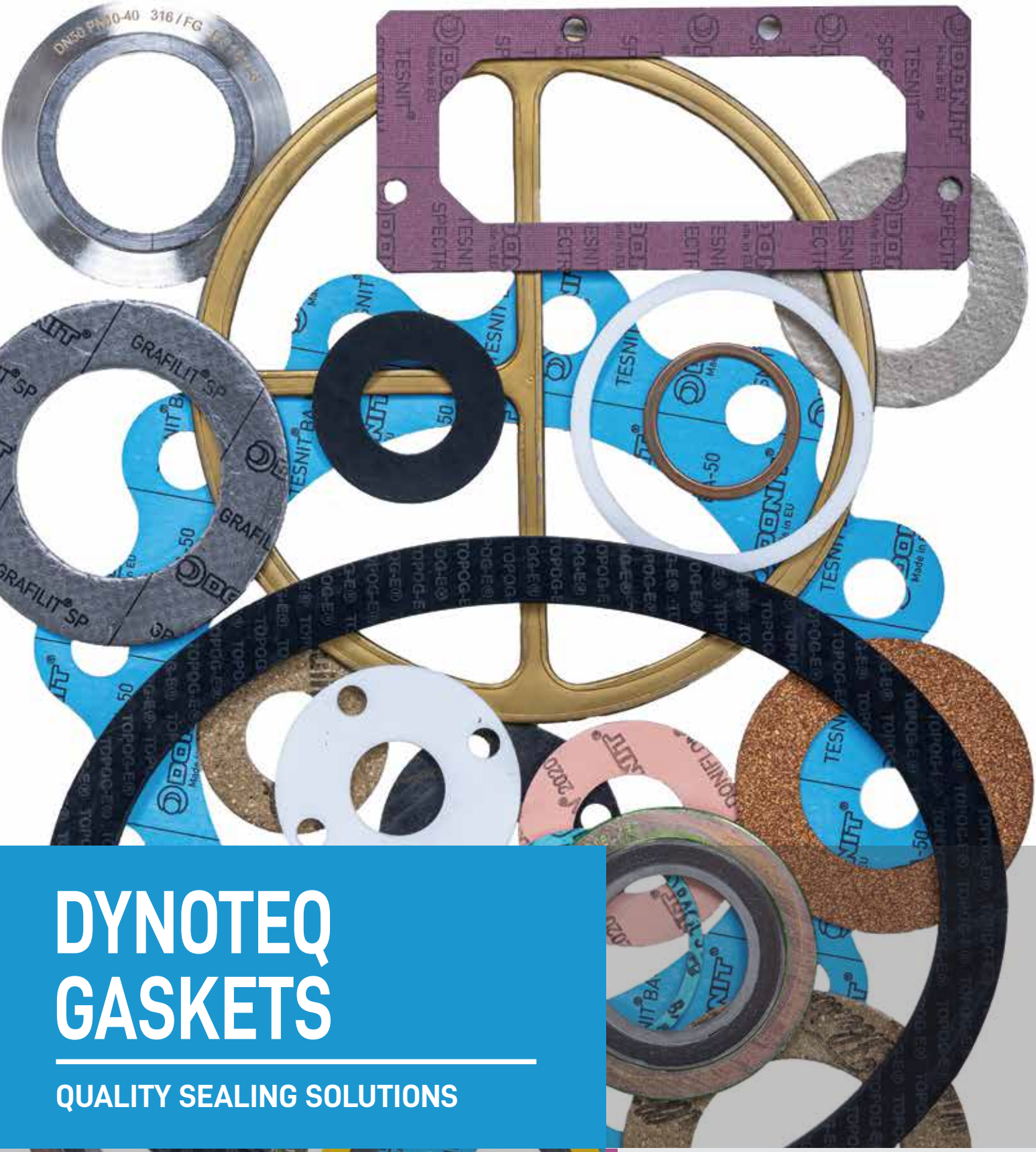
www.dynoteq.com



DYNOTEQ GASKETS

QUALITY SEALING SOLUTIONS

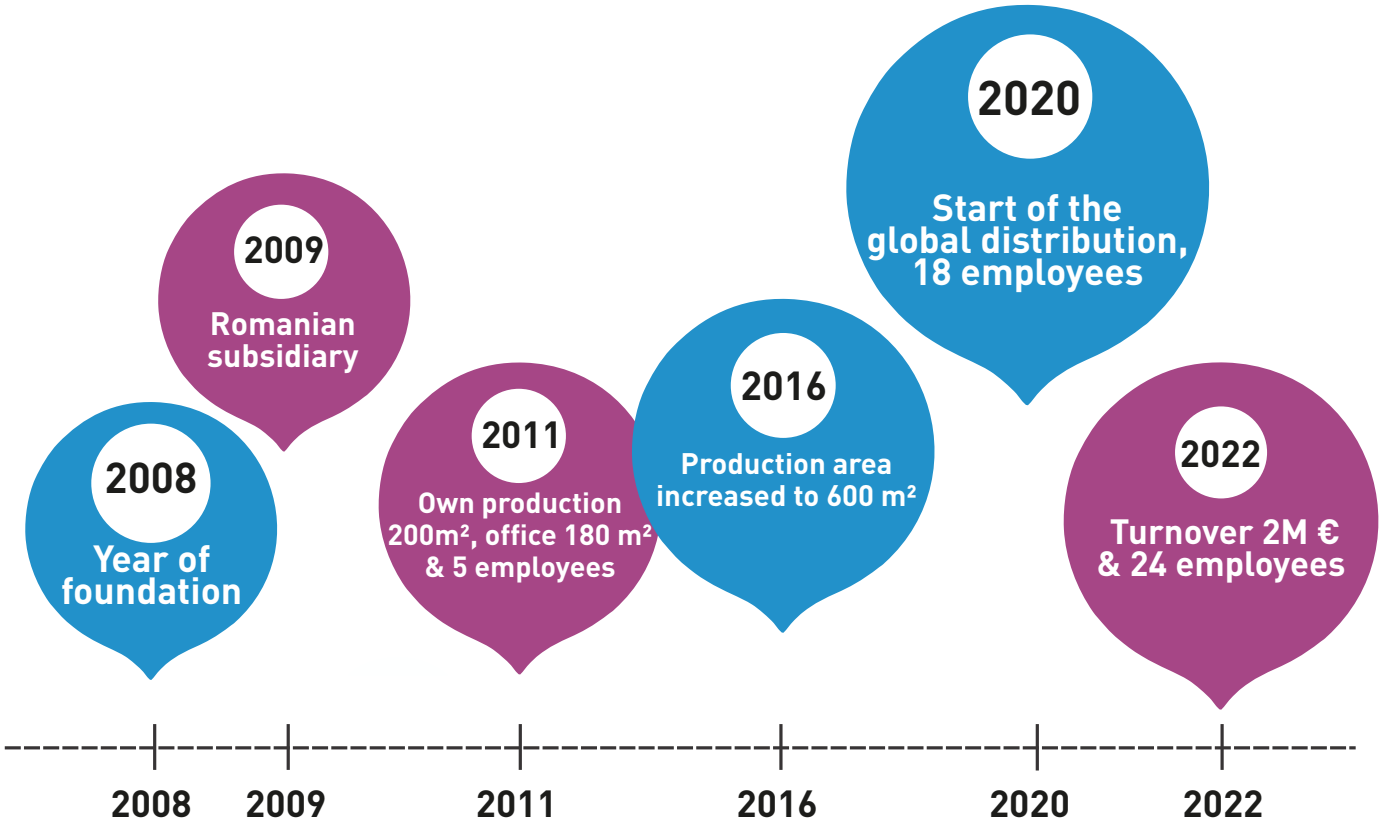
DYNOTEQ
Dynamic Technology

About us

Our mission is to ensure that we provide the right service, solution and product at the right time to minimize our clients' operational costs. We don't want to be the biggest, but we do want to be the best in all we do, offer and supply.

"The reward for job well-done is the opportunity to do more... is what drives us." Karoly Feher, CEO.

Our Milestones



Dynoteq Ltd. has been operating since the year 2008 as a 100% Hungarian-owned family business. We deal with the distribution and manufacturing of special sealing products as well as the thermal insulation materials. We have been dealing with sealing technology since 2004, so we have some 18 years of experience in this field.

We consciously built and build our company around industrial activities. Our goal is to serve the ever-increasing and changing needs effectively. We carefully examine all problem areas or applications to provide our costumers with the most suitable product, thus providing the best solution.

Our range of products and service is build by our costumers' diverse needs. We advise and consult our costumers in any aspect to cover the demands of the end-user in any industry. We are application driven and can with our flexible approach meet almost any meterial requests.

Gaskets overview

As part of our range of unique products and solutions we can offer one of the most extensive DIN and ANSI portfolios within the sealing and fluid control industry, components for our products are obtained from certified sources and using the latest design and pilot technology.

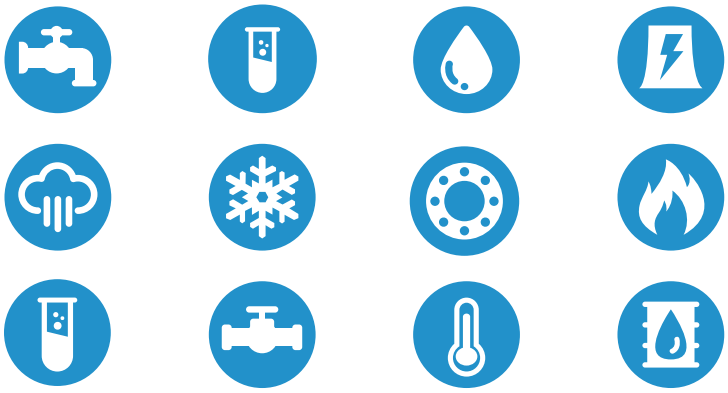
We focus on ensuring plant safety. No matter whether the medium to be transported is fluid or gaseous, we see it as our responsibility to ensure that media remain where they are intended. Our duty is to assist in avoiding such incidents through the provision of our innovative and state of the product range, which is tailored to meet the specific requirements of the industries we are active in.

GASKETS PRODUCT RANGE

					
NON-ASBESTOS GASKETS	**SEMI-METALLIC GASKETS**	**METALLIC GASKETS**	**BRAIDED PACKINGS**	**SPECIAL SOLUTIONS**	**PRESSURE SEALS**

Areas of application

We can provide our customers with the widest range of products and solutions.
From the most used, standard, mainstream versions, and brands, to the more complex, premium types. We have partners from all around the world who all are putting solutions and end-user needs on the first spot.
Our portfolio is driven by the market & end-user specific demands, thereby assuring we can supply top quality and safety-first solutions for any application.



