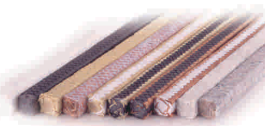




GASKET CUTTER



MONTERO FyE, S.A.
 Edificio Innobak
 C/Ugartebetia, nº 7 - 2ª Planta Dpto. 8 - 48903 Baracaldo
 Tel. +34 94 418 00 11 - Fax: +34 94 418 91 83
 email: access@monterofye.com - www.monterofye.com



GASKET MATERIALS



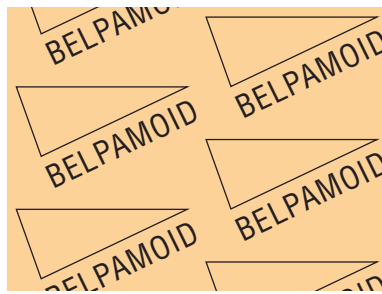
BELPA®



GASKET MATERIALS



BELPAMOID

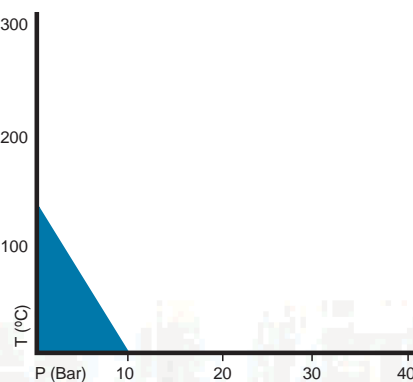


Cellulose based material impregnated with plasticised gelatine. Very economical material with excellent oil and fuel resistance, its main market is automotive. This material must be protected from sudden changes in humidity and temperature to prevent dimensional changes.

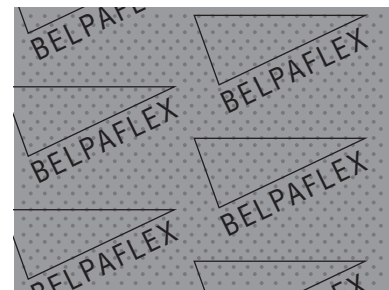
Technical Data.

Density (±10%)	0.8 g/cm ³
Compressibility at 70 kg/cm ²	25%-40%
Recovery	>40%
Tensile strength across grain	>12 MPa
Increases after immersion 22 h; 21°C - 30°C in:	
weight	Thickness
ASTM oil N°3	15% 5%
ASTM fuel B	15% 5%
Distilled water	90% 30%

Standard sizes : Rolls 1 mt. wide
 Standard thickness (mm):
 0,25; 0,4; 0,8; 1,0; 1,2; 1,6; 2,0; 2,4; 3,2; 4,8
 Other upon request



BELPAFLEX



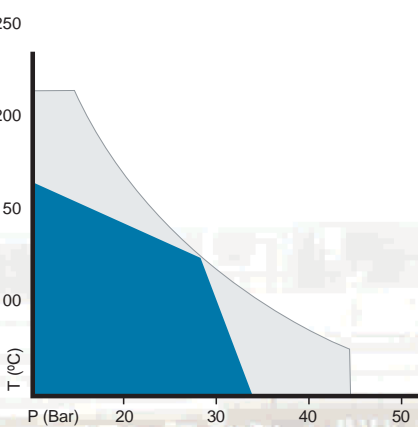
Belpaflex comprises two asbestos free paper sheets assembled around a central rectangular perforated steel sheet. It is suitable for use in high temperature resistant cylinder head gaskets and exhaust manifold gaskets on petrol and diesel engines and is resistant to oil, fuel and cooling mixture.

Belpaflex is a gasket material for the automotive industry.

Technical Data.

