SEALX

Fluid Sealing Specialist

PTFE PRODUCTS

Seal X offers a comprehensive range of modified and expanded PTFE sealing products designed for applications where chemical resistance is paramount or where food safety is a requirement. Our modified PTFE is reinforced with heat resistant filler. The modification of the molecular structure of the polymer and a special production process that determines the isotropic orientation of the components in the plane of the gasket, form the basis of the outstanding mechanical characteristics of this material that combine with the already well known excellent chemical properties of the PTFE. The seal capacity is excellent at low compression and at elevated temperatures.

COMPRESSED SYNTHETIC FIBRE JOINTING SHEETS

Seal X offers a number of asbestos free synthetic fiber jointing sheets designed for a wide range of applications required for specific sealing solutions. A wide range of grades are available for many different applications. The jointing can be supplied as a sheet or cut gaskets, both supplied in either standard or non-standard dimensions.

APPLICATIONS

Seal X products are recommended for reducing leakages with chemically aggressive substances. These products are ideal for the chemical, petro-chemical, paper mill, oil, gas, food, and pharmaceutical applications. We strive to provide customers with leading solutions and high performance products to suit all specific needs. Please contact our Technical Sales Team

SX2200

Max. working pressure	MPa	4		
Max. working temperature	°C	Continual	140	steam 120
		Peak	210	

Application: water, gas, oil, alcohol, basic chemicals

TECHNICALS PARAMETERS			Corresponding standard	Testing acc. to TP 62-085-10
DENSITY	g.cm^{-3}	1,7 – 2,1	DIN 28 090 - 2	
RESIDUAL STRESS* 16 h/175 °C ≈	MPa	20	DIN 52 913	
COMPRESSIBILITY	%	5 – 15	ASTM F 36 – J	
RECOVERY min.	%	50	ASTM F 36 – J	
SPEC. LEAKAGE RATE ≈	mg/(s.m)	0,1	DIN 3535 – 6	
FLUID RESISTANCE – THICKNESS CHANGE				
ASTM OIL - IRM 903, ČSN ISO 1817 5 h/150 °C max.	%	15	ASTM F 146	
ASTM FUEL B - ČSN ISO 1817 5 h/23 °C max.	%	15	ASTM F 146	
FLEXIBILITY	no craks and breaks		ASTM F 147	
COLOR AND PRINTING	YELLOW – branded on one side			
			SX 2200	
	DIN 28 091 – 2		FA-Z-12-0	
	ASTM F 104		F 712 120 M4	

Features

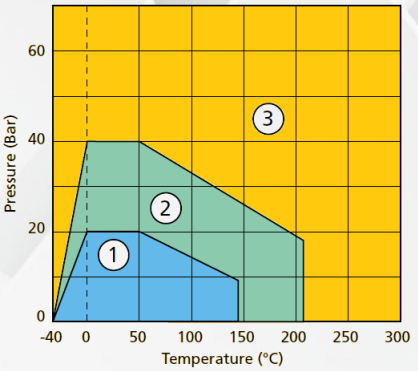
Creates compressive load in light weight flanges in oil and water service, is more compressible than standard fiber gaskets and seals with low load, it performs well in flanges that might crush an elastomer gasket, is more universal than gaskets that swell in oil only.

Applications

Water, gas, oil, alcohol, basic chemicals.

Composition

Synthetic fiber sheet with a proprietary rubber binder.