Full service provider

One of our main focuses is to be building products and services range by costumers' diverse needs.
One such tools is our stock capabilities enabling us to reduce lead time and making all our customers' needs fulfilled. We can assure the best choice as well as optimal delivery.
Our clients work in the different industries, each with its own specific challenge. We help with current issues with solutions from our knowledge, network, and stock. If needed, we also work closely together to manufacture new solutions based on the unique situation.

NON-METALLIC GASKET MATERIALS

Expansion joint allows for **heat expansion of pipe system** due to thermal fluctuations or vibrations.

As a solution, a flexible piping component may be used to absorb relative piping movements. The expansion joints can be jointed to the line by direct butt welding or flange connection. Our products can be custom-built in a variety of styles and configurations to accommodate pipe size reductions, misalignments and offsets.

Understanding your requirements our offering includes standard designs as well as products specifically tailored to meet specific requirements. There are three main types of expansion joints: **metal, fabric and rubber.**

DONIT TESNIT gaskets

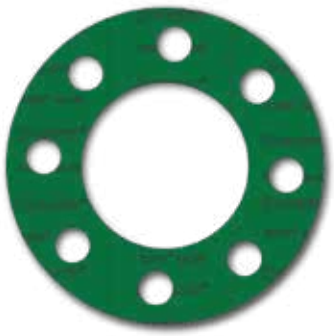
BA-202 GREEN

Properties & Composition

Material has a good mechanical and sealing properties. It has been designed for non-demanding applications.

BA-202 is made of cellulose fibers, inorganic fillers, NBR binder. Optional steel wire mesh insert on request.

Surface finish is: **2AS.**



Max. operating conditions

Peak temperature	°C	180
Continuous temperature	°C	140
- with steam	°C	120
Pressure	bar	40

*The data can not be used to support any waranty claims, we recommend to contact and consult Dynoteq technical team in case of any questions or doubts.

Areas of application & Advantages

POWER PLANT
WATER SUPPLY
CHEMICAL INDUSTRY
GENERAL PURPOSE
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

BA-50

Properties & Composition

Material has good thermal, chemical, and dynamic resistance.

BA-50 is made of aramid fibers, inorganic fillers, NBR binder. Optional steel wire mesh insert on request.

Surface finish is: **4AS.**

Max. operating conditions

Peak temperature	°C	280
Continuous temperature	°C	220
- with steam	°C	180
Pressure	bar	80

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Areas of application & Advantages

POWER PLANT
WATER SUPPLY
CHEMICAL INDUSTRY
GENERAL PURPOSE
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

BA-55

Properties & Composition

Material has good thermal, chemical properties and is resistant to steam.