Temperature limit	350 °C
Pressure Bar	150 Max.
Density g/cm ³	2.3 - 2.5
Compressibility ASTM F-36	8 - 15%
Recovery ASTM F-36	>25%
Transverse tensile strength ASTM F-152	>40 Mpa
Gas permeability DIN 3535/6	>1,7 ml/s
Creep Relaxation 50 Mpa/300 °C DIN 52913	>30 Mpa
THICKNESS INCREASE ASTM F-146	0,20-0,25-0,30
ASTM oil N°1 5h 150°C	<15%

Sheet size (mm) 1000x520
 Standard thickness (mm) 0,8; 1,2; 1,6; 2,0; 3,0
 Other upon request



BELPAMICA



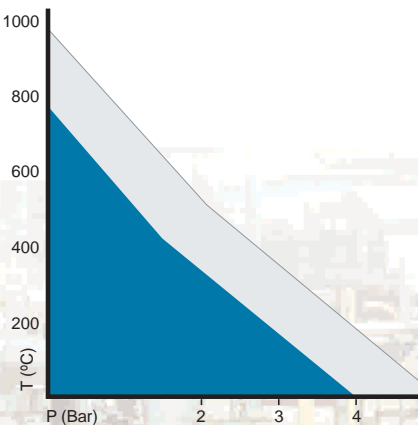
BELPA® MICA for high temperatures is made of shelly Mica compressed in sheets reinforced with perforated stainless steel 316 without binder. This material is suitable at high temperatures gaskets at low pressures and specially designed for services where high temperatures combined with fluids could promote the oxidising process of materials such as graphite.

Recommended for high temperature turbines, turbochargers, heat exchangers, hot dry gas applications and on the whole for high temperature services. In automotive industry is suitable to be used in exhaust manifolds and engines. It is also recommended for chemical, petrochemical industry and refining plants where high temperature operations are carried out (mainly pyrolysis and catalysis processes).

Technical Data.

Density (10%)	2.0 g/cm ³
Compressibility ASTM F-36	25-30%
Recovery ASTM F-36	>25%
Transverse tensile strength ASTM F-152	>80 Mpa
Gas permeability DIN 3535/6	>1,7 ml/s
Creep Relaxation 50 Mpa/300 °C DIN 52913	>30 Mpa

Standard sizes (mm) 1000 x 1200
 Standard thickness (mm). 1,0; 1,5; 2,0; 3,0
 Other upon request



Edición: Diciembre 2012

BELPAFLON PL 9005 LC

FLON PL 9005 LC BELPAFLON PL 90
 BELPAFLON PL 9005 LC BELPAFLON
 FLON PL 9005 LC BELPAFLON PL 90
 BELPAFLON PL 9005 LC BELPAFLON
 FLON PL 9005 LC BELPAFLON PL 90
 BELPAFLON PL 9005 LC BELPAFLON
 FLON PL 9005 LC BELPAFLON PL 90
 BELPAFLON PL 9005 LC BELPAFLON

PTFE sheet with an addition of special particles in order to increase the creep deformation resistance. Gasket material with an excellent chemical resistance, including acids and alkalis at high concentrations (sodium hydroxide, sulphuric acid, nitric acid, hydrogen chloride, potassium hydroxide). It is specially designed for services in which the chemical attack is combined with high pressures and temperatures improving on the traditional P.T.F.E. sheets behaviour. There is an addition of special charges that prevents the creep deformation. Non flammable and no ageing, it is easy to cut and it has an excellent assembly and disassembly as its antistick properties. Complies FDA
 Recommended in Chemical and Petrochemical Industry and Paper industry, specially instead of Sandwich gasket.

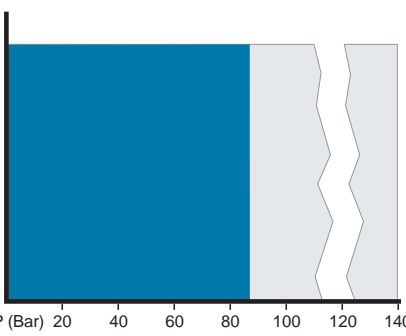
BELPAFLON PL 9006 LC: white specially designed for pharmaceutical and foodstuff industry.
BELPAFLON PL 9000 LC: specially designed for low loading applications in glass, ceramic and plastic flanges.

BELPAFLON PL 9005 LC

Technical Data.

