains chrysotile asbestos fibre bonded with SBR. Also available in metallic Colour : Red/Brown	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : Gr. W/3)	350 ^o C 35 bar	British American	BS 1832 Grade B ASTM F104-F112700	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery	ASTM F152 ASTMF36A ASTMF36A	13 N/mm ² 2 gm/cm ³ 8% 50%	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 20 ^o C 5 hours 23 ^o C	25% 5-20% 15%
	Medium quality general purpose grade. Suitable for wide range of applications under less demanding conditions. Also available in metallic. Colour : Red/Brown.	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : Gr. W/3)	350 ^o C 35 bar	British American	BS 1832 Grade B ASTM F104-F112700	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery	ASTM 152 ASTMF36A ASTMF36A	13 N/mm ² 2 gm/cm ³ 8% 50%	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 20 ^o C 5 hours 23 ^o C	25% 5-20% 15%
	A Medium Range General Purpose Gasket Jointing For Steam, Water and Gas Application. Colour : Red / Black	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : Gr. W/3)	270 ^o C 25 bar	—	—	Minimum tensile Strength (cross grain) Specific gravity Compressibility Recovery	ASTM F152 ASTMF36A ASTMF36A	8 N/mm ² 2.15 gm/cm ³ 8% 40%	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B	5 hours 150 ^o C 5 hours 23 ^o C	45% 30%

*Note : Maximum temperature and pressure capabilities do not necessarily operate together for all gasket thickness and service conditions.



Tolerances

Nominal Sheet Size	Standard		Reinforced	
	Width (mm)	Length (mm)	Width (mm)	Length (mm)
1.5 X 4.0 M	1510 to 1475	4100 to 3800	1500 to 1450	4100 to 3800
1.5 X 2.0 M	1510 to 1475	2040 to 1975	1500 to 1450	2040 to 1975
1.5 X 1.5 M	1510 to 1475	1510 to 1475	1500 to 1450	1510 to 1475
1.5 X 1.0 M	1510 to 1475	1020 to 975	1500 to 1450	1020 to 975

Nominal Thickness	Tolerances	Maximum variation within one sheet.
Up to and including 0.5 mm	Plus or Minus 0.05 mm	0.05 mm
Over 0.5 mm, Up to and including 1.0 mm	Plus or Minus 0.10 mm	0.10 mm
Over 1.0 mm, Up to and including 2.0 mm	Plus or Minus 0.15 mm	0.15 mm
Over 2.0 mm	Plus or Minus 0.20 mm	0.20 mm

Special Tolerances on request.

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Graphite Sheets, Expanded PTFE sheets, Full Range of Cut gaskets. Spiral wound Gaskets, Metal Jacked Gaskets, Kammprofile Gaskets. Non Asbestos Gland Packing.

Fluid Control Division:

Piston Valves, Bellow Sealed Valves. Steam Traps - Thermodynamic/Inverted Bucket/Bimetallic Thermostatic, Ball Float. Strainers "Y" Type, Level Gauges-Reflex & Transparent. Condensate Recovery System, Pressure Reducing Station, Hot Water Generation System.

In view of technical progress designs and dimensions are subject to change without notice.



UNI KLINGER LIMITED (Fluid Sealing Division)

A joint venture of the NETERWALA group of companies and KLINGER AG. Switzerland.

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