BA-55 is made of engineered bio-soluble mineral fibres, aramid fibers, inorganic fillers, NBR binder. Optional steel wire mesh insert on request.

Surface finish is: **4AS.**

Max. operating conditions

Peak temperature	°C	350
Continuous temperature	°C	270
- with steam	°C	230
Pressure	bar	100

*The data can not be used to support any waranty claims, we recommend to contact and consult Dynoteq technical team in case of any questions or doubts.

Areas of application & Advantages

POWER PLANT
WATER SUPPLY
CHEMICAL INDUSTRY
GENERAL PURPOSE
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

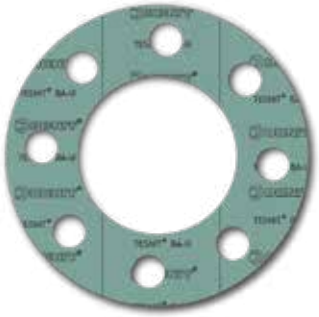
BA-U

Properties & Composition

Material for general purpose with good mechanical and thermal properties and low gas permeability.

BA-U is made of aramid fibers, inorganic fillers, NBR binder. Optional steel wire mesh or expanded steel insert on request.

Surface finish is: **4AS.**



Max. operating conditions

Peak temperature	°C	350
Continuous temperature	°C	250
- with steam	°C	200
Pressure	bar	100

*The data can not be used to support any waranty claims, we recommend to contact and consult Dynoteq technical team in case of any questions or doubts.

Areas of application & Advantages

POWER PLANT
WATER SUPPLY
CHEMICAL INDUSTRY
GENERAL PURPOSE
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

BA-CF

Properties & Composition

Material has excellent thermal properties and very good chemical resistance to steam and strong alkaline media.

BA-CF is made of carbon fibers, inorganic fillers, NBR binder. Optional steel wire mesh or expanded steel insert on request.

Surface finish is: **4AS.**

Max. operating conditions

Peak temperature	°C	400
Continuous temperature	°C	300
- with steam	°C	280
Pressure	bar	120

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Areas of application & Advantages

POWER PLANT
WATER SUPPLY
CHEMICAL INDUSTRY
HEAVY INDUSTRY
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

DYNOTEQ Dynamic Technology

BA-GL

Properties & Composition

This material combines excellent thermal, chemical and mechanical properties. It has outstanding bolt torque retention.
BA-GL is made of glass fibers, inorganic fillers, NBR binder. Optional steel wire mesh or expanded steel insert on request.

Surface finish is: **4AS.**

Max. operating conditions

Peak temperature	°C	440
Continuous temperature	°C	350
- with steam	°C	250
Pressure	bar	120

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT · WATER SUPPLY · CHEMICAL INDUSTRY · HEAVY INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

DONIT graphite gaskets

GRAFILIT SF

Properties & Composition

This material has excellent chemical and thermal resistance, combined with high compressibility.

GRAFILIT SF is made of expanded natural graphite.

Operating conditions

Minimum temperature	°C	-200
Continuous temperature		
- oxidizing atmosphere	°C	550
- reducing/inert atmosphere	°C	700
Pressure		
- demanding gasses	bar	30
- steam, gasses	bar	60
- liquids	bar	100

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT · STEAM GENERATION · CHEMICAL INDUSTRY · HEAVY INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

GRAFILIT SL

Properties & Composition

Material is designed for high operating pressures with excellent thermical and thermal resistance.

GRAFILIT SL is made of expanded natural graphite, stainless steel foil insert (AISI 316;0,05 mm).

Operating conditions

Minimum temperature	°C	-200
Continuous temperature		
- oxidizing atmosphere	°C	550
- reducing/inert atmosphere	°C	700
Pressure		
- demanding gasses	bar	60
- steam, gasses	bar	100
- liquids	bar	140

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT · STEAM GENERATION · CHEMICAL INDUSTRY · HEAVY INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

GRAFILIT SP

Properties & Composition

Material is designed for high operating and surface pressures. It has excellent chemical and thermal resistance with blowout safety.

GRAFILIT SP is made of expanded natural graphite, tanged stainless steel sheet insert (AISI 316;0,1 mm).

Operating conditions

Minimum temperature	°C	-200
Continuous temperature		
- oxidizing atmosphere	°C	550
- reducing/inert atmosphere	°C	700
Pressure		
- demanding gasses	bar	60
- steam, gasses	bar	130
- liquids	bar	160

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT
STEAM GENERATION
CHEMICAL INDUSTRY
HEAVY INDUSTRY
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

GRAFILIT EM

Properties & Composition

Material with excellent media resistance and blowout safety, even in applications with cycling loads, makes this material superior.

GRAFILIT EM is made of expanded natural graphite, expanded stainless steel sheet insert (AISI 316L;0,15 mm).

Operating conditions

Minimum temperature	°C	-200
Continuous temperature		
- oxidizing atmosphere	°C	550
- reducing/inert atmosphere	°C	700
Pressure		
- demanding gasses	bar	80
- steam, gasses	bar	150
- liquids	bar	180

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT
STEAM GENERATION
CHEMICAL INDUSTRY
HEAVY INDUSTRY
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

GRAFILIT IQ

Properties & Composition

Heavy-duty material with improved surface load resistance in particular for cycling operations and blowout resistance.

Made of expanded natural graphite laminated by a special process to an expanded chromium-nickel-steel insert (AISI 316L; 0.15 mm).

Operating conditions

Minimum temperature	°C	440
Continuous temperature		
- oxidizing atmosphere	°C	250
- reducing/inert atmosphere	°C	120
Pressure		
- demanding gasses	bar	120
- steam, gasses	bar	120
- liquids	bar	120

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT
STEAM GENERATION
CHEMICAL INDUSTRY
HEAVY INDUSTRY
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

DYNOTEQ Dynamic Technology

GRAFILIT MULTIFORCE

Properties & Composition

Material suitable for highly demanding conditions in chemical and petrochemical installations with hot and/or corrosive media.

Made of expanded natural graphite, containing oxidation inhibitor, reinforced with multiple stainless steel flat foils (SS 316L; thickness 0.05 mm).

Operating conditions

Minimum temperature	°C	-200
Continuous temperature		
- oxidizing atmosphere	°C	550
- reducing/inert atmosphere	°C	700
Max. Pressure	bar	250

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT · STEAM GENERATION · CHEMICAL INDUSTRY · HEAVY INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

DONIT - Aramid / Graphite sealing materials

DONIFLEX G-U

Properties & Composition

Material has a good mechanical and sealing properties. It has been designed for non-demanding applications. DONIFLEX G-U is made of cellulose fibers, inorganic fillers, NBR binder. Optional steel wire mesh insert on request.