SX2201

Max. working pressure	MPa	6		
Max. working temperature	°C	Continual	220	steam 180
		Peak	250	

Application: water, water vapour, gas, oil, alcohol, basic chemicals

TECHNICALS PARAMETERS			Corresponding standard	Testing acc. to TP 62-085-10
DENSITY	g.cm^{-3}	1,6 – 2,0	DIN 28 090 - 2	
RESIDUAL STRESS* 16 h/175 °C ≈	MPa	20	DIN 52 913	
COMPRESSIBILITY	%	5 – 15	ASTM F 36 – J	
RECOVERY min.	%	45	ASTM F 36 – J	
SPEC. LEAKAGE RATE ≈	mg/(s.m)	0,06	DIN 3535 – 6	
FLUID RESISTANCE – THICKNESS CHANGE				
ASTM OIL - IRM 903, ČSN ISO 1817 5 h/150 °C max.	%	5	ASTM F 146	
ASTM FUEL B - ČSN ISO 1817 5 h/23 °C max.	%	5	ASTM F 146	
FLEXIBILITY	no craks and breaks		ASTM F 147	
COLOR AND PRINTING	GREEN – branded on one side			
			SX2201	
	DIN 28 091 – 2		FA-MA-1-0	
	ASTM F 104		F 712 111 M4	

Features

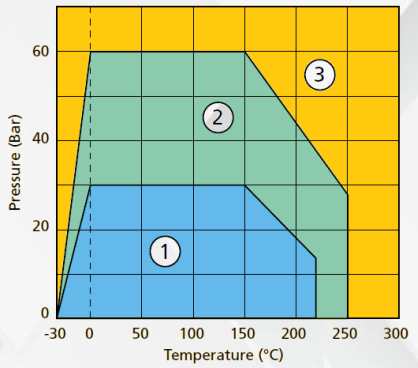
Unique blend of aramid fibers, fillers and a neoprene rubber binder provides improved torque retention and drastically lowered emissions levels.

Applications

Water, water vapor, gas, oil, alcohol, basic chemicals.

Composition

Aramid fibers with a neoprene binder.



SX2202

Max. working pressure	MPa	10		
Max. working temperature	°C	Continual	250	steam 200
		Peak	400	

Application: water, water vapour, gas, oil, alcohol, fuel, basic chemicals

TECHNICALS PARAMETERS			Corresponding standard	Testing acc. to TP 62-085-10
DENSITY	g.cm^{-3}	1,7 – 2,0	DIN 28 090 - 2	
RESIDUAL STRESS* 16 h/175 °C ≈	MPa	30	DIN 52 913	
COMPRESSIBILITY	%	5 – 15	ASTM F 36 – J	
RECOVERY min.	%	50	ASTM F 36 – J	
SPEC. LEAKAGE RATE ≈	mg/(s.m)	0,06	DIN 3535 – 6	
FLUID RESISTANCE – THICKNESS CHANGE				
ASTM OIL - IRM 903, ČSN ISO 1817 5 h/150 °C max.	%	3	ASTM F 146	
ASTM FUEL B - ČSN ISO 1817 5 h/23 °C max.	%	5	ASTM F 146	
FLEXIBILITY	no craks and breaks		ASTM F 147	
COLOR AND PRINTING	BLUE – branded on one side			
		SX2202		
	DIN 28 091 – 2	**FA-MA-1-0**		
	ASTM F 104	**F 712 111 M5**		

Features

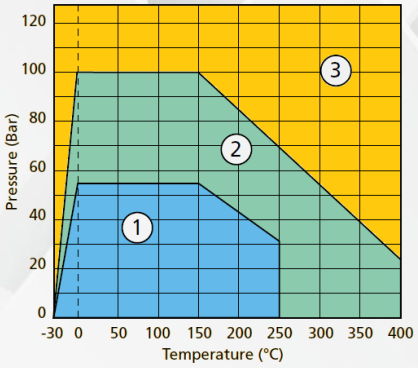
Extremely high pH range. Can be used in process piping and equipment in chemical, pulp and paper, general industrial applications.

Applications

Water, water vapor, gas, oil, alcohol, fuel, basic chemicals.

Composition

Phenolic/NBR.