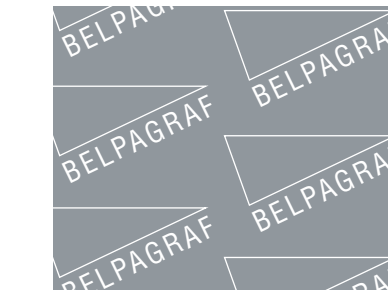
Density (±10%)	2.2 g/cm ³
Temperature min./max. °C	-200/+260
Leakage Rate (N ₂) cm ³ /min. DIN 3535	<0.02
Compressibility ASTM F-36 A	>15%
Recovery ASTM F-36 A	>30%

Standard sizes (mm): 1500 x 1500
 Standard thickness (mm). 1,5; 2,0; 3,0
 Other upon request



Approvals:
 FDA (FDA 21,CFR 177-1550)

BELPAGRAF



Gasket material made of pure expanded mineral graphite with corrosion inhibitor. Due the natural characteristics of graphite this is a high quality material with an universal use in high pressure and temperature services. Excellent resistance to steam. Meets most refinery, petrochemical and industrial service requirements for long time periods and a wide range of temperatures. API 607 FIRE SAFE TEST APPROVAL.

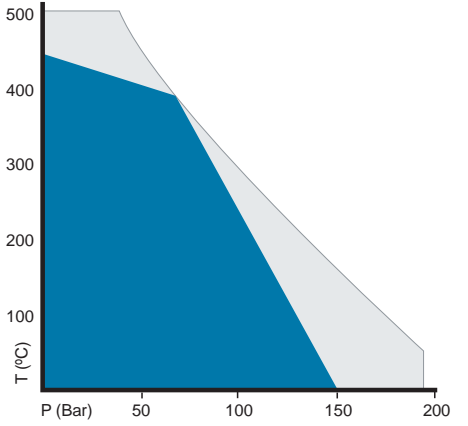
Three different grades are manufactured:

BELPAGRAF SL: pure mineral expanded graphite laminate.
BELPAGRAF SR: laminate with flat 316/316L stainless steel insert (0,05 mm thick).
BELPAGRAF SE/GE: laminate mechanically bonded to a 316/316L stainless steel tanged insert (0,1 mm thick). Grade for high pressures and temperatures. Also available with higher density (1.45 gr/cm³) ref. **BELPAGRAF COMPAC.**

Technical Data.

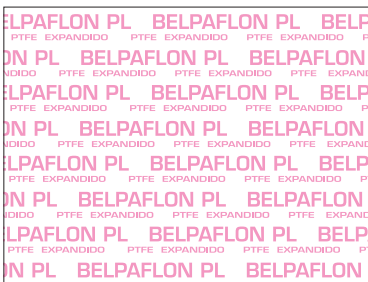
Density (10%)	1,12 g/cm ³
Compressibility ASTM F-36 A	40%
Recuperación ASTM F-36	20%
Gas permeability DIN 3535 modified	<0,01 cm ³ /min
Carbon content	>98%
Ash content	<2%
Functional Temperature range:	
Non-oxidizing environment	-200 a 3000°C
Air or oxygen environment	-200 a 450°C

Standard sizes (mm):
 1000 x 1000 / 1500 x 1500 / 2000 x 1500
 Standard thickness (mm). 0,5; 0,8; 1,0; 1,5; 2,0; 3,0
 Other upon request



Approvals:
 API 607 Fire Safe Test Approval.

BELPAFLON PL

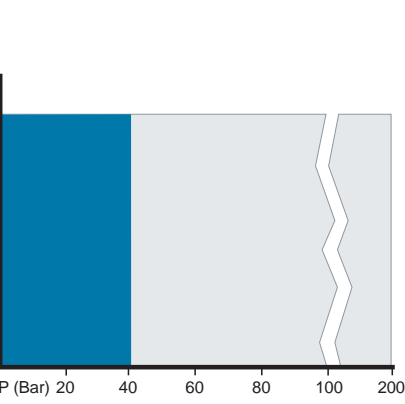


BELPAFLON PL is made of pure 100% expanded P.T.F.E. processed in a manufacturing way that produces a microstructure with a high number of multidirectional orientation of the fibers. This process confers a great structural uniformity that gives the material the necessary qualities to be used in a wide range of applications. BELPAFLON PL is recommended where high resistance to chemical attack and corrosion is required and, in special, for chemical, pharmaceutical and food industry (Complies FDA FDA homologation).