Surface finish is: **4AS.**

Max. operating conditions

Max. Temperature	°C	400
Max. Pressure	bar	190

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT · STEAM GENERATION · CHEMICAL INDUSTRY · HEAVY INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

DONIFLEX G-EM

Properties & Composition

Material with enhanced thermomechanical resistance (surface pressure and blowouts) in combination with enhanced sealing characteristics.
Made of aramid fibres, natural graphite, inorganic fillers, NBR binder, expanded galvanized steel sheet insert (0.4 mm).

Surface finish is: **4AS.**

Max. operating conditions

Max. Temperature	°C	400
Max. Pressure	bar	190

*The pressure/temperature shown above can not be used simultaneously.

Areas of application & Advantages

POWER PLANT · STEAM GENERATION · CHEMICAL INDUSTRY · HEAVY INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

PTFE sealing materials

DynoFlon V

Properties & Composition

Resistant to most aggressive media, safe and does not contaminate the exchange rate medium, good electrical insulator with no aging.

Made of virgin PTFE may also come into contact with food and chemical materials (FDA21 regulations).

Areas of application & Advantages

POWER PLANT · FOOD INDUSTRY · CHEMICAL INDUSTRY · PHARMACEUTICAL INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

Max. operating conditions

Max. Temperature	°C	240
Max. Pressure	bar	260

*The pressure/temperature shown above can not be used simultaneously.

DynoFlon HP

Properties & Composition

Resistant to most aggressive media, cold flow and UV radiation. Material is safe and does not contaminate the exchange rate medium.

Made of biaxially expanded PTFE may also come into contact with food and chemical materials (FDA21 regulations).

Areas of application & Advantages

POWER PLANT · FOOD INDUSTRY · CHEMICAL INDUSTRY · PHARMACEUTICAL INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

Max. operating conditions

Max. Temperature	°C	240
Max. Pressure	bar	280

*The pressure/temperature shown above can not be used simultaneously.

DynoFlon ST

Properties & Composition

Its excellent compressibility enables very good adaptability to pressure sensitive connections like ceramic-, plastic-, glass-lined piping.

Made of expanded PTFE material suitable for nearly all media. Not suitable for molten alkali metals and fluorine compounds.

Areas of application & Advantages

POWER PLANT · FOOD INDUSTRY · CHEMICAL INDUSTRY · PHARMACEUTICAL INDUSTRY

ASBESTOS FREE · FREE OF ORGANIC FIBERS & FILLERS · EASY TO CUT, HANDLE & FIT · ANTI-STICK MATERIAL

Max. operating conditions

Max. Temperature	°C	260
Max. Pressure	bar	100

*The pressure/temperature shown above can not be used simultaneously.

DYNOTEQ Dynamic Technology

DONIFLON® 2010

Properties & Composition

Its high compressibility enables very good adaptability to pressure sensitive connections like ceramic, plastic or glass flanges.

Made of PTFE and hollow glass microbeads it's suitable for nearly all media. Not suitable for molten alkali metals and fluorine compounds.

Operating conditions

Min. Temperature	°C	-200
Max. Temperature	°C	260
Pressure	bar	60
pH range	0-14	

*The data can not be used to support any waranty claims, we recommend to contact and consult Dynoteq technical team in case of any questions or doubts.

Areas of application & Advantages

POWER PLANT
FOOD INDUSTRY
CHEMICAL INDUSTRY
PHARMACEUTICAL INDUSTRY
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

DONIFLON® 2020

Properties & Composition

Material suitable for nearly all media especially for concentrated inorganic acids. Not suitable for molten alkali metals and fluorine compounds.

Made of PTFE and silica it's suitable for use in many different industries.

Operating conditions

Min. Temperature	°C	-200
Max. Temperature	°C	260
Pressure	bar	80
pH range	0-14	

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Areas of application & Advantages

POWER PLANT
FOOD INDUSTRY
CHEMICAL INDUSTRY
PHARMACEUTICAL INDUSTRY
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

DONIFLON® 2030

Properties & Composition

Material suitable for nearly all media especially recommended for strong alkalis. Not suitable for molten alkali metals and fluorine compounds.

Made of PTFE, barium sulfate it's suitable for wide application use.

Operating conditions

Min. Temperature	°C	-200
Max. Temperature	°C	260
Pressure	bar	60
pH range	0-14	

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Areas of application & Advantages

POWER PLANT
FOOD INDUSTRY
CHEMICAL INDUSTRY
PHARMACEUTICAL INDUSTRY
ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
ANTI-STICK MATERIAL

SIGMA range gaskets

For applications where chemical resistance is paramount, SIGMA is the only option.

Utilising innovative materials and engineered solutions with a unique manufacturing process exclusive to Flexitallic, SIGMA® represents the latest generation of biaxially orientated PTFE materials.

Pressure containment and temperature

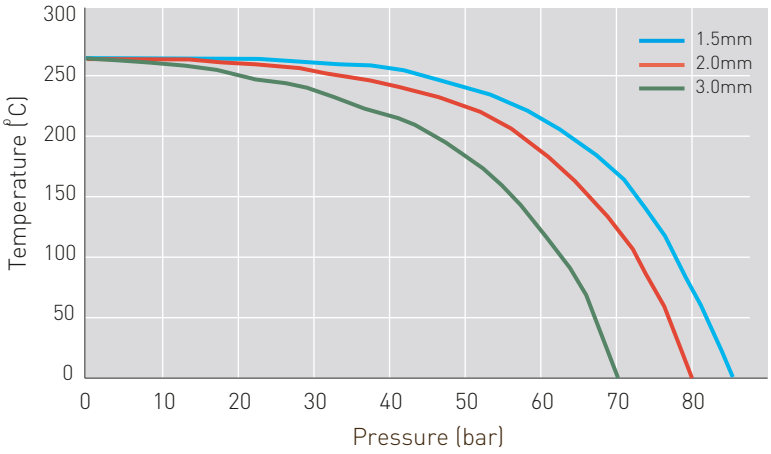
Thickness	up to 1.5 mm	2.0 mm	3.0 mm
Max. Temperature	260 °C	260 °C	260 °C
Max. Pressure psi (bar)	1235 (85)	1160 (80)	1088 (75)

*The pressure/temperature shown above can not be used simultaneously.

pH range	0-14
Sheet sizes	1.5 m x 1.5 m
Sheet thicknesses	0.75 mm - 3.0 mm
Recommended surface finish	3.2 - 6.3 µm

*Other sheet sizes and thicknesses are available on request.