SX2204

Max. working pressure	MPa	12		
Max. working temperature	°C	Continual	330	steam 250
		Peak	450	

Application: water, water vapour, vapour, gas, oil, alcohol, fuel, basic chemicals

TECHNICALS PARAMETERS			Corresponding standard	Testing acc. to TP 62-085-10
DENSITY	g.cm^{-3}	1,7 – 2,0	DIN 28 090 - 2	
RESIDUAL STRESS* 16 h/175 °C ≈	MPa	32	DIN 52 913	
COMPRESSIBILITY	%	5 – 15	ASTM F 36 – J	
RECOVERY min.	%	55	ASTM F 36 – J	
SPEC. LEAKAGE RATE ≈	mg/(s.m)	0,04	DIN 3535 – 6	
FLUID RESISTANCE – THICKNESS CHANGE				
ASTM OIL - IRM 903, ČSN ISO 1817 5 h/150 °C max.	%	3	ASTM F 146	
ASTM FUEL B - ČSN ISO 1817 5 h/23 °C max.	%	5	ASTM F 146	
FLEXIBILITY	no craks and breaks		ASTM F 147	
COLOR AND PRINTING	LIGHT BLUE – branded on one side			
		SX2204		
	DIN 28 091 – 2	**FA-M-1-0**		
	ASTM F 104	**F 712 111 M6**		

Features

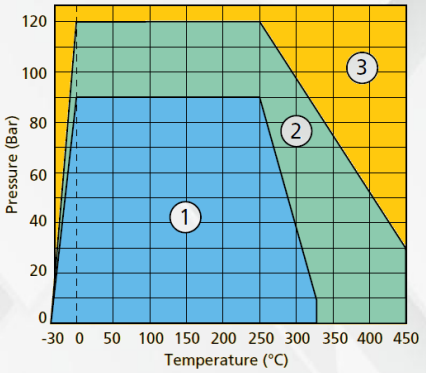
High quality general service gasket material for use in a wide range of services in pulp and paper, food, beverage, pharmaceutical, chemical, refinery, gas pipeline, and general industry.

Applications

Water, water vapor, gas, oil, alcohol, fuel, basic chemicals.

Composition

Aramid-inorganic, NBR.



SX2206

Max. working pressure	MPa	10		
Max. working temperature	°C	Continual	250	steam 250
		Peak	450	
Application: water, water vapour, gas, oil, alcohol, fuel, basic chemicals				
TECHNICALS PARAMETERS			Corresponding standard	Testing acc. to **TP 62-085-10**
DENSITY	g.cm^{-3}	1,6 – 1,9	DIN 28 090 - 2	
RESIDUAL STRESS* 16 h/175 °C ≈	MPa	32	DIN 52 913	
COMPRESSIBILITY	%	5 – 15	ASTM F 36 – J	
RECOVERY min.	%	50	ASTM F 36 – J	
SPEC. LEAKAGE RATE ≈	mg/(s.m)	0,05	DIN 3535 – 6	
FLUID RESISTANCE – THICKNESS CHANGE				
ASTM OIL - IRM 903, ČSN ISO 1817 5 h/150 °C max.	%	3	ASTM F 146	
ASTM FUEL B - ČSN ISO 1817 5 h/23 °C max.	%	5	ASTM F 146	
FLEXIBILITY	no craks and breaks		ASTM F 147	
COLOR AND PRINTING	BLACK – branded on one side			
			SX2206	
	DIN 28 091 – 2		**FA-CA-1-0**	
	ASTM F 104		**F 712 110 M6**	

Features

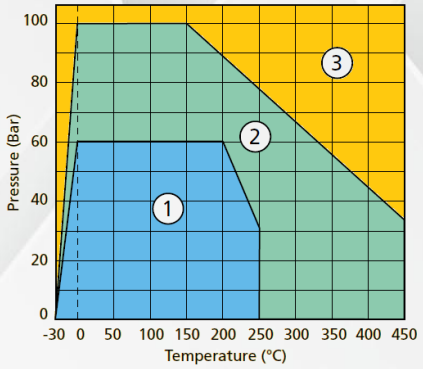
Premium grade compressed sheet that is excellent in steam and hydrocarbon services in the refining, petrochemical and power generation industries.