Technical Data.

Density (10%)	0.7 g/cm ³
Temperature min./max. °C	-200/+260
Compressibility ASTM F-3	66%
Recovery ASTM F-36 A	10%
Leakage Rate (N ₂) cm ³ /min. DIN 3535	0,01 ml/min

Standard sizes (mm): 1500 x 1500
 Standard thickness (mm). 1,5; 2,0; 3,0
 Other upon request



Approvals:
 FDA (FDA 21,CFR 177-1550)

PRESSURE - TEMPERATURE GRAPHS

- AREA OF USE OF THE PRODUCT WHEN PROPERLY INSTALLED
- AREA OF RESTRICTED USE OF THE PRODUCT. SUBMIT SERVICE CONDITIONS TO FYESA FOR TECHNICAL RECOMMENDATION.
- NEVER USE WITHOUT MONTERO FYTECHNICALADVICE

IMPORTANT: The decision areas do not represent limits of service for the materials. They are only guides for making a correct selection of the material. **Good performance and long service life of gaskets depend in large measure on fitting and operation conditions, over which MONTERO FyE have no control. The data given on this technical sheet should not be used as application limits, but as guidance for an appropriate choice. We can offer guarantees only for the quality of our products.**

TECHNICAL DATA: Typical properties for 2 mm thickness.



BELPA® CSA-25



Compressed sheets for gaskets made of mineral fibres and dispersed inorganic loads in a matrix of rubber.

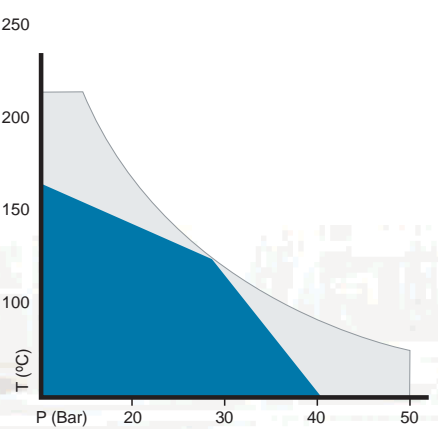
The product BELPA® CSA-25 is suitable for a wide range of applications. This material has low permeability and cost, that makes this asbestos-free product suitable for most common uses (air, water, some oil and heavy grease).

Material designed for water, air, gas and general moderate applications, specially for drinking water applications (Institute Pasteur approval for drinking water). It is also available with anti-stick coating ref. **BELPA® CSA 25 G**.

Technical Data.

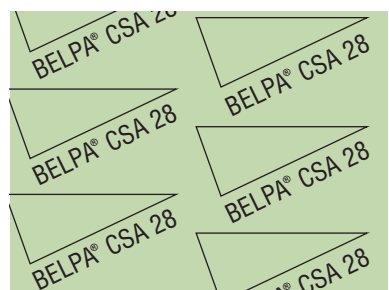
Density (±10%)1.65 g/cm³
 Compressibility ASTM F-36 A10% - 20%
 Recovery ASTM F-36 A>30%
 Transverse tensile strength ASTM F-152.....5 MPa
 Gas permeability DIN 3535/6.....< 1 cm³/min.
 Thickness increase ASTM F-146<25%
 ASTM oil N°3 5h 150°C.....<10%
 ASTM fuel B 5h RT.....<12%

Standard sizes (mm.): 2000 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



Approvals:
 Institut Pasteur (ACS or drinking water)

BELPA® CSA-28



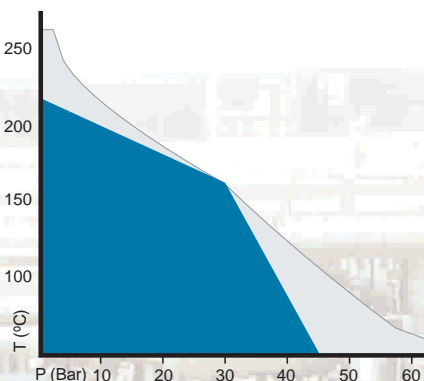
Compressed sheets for gaskets made of mineral fibres and organic fibres mixed in a matrix of NBR rubber. The product BELPA® CSA-28 is suitable for a wide range of applications. This material has good resistance to oils and low gas permeability, that makes this asbestos-free product suitable for most common uses at medium temperature and pressure in common uses (air, water, oil, solvents, etc).