SIGMA® domain of use



Sigma 500

Properties & Composition

Material has enhanced compressibility characteristic for low bolt loads with improved flexibility over conventional calendered and graphite sheets.

SIGMA® 500 is suitable:

>> for use in alkali, acid and chlorine service
>> for use with all concentrations of sulphuric acid
>> for hot and cold potable water services (WRAS approved)

POWER PLANT · CHEMICAL INDUSTRY · FOOD INDUSTRY · OIL & GAS INDUSTRY

Sigma 511

Properties & Composition

Material has standard compressibility characteristic with strong acids (not suitable for use with hydrofluoric acid) and general chemicals resistance.

SIGMA® 511 is suitable:

>> for use with all concentrations of sulphuric acid
>> for hot and cold potable water services (WRAS approved)
>> for oxygen & peroxide service

POWER PLANT · CHEMICAL INDUSTRY · FOOD INDUSTRY · OIL & GAS INDUSTRY

Sigma 533

Properties & Composition

Material has standard compressibility characteristic with strong alkalis and other general chemicals resistance.

SIGMA® 533 characteristics & typical aplications:

>> ideal for sealing food, pharmaceutical and non-contamination applications
>> aqueous at hydrofluoric acid below 49%
>> not suited for sealing molten alkali metals or fluorine gas.

POWER PLANT · CHEMICAL INDUSTRY · FOOD INDUSTRY · OIL & GAS INDUSTRY

Sigma 588

Properties & Composition

Material distinguishes unique cellular structure (low load sealing for damaged contact surfaces) with suitability for use in both concentrated acid and alkali service.

SIGMA® 588 characteristics & typical applications

>> layers bonded by direct sintering – no adhesive layer or potential leak paths
>> ease of use – eliminating jacket 'fold over' associated with large envelope gaskets
>> layered structure enhances dimensional stability and assists installation of larger gaskets

POWER PLANT · CHEMICAL INDUSTRY · FOOD INDUSTRY · OIL & GAS INDUSTRY

Sigma 600

Properties & Composition

Material has high compressibility for ultra-low bolt loads; plastic and glass lined equipment, resistant to acids, alkalis, halogens and hydrocarbons.

SIGMA® 600 is suitable:

>> for 'contamination sensitive' applications
>> for use across a wide range of chemical media;
>> for minimising inventory requirements and eliminates 'mis-application'
>> for easy shaping, cutting, handling and installation

POWER PLANT · CHEMICAL INDUSTRY · FOOD INDUSTRY · OIL & GAS INDUSTRY

Rubber gasket materials

Rubber material gaskets are universal sealing elements with a large range of application.

Our rubber gasket materials can be used within a temperature range of **- 45 °C up to a maximum of + 125 °C.**
A suitable material should be selected depending on the medium, medium concentration, temperature and the type of flange being used. As a general rule, thin gaskets are preferred to thicker ones.

Physical characteristics chart

	Units of measure	Specification	EPDM	Neoprene	Nitrile
Hardness (H)	Sh.A3	ASTM D 2240	70	70	60
Tensile Strength (CR)	MPa	ASTM D 412C	5	5	7
Elongation at break (AR)	%	ASTM D 412C	250	250	400
Tear strength	N/mm	ASTM D 624B	15	15	15
Specific gravity	g/cm^3	DIN 53479	1,33	1,55	1,35

Areas of application

AUTOMOTIVE
CHEMICAL INDUSTRY
FOOD INDUSTRY
POWER PLANTS
INDUSTRIAL PUMPS
OIL & GAS INDUSTRY

EPDM rubber sheets

Material advantages

Ethylene-Propylene-Diene-Monomer offers excellent out-door exposure resistancy. Extremely resistant to oxidation, U.V. Rays and Ozone it's an ideal choice for out-door applications. It is also resistant to many chemicals and solvents and shows good resistance to many corrosive chemicals. However, EPDM does not have good oil resistance or adhesion properties. Material is mostly used for roofing sheets and weather strips.

ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
EASY TO CUT, HANDLE & FIT

PT & Compression range

Temperature range	°C	-45 to +120
Pressure range	MPa	<1.6
Compression set at 70°C 22 h	%	35

Nitrile rubber sheets

Material advantages

As a co-polymer of Butadiene and Acrylonitrile it offers good general resistance to hydrocarbons, oil & inorganic chemical products except antioxidant agents and chlorine. It has good mechanical properties, especially tensile strength, flexing, compression set and impermeability to gases. Having moderate aging properties and good adhesion to metal the use with polar liquids like ketones, ethers, and amines is however not recommended.

ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
EASY TO CUT, HANDLE & FIT

PT & Compression range

Temperature range	°C	-30 to +120
Pressure range	MPa	<1.6
Compression set at 70°C 22 h	%	35

Neoprene rubber sheets

Material advantages

As a homo-polymer of Chloroprene or Chlorobutadiene it offers excellent mechanical and good abrasion properties even without reinforcing filters and has a reasonable resilience in grades over 60° shore A. It displays good resistance to heat, ozone and weathering and gives good adhesion to metal. It has good resistance to inorganic hydrocarbons. We also offer flame retardant grades.

ASBESTOS FREE
FREE OF ORGANIC FIBERS & FILLERS
EASY TO CUT, HANDLE & FIT
EASY TO CUT, HANDLE & FIT

PT & Compression range

Temperature range	°C	-40 to +125
Pressure range	MPa	<1.6
Compression set at 70°C 22 h	%	35

PTFE Enveloped Gaskets

Material properties

The sealing insert is made of corrugatec stainless steel, soft nonasbestos material, or rubber and different combinations. This insert is coated with PTFE and open on one side, usually on the outside.

Thanks to their high chemical stability, gooc mechanical properties and permanent resistance in the atmosphere (to humidity, gasses temperature changes) they are suitable for all types of gaskets and different media mostly for aggressive chemicals.

Gasket size

The PTFE envelope for gaskets with maximum external diameter of up to 500 mm are made in one piece, for gaskets with greater diameters they are welded. Oval shapes of PTFE envelopes are welded. There are no limitations regarding sizes for gaskets with welded envelopes.