Applications

Water, water vapour, gas, oil, alcohol, fuel, basic chemicals.

Composition

Carbon/NBR.



SX2214

Max. working pressure	MPa	13		
Max. working temperature	°C	Continual	400	steam 350
		Peak	450	
Application: water, water vapor, vapor, gas, oil, alcohol, fuel, basic chemicals, cooling liquid				
TECHNICALS PARAMETERS			Corresponding standard	
DENSITY	g.cm^3	1,7-2,0	DIN 28090-2	
RESIDUAL STRESS* 16h/175/300C	MPa	32/25	DIN 52913	
RESIDUAL STRESS* 16 h/300°C		25	BS7531	
COMPRESSIBILITY	%	5-15	ASTM F36-J	
RECOVERY	%	60	ASTM F36-J	
SPEC LEAKAGE RATE	mg/(sm)	0,02	DIN 3535-6	
FLUID RESISTANCE THICKNESS CHANGE				
ASTM OIL - IRM 903, CSN ISO 1817 5 h/150°C	%	3	ASTM F 146	
ASTM FUEL B - CSN ISO 1817 5 h/23 °C	%	5	ASTM F 146	
FLEXIBILITY	no cracks and breaks		ASTM F 147	
COLOR AND PRINTING	BLUE-branded on one side			
			SX 2214	
	DIN 28 091-2		**FA-MAZ**	
	ASTM F 104		**F 712 122**	
	BS7531		**GRADE AX**	

Features

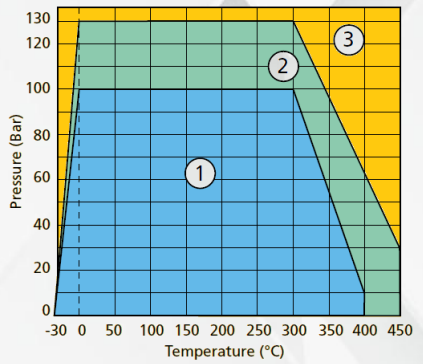
Unique sheet jointing material for high temperature applications, based upon a HNBR binding system. The product is formulated using the highest quality ingredients to ensure the outstanding properties of the finished gaskets.

Applications

Water, water vapour, vapour, gas, oil, alcohol, fuel, basic chemicals, cooling liquid.

Composition

HBNR



SX2601

Product Description

SX2601 is the new generation of micro structured reinforced PTFE gasketing materials based on Virgin PTFE containing hollow glass microspheres.

Product Properties:

- Micro structured PTFE with inorganic filler
- Highly tight, already at low gasket stress
- Resistant to cold flow
- High recovery
- Exceptional temperature resistance
- High compressibility and adaptability
- Easy to remove
- Does not stick to the flange surface
- Excellent chemical stability
- Suitable for food contact

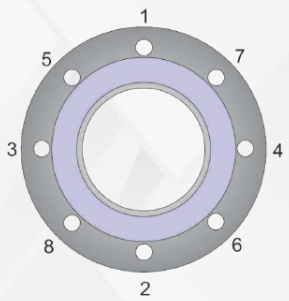
	Property	Method	Units	Specification
Physical	Color	-	-	Blue
	Specificgravity	ASTM D792	g/cm ^{3}	1,680– 1,720
	Water absorption	ASTM D570	%	0,03
	Flamability	UL 94		V-0
Mechanical	Tensile strength	ASTM D4745	MPa	≥ 13
	Elongation	ASTM D4745	%	≥ 200
	Hardness	ASTM D2240	Shore D	≥ 54
	Ball Hardness	ASTM D785	MPa	≥ 25
	Deformation under load (140 Kg/cm^2 for 24 hrs. At 23° C)	ASTM D621	%	8,5 – 10
	Permanent deformation (after 24 hrs. Relaxation at 23° C)	ASTM D621	%	4 -5,5
	Coefficient of static friction	ASTM D1894		0,16 - 0,18
	Coefficient of dynamic friction	ASTM D1894		0,13 – 0,17
	Wear factor	-	$\frac{cm^3 \text{ min}}{Kg \text{ m h}} 10^{-8}$	25 -35
Thermal	Thermal conductivity	ASTM C177	W/m·K	0,48
	Coefficient of linear thermal expansion From 25 to 100 °C	ASTM D696	10^{-5}/ °C	12 - 16
Electrical	Volume resistivity	ASTM D257	Ohm·cm	10 ^{16}
	Surface resistivity	ASTM D257	Ohm	10 ^{15}