Material specially designed for water, air, gas and oils and general moderate applications. It is also available with anti-stick coating ref. **BELPA® CSA 28 G**.

Technical Data.

Density (±10%)1.8 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>45%
 Transverse tensile strength ASTM F-152.....7 MPa
 Gas permeability DIN 3535/6.....< 1 cm³/min.
 Thickness increase ASTM F-146<15%
 ASTM oil N°3 5h 150°C.....<10%
 ASTM fuel B 5h RT.....<12%

Standard sizes (mm.): 2000x1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



BELPA® CSA-30



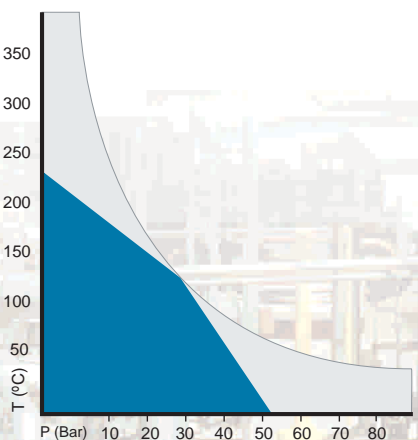
Compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of rubber.

The product BELPA® CSA-30 is suitable for a wide range of applications. This material has good mechanical properties and low gas permeability, that makes this asbestos-free product suitable for most common uses (air, water, oil, solvents, etc).

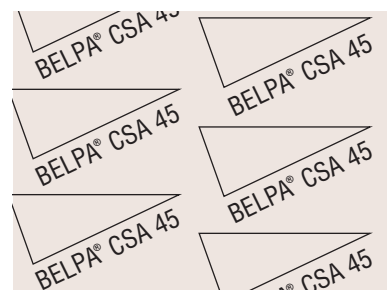
Technical Data.

Density (± 10%)1.75 g/cm³
 Compressibility ASTM F-36 A15-20%
 Recovery ASTM F-36 A>50%
 Transverse tensile strength ASTM F-152.....7 MPa
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<12%
 ASTM oil N°3 5h 150°C.....<15%
 ASTM fuel B 5h 150°C.....<13%

Standard sizes (mm.): 2000 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



BELPA® CSA-45

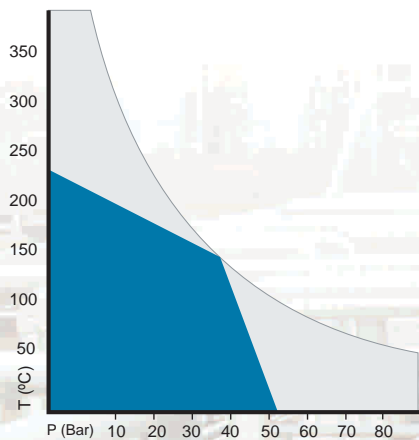


Compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of rubber. The product BELPA® CSA-45 is suitable for a wide range of applications. This material has good resistance to oils and low gas permeability and high stress relaxation that makes this asbestos-free product suitable for most common uses in industrial applications, (air, water, oil, solvents, etc).

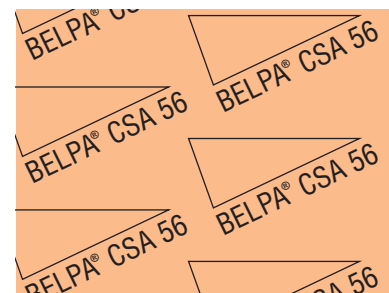
Technical Data.