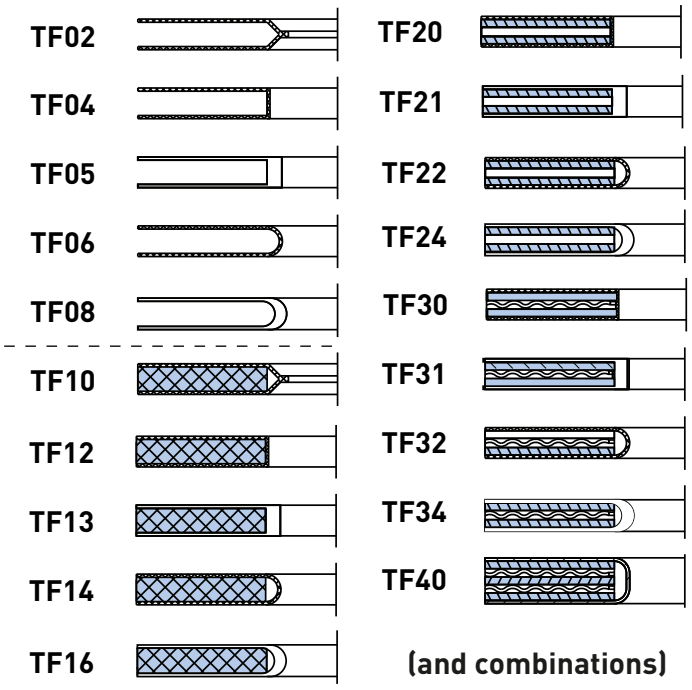
Areas of application & Advantages

EN 1514-3 gaskets

DN	Gasket inside diamater	Envelope outside diamater	Gasket outside diameter					
	(mm)							
	PN Class		PN6	PN10	PN16	PN25	PN40	PN63
10	18	36	39	46	46	46	46	56
15	22	40	44	51	51	51	51	61
20	17	50	54	61	61	61	61	72
25	34	60	64	71	71	71	71	82
32	43	70	76	82	82	82	82	88
40	49	80	86	92	92	92	92	103
50	61	92	96	107	107	107	107	113
65	77	110	116	127	127	127	127	138
80	89	126	132	142	142	142	142	148
100	115	151	152	162	162	168	168	174
125	141	178	182	192	192	194	194	210
150	169	206	207	218	218	224	224	247
200	220	260	262	273	273	284	290	309
250	273	314	317	328	329	340	352	364
300	324	365	373	378	384	400	417	424
350	356	412	423	438	444	457	474	486
400	407	469	473	489	495	514	546	543
450	458	528	528	539	555	564	571	
500	508	578	578	594	617	624	628	
600	610	679	679	695	734	731	747	

Shapes and construction

The PTFE enveloped gaskets are produced in several types to meet the most demanding applications:
>> Standard shapes (round or oval)
>> Custom shapes (any design)



SEMI-METALLIC GASKETS

Dynoteq range of semi-metallic gaskets are specially designed to withstand **high temperature applications and maximum surface pressure.**
They can be used for sealing flange joints, manhole & handhold covers, tube covers, boilers, heat exchangers, pressure vessels, pumps, compressors & valves in most **challenging industries.**

Spiral wound gaskets

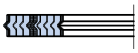
Material advantages

Spiral wound gaskets are special semi metallic gaskets of great resilience.They can be used for sealing flange joints, manhole and handhold covers, tube covers, boilers, heat exchangers, pressure vessels, pumps, compressors and valves.
They are ideal for sealing steam, oil, liquids, gases, acids, alkalines, various organic media and solvents. Easy installation and sealing under heavy operating conditions. Strong stress compensation, stable and reliable sealing performance even under frequent pressure fluctuation conditions. Solid construction provides stability and sealability even when the sealing surfaces are slightly corroded or bent.

Areas of application

POWER PLANT
CHEMICAL INDUSTRY
FOOD INDUSTRY
GENERAL PURPOSE
STEAM GENERATION
OIL & GAS INDUSTRY

Physical characteristics chart

TYPE	SECTION	APPLICATION	MAX. DIMENSIONS (mm)		MAX. OPERATING PRESSURE (bar)	MAX. OPERATING TEMPERATURE (°C)
			Diameter	Thickness		
MS 10		Valves bonets, stoppers for boilers	2200	2.5 ÷ 7.2	400	550
MS 12		For high pressures, turbolences	2200	3.2 ÷ 7.2	400	550
MS 14		For high pressures	2200	3.2 ÷ 7.2	400	550
MS 16		For high pressures, turbolences	2200	3.2 ÷ 7.2	400	550
MS 10 T		Gasket with sealing zone of PTFE	2200	3.2 ÷ 4.5	400	250

Grooved / Kammprofile gaskets

Material advantages

Metal gaskets with grooved faces have proven to be very effective for sealing flange connections, and they are particularly suitable for applications where high temperatures, pressures and fluctuating conditions are encountered. For applications associated with jacketed gaskets (for heat exchangers, vessels and reactors and various flanged connections).
Capable of sealing pressures exceeding 250 bar. Capable of withstanding temperatures up to 700 °C. Gaskets can be fitted to existing assemblies without modification. The grooved gaskets are produced in several types to fit the most demanding applications. Upon request the grooved gaskets can be manufactured in various shapes and sizes.

Areas of application

HEATING SYSTEMS
PAPER AND CELLULOSE INDUSTRY
OIL & GAS INDUSTRY
REFRIGERATION AND COOLING
HIGH TEMP. APPLICATIONS
POWER PLANTS

Physical characteristics chart

TYPE	SECTION	APPLICATION	MAX. DIMENSIONS (mm)		MAX. OPERATING PRESSURE (bar)	MAX. OPERATING TEMPERATURE (°C)
			Diameter	Thickness		
M 7A		Powerplants, manhole, heat exchangers	3000	2.5 ÷ 6	400	700
M 7B		Powerplants, manhole, heat exchangers	3000	2.5 ÷ 7	400	700
M 7C		Powerplants, manhole, heat exchangers	3000	2.5 ÷ 8	400	700
M 7E		Powerplants, manhole, heat exchangers	3000	2.5 ÷ 9	400	700
M 27A		Powerplants, manhole, heat exchangers	3000	2.5 ÷ 6	400	700
M 27B		Powerplants, manhole, heat exchangers	3000	2.5 ÷ 7	400	700
M 27C		Powerplants, manhole, heat exchangers	3000	2.5 ÷ 7	400	700
M 10		Powerplants, manhole, heat exchangers	3000	0.2 ÷ 3	400	550
M 10A		Powerplants, manhole, heat exchangers	3000	2 ÷ 6	400	550

Metal-Jacketed gaskets

Material advantages

Metal-jacketed gaskets are particularly suitable for sealing flat surfaces of heat exchangers, gas pipes, cast iron flanges, autoclaves and similar. By their sealing efficiency, provided by exerting strong pressure on circular rims of the flanges, metal-jacketed gaskets can stand up to 30% deviation from the initial thickness, which is very useful in case of irregular or faulty flange rims.