EN 13555 (2 mm Thickness)

Q_{min} (40 bar He; 0,01 mg/(s*m)):	< 10 MPa
Q_{Smin} (Q_A=40 MPa; 40 bar He; L=0,01):	< 5 MPa
Leakage Rate (Q_A =40 MPa; 40 bar He):	< 10^{-4} mg/(s*m)
PQR @ 150 °C:	0,45

ASTM F36

Compressibility:	25-30 %
compressed Thickness:	1,45 mm
Recovery:	35 %
recovered Thickness:	1,64 mm
Density:	1,7 g/cm³



SX2601

Typical properties

SX2601 is a PTFE Special Compound preferred for parts and components requiring very good mechanical properties. SX2601 MICRO offers an excellent combination of properties Typical of the PTFE fluoropolymer resins:

• Service Temperature: SX2601 offers excellent resistance to continuous service temperatures – working conditions from -100° C (-148°F) up to 260°C (500°F) and, for limited periods, even to higher temperatures; product's low temperature resistance allows satisfactory performance down to -200°C (-328°F).
• Chemical resistance: SX2601 offers high inertness towards nearly all known chemicals. Only attacked elemental alkali metals, chlorine trifluoride, hydrofluoric acid and elemental fluorine at high temperature and pressures might affect properties.
• Solvents resistance: SX2601 offers insoluble properties in all solvents up to temperatures as high as 300° C (572° F). Certain highly fluorinated oils only swell and dissolve PTFE at temperatures close to the crystalline melting point.

Typical Application

SX2601 PTFE Special Compound is the new generation of microstructured reinforced PTFE gasketing materials based on Virgin PTFE containing hollow glass microspheres. Due to the very homogenous distribution of hollow glass microspheres, SX2601 gets its uniform density and a high adaptability. It assimilates to flange roughness and unevenness, applying just low gasket stress, and reduce surface diffusion to the minimum. Even at increased temperature SX2601 PTFE Special Compound shows its advantages. Low compressive creep and high stableness lead to a reliable jointing. SX2601 is the optimum PTFE gasketing for all flanges with slightly damaged surface, distorted flanges, or fragile components.

• **Component**: piping system, apparatus flanges, also with reduced gasket stress or damage surface.
• **Flange Types:** steel, metal alloy, ceramics or plastic flanges, glass lined piping system.
• **Media:** highly aggressive media, except for molten alkali metals and fluorine gas
• **Recommended Operating Range:** Vacuum up to 100 bar, from ambient to +250°C (also in combination, up to 40 bar)

Material
100 % virgin PTFE, with hollow glass microspheres
Temperature Range of the material
-210°C to +260°C
Chemical Resistance
Resistant to all media in the range of pH 0 to 14, except for molten and dissolved alkali metals and elemental fluorine gas at high temperatures and pressures
Recommended Operating Range
Vacuum up to 100 bar, from ambient to +250°C (also in combination, up to 40 bar*)
Tests and Certificates
Proven according to TA-Luft (VDI 2440) up to 250 °C conforming to FDA 21 CFR 177.1550 (PTFE)