Density (± 10%)1.85 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>45%
 Transverse tensile strength ASTM F-152.....8 MPa
 Gas permeability DIN 3535/6.....< 1 cm³/min.
 Thickness increase ASTM F-146<15%
 ASTM oil N°3 5h 150°C.....<10%
 ASTM fuel B 5h 20°C.....<15%

Standard sizes (mm.): 2000x1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



BELPA® CSA-56



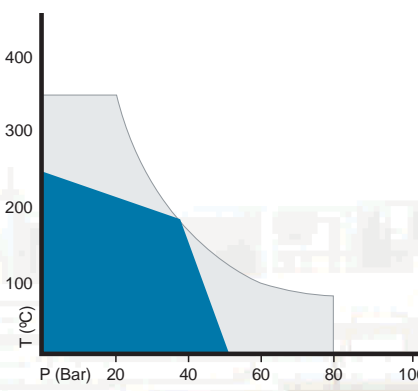
High quality compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of type SBR rubber.

This material has got exceptional flexibility and behaviour on cutting what add to its characteristic of under-control swelling in oils making a material with good suitability for the automotive industry and machinery construction for general use. It has good resistance to compression, excellent adaptability and low gas permeability.

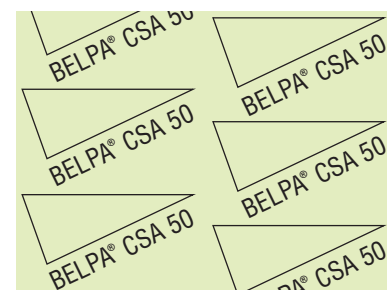
Technical Data.

Density (± 10%)1.70 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>45%
 Transverse tensile strength ASTM F-152.....7 MPa
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<15%
 ASTM oil N°3 5h 150°C.....<10%
 ASTM fuel B 5h 20°C.....<5%

Standard sizes (mm.): 1500 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



BELPA® CSA-50



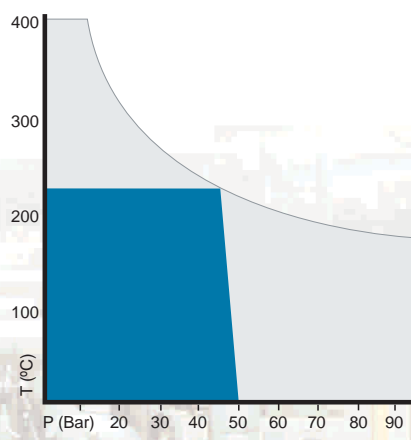
Compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of type NBR rubber.

BELPA® CSA-50 confer temperature and pressure resistance to the material, making it suitable for a wide range of industrial sealing applications. Gasket joint material used in whole services, industrial plants and in special in water, gas, oils and hydrocarbons (up to a moderated temperature) pipes. It is also available with steel wire reinforcement and anti-stick coating ref. **BELPA CSA-50 MG**.

Technical Data.

Density (± 10%)1.75 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>50%
 Transverse tensile strength ASTM F-152.....9 MPa
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<10%
 ASTM oil N°3 5h 150°C.....<10%
 ASTM fuel B 5h 20°C.....<10%

Standard sizes (mm.): 1500 x 1500 / 2000 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



Approvals:
 DVGW (Din 3535-6 for gas supply)
 DVGW (VP-401 for high temperature ingas)
 TZW (KTW for drinking water)

BELPA® CSA-320



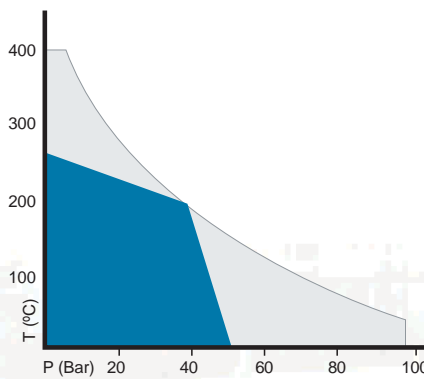
High quality compressed sheets for gaskets made of mineral fibres, aramide and dispersed inorganic loads in a matrix of high quality NBR rubber.

This material has got high compressibility and low gas permeability, excellent characteristics for many industrial services. Material suitable for use with air, water, oils, hydrocarbons and gases. Particularly suitable for use in compressors, and in shipbuilding and hydraulic systems. It is also available with steel wire reinforcement and anti-stick coating ref. **BELPA® CSA 320 MG**.

Technical Data.