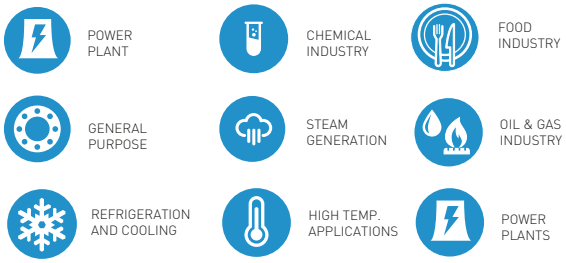
The chemical compatibility of the metal and the medium being sealed should be considered.

Gaskets are suitable for high assembly stress and are highly resistant against blow-out. The metallic jacket is normally 0.4 mm thick. Other materials are available on customer request. **The standard filler material is flexible graphite.** Other fillers like ceramic, mineral or other can be also used.

Material standards & Composition

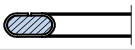
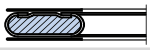
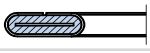
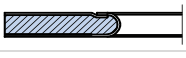
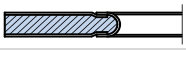
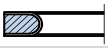
Material	ASTM	EN Material No.
Carbon steel	CS	1.0038 (DC04 St14)
Stainless steel	AISI 304	14301
Stainless steel	AISI 309	14828
Stainless steel	AISI 316, 316L	1.4401, 1.4404
Stainless steel	AISI 316Ti	14571
Stainless steel	AISI 321	14541
Monel (NiCu30Fe)	Alloy 400	24360
Copper	Copper	20090
Brass	Brass Ms 63	20321

Areas of application



DYNOTEQ
Dynamic Technology

Physical characteristics chart

TYPE	SECTION	APPLICATION	MAX. DIMENSIONS (mm)		MAX. OPERATING PRESSURE (bar)	MAX. OPERATING TEMPERATURE (°C)
			Diameter	Thickness		
C		Flange male-female	200	1.5 ÷ 5	100	550
MP 10		Heat exchangers, steam and fluid seal	4000	2 ÷ 10	100	550
MP 10A		Heat exchangers, steam and fluid seal	4000	3 ÷ 5	100	550
MP 12		Big flanges, not ideal flat	4000	2 ÷ 10	100	550
MP 14		Heat exchangers, steam and fluid seal	4000	2 ÷ 10	100	550
MP 16		Gas and vapour seals	4000	2 ÷ 15	100	550
MP 18		Gas and vapour seals	4000	2 ÷ 15	100	550
MP 19		Valve covers and vacuum seals	4000	2 ÷ 4	100	550
MP 22		Steam (vapour) and fluid seal	2000	2 ÷ 5	100	700

Corrugated gaskets

Material advantages

There are different types of metal gaskets - flat, grooved, tongue and sectional ones. The corrugated metal gaskets have been proven to be both reliable and cost-effective for the application on flanges and heads where bolt loading is sufficient. They are particularly useful when compressibility is not a factor and where sufficient clamping force is available.

The corrugated metal gaskets are used in low-pressure applications and in gas ducts at high temperatures. The use of corrugated gaskets eliminates the problem of difficult handling with large non-metal gaskets used in those applications. They are suitable for gas pipes and valve caps, or wherever acids, oils and chemicals are found.

The metal gaskets are produced in several types to meet the most demanding applications with almost no limitations regarding size and shapes: round, oval, rectangular etc. Corrugated gaskets are known for its outstanding mechanical strength and thermal conductivity, capable of withstanding high temperatures..

Areas of application

REFRIGERATION AND COOLING

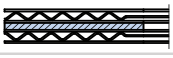
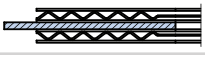
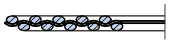
HIGH TEMP. APPLICATIONS

POWER PLANTS

Material standards & Composition

Material	ASTM	EN (DIN) Material No.
Low carbon steel	Soft iron (CS)	10333
Stainless steel	AISI 304	14301
Stainless steel	AISI 309	14828
Stainless steel	AISI 316, AISI 316L	1.4401 1.4404
Stainless steel	AISI 316Ti	14571

Physical characteristics chart

TYPE	SECTION	APPLICATION	MAX. DIMENSIONS (mm)		MAX. OPERATING PRESSURE (bar)	MAX. OPERATING TEMPERATURE (°C)
			Diameter	Thickness		
MW 12		Low pressure applications, space limitations	2000	1.2 ÷ 1.5	50	550
MW 12A		Low pressure applications, higher temperatures, gas ducts	2000	3 ÷ 5	50	550
MW 12AE		Low pressure applications, higher temperatures, gas ducts	2000	4 ÷ 5	50	550
MW 13A		Low pressure applications, higher temperatures, gas ducts	2000	5 ÷ 5	50	550
MW 22A		Flanges with large diameter, process industry	4000	8 ÷ 12	50	550
MW 23A		Flanges with large diameter, process industry	4000	8 ÷ 12	50	550
MW 12C		Flanges with large diameter, process industry	2000	5 ÷ 8	50	550

METALLIC GASKETS

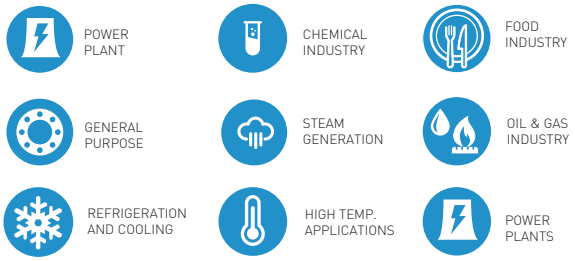
Ring type joint gaskets

Material advantages

The metallic ring joint gaskets are manufactured according to the API 6A and ASME B16.20 standards for application at elevated temperatures and pressures. The small sealing area with high contact pressure results in great reliability.

Some types of ring joints are pressure activated, which means, the higher the pressure the better the sealability. Ring joint gaskets have been designed to withstand exceptionally high assembly loads over a small area, thus producing high seating stresses.
The ring joint gaskets are produced in several shapes and sizes to meet the most demanding applications.

