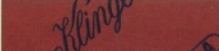
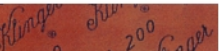
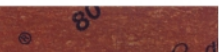
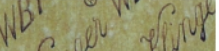


Material Description	Operating Guidelines	(see note below*)	Typical Specifications	Typical Original Properties (1.5mm)	Typical Properties after Fluid Immersion (1.5mm)
Klingerit® 3 X A  Top quality service sheet for steam, gas, water, alkaline media, non-aggressive solvents and many other chemicals such 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°C 130 bar	British German American French BS 1832 Grade A & O DIN 375-4 IT 400 ASTM F104-F112551 M8 NFT48001 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°C 5 hours 20°C 5 hours 20°C 20% 0-10% 15%
Klingerit® Universal 3 X A  Top quality universal service 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 retorquer fasteners at cryogenic temperatures	Max. Temperature Max. Pressure Min. Temperature † (Indian Standard IS 2712 / 1998 : Gr. O1 & W/1)	550°C 140 bar -200°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 ASTM F104-F112121 M8 NFT 48001 Cat. D	Minimum tensile strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation ASTM F152 ASTM F36A ASTM F36A 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°C 5 hours 20°C 5 hours 20°C 8% 0-10% 12%
Klingerit® 1000  Top grade material based on Klingerit, 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°C 200°C	There are no standards to cover wire reinforced materials	Minimum tensile strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation ASTM F152 ASTM F36A ASTM F36A 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 Klingerit 3XA for typical properties
Klinger® Oilit 3 X A  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. Suitable for potable water (WRG certification) Composed of chrysotile asbestos and NBR binder. Also available in metallic Colour : Black. † Do not retorquer fasteners at cryogenic temperatures	Max. Temperature Max. Pressure Min. Temperature (Indian Standard IS 2712 / 1998 : Gr. O/1 & W/1)	500°C 130 bar -200°C	British German American French BS 1832 Grade A and O DIN 3754 IT O ASTM F104-F112120M8 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 ASTM F36A ASTM F36A BS 1832 38 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°C 5 hours 20°C 5 hours 20°C 6% 0-10% 8%
Klinger® Acidit Plus  High quality acid resistant material based in 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°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 ASTM F36A ASTM F36A 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%
Klinger® 100  High quality grade similar to Klingerit 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 retorquer fasteners at cryogenic temperatures	Max. Temperature Max. Pressure Min. Temperature (Indian Standard IS 2712 / 1998 : Gr. W/1 & O/2)	510°C 100 bar -200°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 ASTM F36A ASTM F36A 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°C 5 hours 20°C 5 hours 20°C 25% 5-15% 17%
Klinger® SOE  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°C 80 bar	German DIN 3754 IT O	Minimum tensile strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation ASTM F152 ASTM F36A ASTM F36A 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°C 5 hours 23°C 12%
Klinger® 200  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°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 ASTM F36A ASTM F36A 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°C 5 hours 20°C 5 hours 20°C 30% 5-20% 20%
Klinger® 80  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°C 35 bar	British American BS 1832 Grade B ASTM F104-F112700	Minimum tensile strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation ASTM F152 ASTM F36A ASTM F36A BS 1832 13 N/mm ² 2 gm/cm ³ 8% 50% 21 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B 5 hours 150°C 5 hours 20°C 5 hours 20°C 25% 5-20% 15%
Klinger® WB1  Medium quality controlled swell material extensively used by the automotive industry. Particularly suitable for applications where bolt loadings are relatively light or uneven. Composed o chrysotile asbestos fibre bonded with SBR. Colour: Yellow	Max. Temperature Max. Pressure (Indian Standard IS 2712 / 1998 : Gr. W/3 : O/2)	350°C 30 bar	American ASTM F104-F112970	Minimum tensile strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation ASTM F152 ASTM F36A ASTM F36A BS 1832 20 N/mm ² 1.95 gm/cm ³ 8% 50% 15 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B 5 hours 150°C 5 hours 20°C 5 hours 20°C 40% 5-20% 25%
Klinger® KLR - 232  A New Grade 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°C 25 bar	—	Minimum tensile strength (cross grain) Specific gravity Compressibility Recovery Stress relaxation ASTM F152 ASTM F36A ASTM F36A BS 1832 8 N/mm ² 2.15 gm/cm ³ 8% 40% 14 N/mm ²	Thickness increase ASTM Oil 3 ASTM Fuel A ASTM Fuel B 5 hours 150°C 5 hours 23°C 30%

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