Density (± 10%)1.75 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>50%
 Transverse tensile strength ASTM F-152.....11 MPa
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<8%
 ASTM oil N°3 5h 150°C.....<3%
 ASTM fuel B 5h 20°C.....<5%

Standard sizes (mm.): 1500 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



Approvals:
 DVGW (Din 3535-6 for gas supply)
 DVGW (VP-401 for high temperature ingas)
 WRAS (BS 6920 for drinking water)
 AGA (AG 208 for combustible-town gas)
 TZW (KTW for drinking water)

BELPA® CSA-90

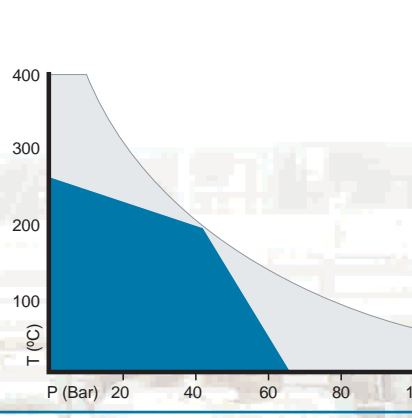


Premium quality compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of high quality type NBR rubber. This material has got high compressibility, good tensile strength and low gas permeability, excellent characteristics for many industrial services, where the high demand of resistance to temperature and pressure must be combined (GRADO X: BS 7531). It is also available with steel wire reinforcement and anti-stick coating ref. **BELPA CSA 90 MG**.

Technical Data.

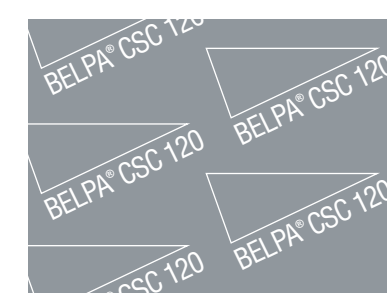
Density (± 10%)1.65 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>50%
 Transverse tensile strength ASTM F-152.....12 MPa
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<3%
 ASTM oil N°3 5h 150°C.....<3%
 ASTM fuel B 5h 20°C.....<7%

Standard sizes (mm.): 1500 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



Approvals:
 DVGW (Din 3535-6 for gas supply)
 DVGW (VP-401 for high temperature ingas)
 WRAS (BS 6920 for drinking water)

BELPA® CSC-120



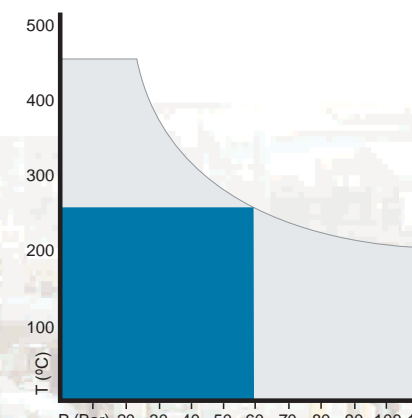
Premium quality compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of type NBR rubber.

This material has a very good mechanical resistance and an acceptable resistance to steam. This material is suitable for a wide range of industrial services. It is also available with steel wire reinforcement and anti-stick coating **BELPA® CSA 120 MG**.

Technical Data.

Density (± 10%)1.70 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>50%
 Transverse tensile strength ASTM F-152.....12 MPa
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<8%
 ASTM oil N°3 5h 150°C.....<8%
 ASTM fuel B 5h 20°C.....<10%

Standard sizes (mm.): 1500 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



BELPA® CSA-420



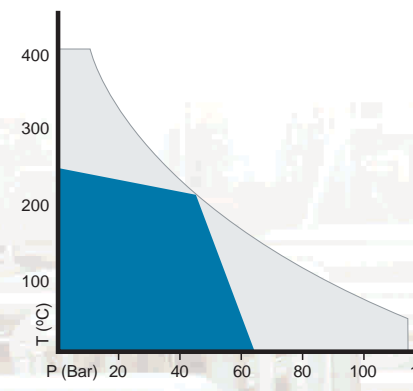
Premium quality compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of high quality type NBR rubber.

This material offers high stress relaxation (Grade Y), high compressibility and low gas permeability, excellent characteristics for universal services. Material suitable for use with air, water, oils, hydrocarbons, gases and common uses. Particularly suitable for use in compressors, pumps, valves and OEM equipment.

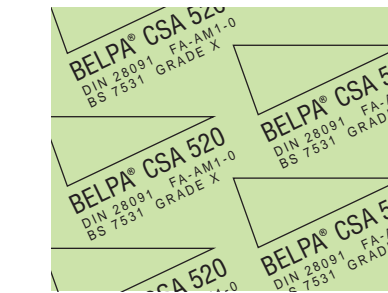
Technical Data.

Density (± 10%)1.80 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>50%
 Transverse tensile strength ASTM F-152.....12 MPa
 Gas permeability DIN 3535/6.....<0.5 cm³/min. <1
 Thickness increase ASTM F-146<3%
 ASTM oil N°3 5h 150°C.....<3%
 ASTM fuel B 5h 20°C.....<6%

Standard sizes (mm.): 1500 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



BELPA® CSA-520

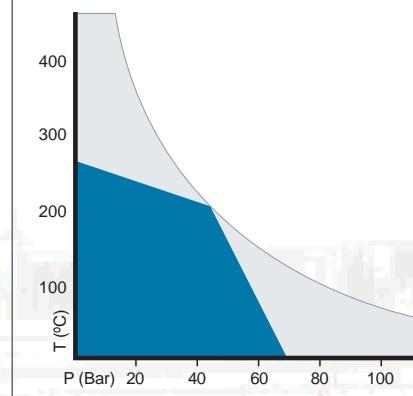


Premium quality compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of high quality type NBR rubber. BELPA® CSA-520 has the lowest gas permeability value, with the highest tensile strength and the best flexibility. BELPA® CSA-520 is a high-tech product with the highest stress relaxation value (GRADE X) in the market. Material suitable for many uses and with most of the fluids. TA Luft VDI 2440 approval (lowest leakage at 250°C). Universal gasket material for every equipment and services.

Technical Data.

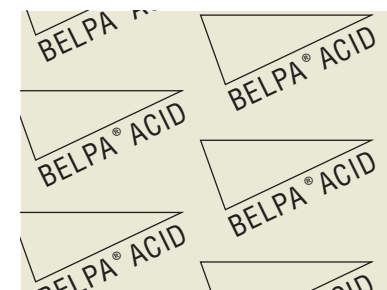
Density (± 10%)1.80 g/cm³
 Compressibility ASTM F-36 A7% - 15%
 Recovery ASTM F-36 A>55%
 Transverse tensile strength ASTM F-152.....13 MPa
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<6%
 ASTM oil N°3 5h 150°C.....<6%
 ASTM fuel B 5h 20°C.....<8%

Standard sizes (mm.): 1500 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request



Approvals:
 TA LUFT (VDI 2440 low emission at 250°C)
 DVGW (Din 3535-6 for gas supply)
 WRAS (BS 6920 for drinking water)
 TZW (KTW for drinking water)

BELPA® ACID



Compressed sheets for gaskets made of mineral fibre, aramide and dispersed inorganic loads mixed in a matrix of rubber.

The resulting gasket sheet is recommended for use on a wide range of service conditions with chemical resistance to many products including most of the acids, oils, alkalis and solvents. The product has been designed for use with the acid and alkali media most frequently found in industry.

Technical Data.

Density (± 10%)1.75 g/cm³
 Compressibility ASTM F-36 A7-15%
 Recovery ASTM F-36 A>45%
 Gas permeability DIN 3535/6.....<1 cm³/min.
 Thickness increase ASTM F-146<7%
 ASTM oil N°3 5h 150°C.....<8%
 ASTM fuel B 5h 20°C.....<4%
 H2SO4 (72%) 24 H/RT.....<1.5%
 HCl (18%) 24 H/RT.....<1.5%
 HNO3 (33%) 24 H/RT.....<1.5%
 Na (OH) (50%) 24 H/RT.....<2%

Standard sizes (mm.): 2000 x 1500
 Standard thickness (mm.): 0.5; 0.8; 1.0; 1.5; 2.0; 3.0
 Other upon request