Areas of application



Materials

Standard materials recommended by the ASME B16.20

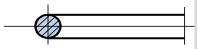
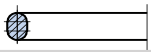
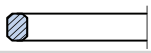
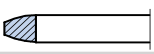
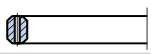
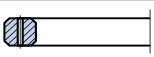
ASTM	EN Material No.	Maximum HB "Brinell"	Maximum HRb "Rockwell B"	Material code
Soft Iron	11.003	90	56	D
Low carbon steel	10.038	120	68	S
4-6 chrome ½ Mo	1.7362 (AISI 501)	130	72	F5
AISI 410	14.000	170	86	S410
AISI 304	14.301	160	83	S304
AISI 316	14.401	160	83	S316

Dimensions

Standard dimensions for ring joint gaskets used with flanges:

Ring joints gaskets type	Ring joints gaskets standard	Flange standard
R	ASME B16.20, API 6A	ASME B16.5, ASME B16.47
RX	ASME B16.20, API 6A	API 6B
BX	API 6A	API 6BX

Physical characteristics chart

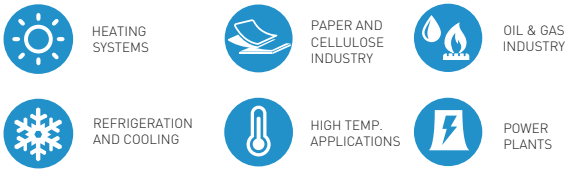
TYPE	SECTION	APPLICATION	MAX. DIMENSIONS (mm)		MAX. OPERATING PRESSURE (bar)	MAX. OPERATING TEMPERATURE (°C)
			Diameter	Thickness		
M 14		Air and gas compressors	1000	30	160	500
M 15-R		High temperature and pressure	1000	11.18 ÷ 44.45	700	1000
M 16-R		High temperature and pressure	1000	9.65 ÷ 41.4	700	1000
M 17-L		High temperature and pressure	1000	8 ÷ 50	320	600
M 18-RX		High temperature and pressure	600	19.05 ÷ 25.4	700	1000
M 19-BX		High temperature and pressure	850	9.30 ÷ 39.84	1500	1000

DELTA-V SEAL

Material properties

Designed to replace Spiral Wound and Kamm-profile gaskets its fully metal design is robust and easy to handle, enabling a simple, gas-tight installation that is guaranteed to be maintenance-free for the long term. Once installed the connection is non-ductile, static, and never requires re-tightening of bolts or fasteners to maintain tightness. Galvanic corrosion is also mitigated by manufacturing the DeltaV-Seal from a compatible material as the connecting flanges. Delta-V delivers versatility, durability and complete peace of mind.

Areas of application



Delta-V Seal™ the tightest, safest and most durable flange gasket in the world.

The Delta-V Seal is a one-piece, CNC manufactured gasket made from a compatible metal as the flanges it mates with. It boasts three unique, sharp sealing rings that deform on installation, filling any surface irregularities on pipe flanges to form the perfect seal. requirredseating force for the material to flow effectively is lower than for any spiral wound gasket. Once placed between the connecting flanges, a permanent static and leak-proof seal is created.

DYNOTEQ Dynamic Technology

DYNOPACK BRAIDED PACKINGS

Static packing

	Dynopack 7000
Material	ECO fiberglass braided cord seal
Temperature	Max. resistance **600 °C**

	Dynopack 8100
Material	Inconel-reinforced ceramic fiber braided cord seal
Temperature	Max. resistance **1260 °C**

Dynamic packing

	Dynopack 1001
Material	Fat-soaked braided cotton cord seal
Temperature	Max. resistance **80 °C**

T (°C)		80	
P (bar)	60	10	10
S (m/s)	1	1,5	10
pH		6-9	

T (°C)		-100 +280	
P (bar)	200	100	50
S (m/s)	1,5	3	15
pH		3-12	

	Dynopack 2002
Material	With PTFE granules impregnated silicone oil lubricated, continuous aramid fibrous braided cord
Temperature	Max. resistance **280 °C**

	Dynopack 3002
Material	Impregnated with PTFE granules, lubricated with silicone oil, clear PTFE fiber braided cord seal
Temperature	Max. resistance **250 °C**

T (°C)		-200 +260	
P (bar)	50	30	20
S (m/s)	1	2	12
pH		0-14	

T (°C)		-200 +280	
P (bar)	200	100	35
S (m/s)	1	2	25
pH		14	

	Dynopack 3100
Material	Special PTFE graphite fibrous braided cord seal
Temperature	Max. resistance **280 °C**

	Dynopack 3100
Material	Special PTFE graphite fibrous braided cord seal
Temperature	Max. resistance **280 °C**

T (°C)		-200 +280	
P (bar)	200	100	35
S (m/s)	1	2	25
pH		14	

T (°C)		-200 +450	
P (bar)	300	100	30
S (m/s)	2	2	20
pH		0-14	

	Dynopack 3110
Material	Aramid edge reinforced, special PTFE graphite fibrous braided cord seal
Temperature	Max. resistance **280 °C**

SLADE© PACKINGS

About Slade: Manufacturing of Patented Graphite Yarns

Slade manufactures all of its own patented graphite yarns. The advantage is that each individual strand has itsown unique core made of high tensile carbon fiber. The graphite yarns are protected by US and EU patents. Theywere developed to conduct heat like steel alloys, to transfer the heat away from the pump shaft and valve stem.

SEALING THE VALVE AND PUMP STUFFING BOX

When Slade Foil cut rings are compressed more than 25% and die-formed sealing rings are compressed from 15-20% (the denser the better), die-formed density is achieved in the stuffing box. This forms a "heat sink" in the stuffing box, eliminating the need for flush-water to cool the pump shaft sleeve in most applications. Inaddition, Slade reduces the number of oxidation sites in the packing graphite yarns so that 3300G can be usedwith more severe temperature and chemical applications than competitor's packings.

We have been the trusted partner of Slade for more than 12 years.

Slade 3300C

Material properties

Reinforcement	Temperature	Pressure	Advantages	Applications
Each yarn of graphite foil is reinforced with high strength structural carbon fiber.	Non-oxidizers: -400°F/-240°C to 5400°F/3000°C Mild Oxidizers to 1800°F/1000°C	Valves to 1000 PSI/70 BAR (for higher pressures, consult factory)	Reduces water and energy consumption, Runs leak-free, Works well on worn sleeves Can be run flush-free in non-abrasive applications, Mild flush in abrasive applications	Pumps, valves, mixers, Nuclear and Hydro-Electric Plants & other rotating equipment
pH range	1 - 14			
3300 LC	Low chloride, high purity for nuclear service			
3300 LS	Low sulfur, high purity for nuclear service			

Slade 3300G

Material properties

Reinforcement	Temperature	Pressure	Advantages	Applications
Corners and yarns of graphite foil reinforced with high strength structural carbon fiber.	Non-oxidizers: -400°F/-240°C to 5400°F/3000°C . Mild Oxidizers to 1800°F/1000°C.	Valves to 5000 PSI/350 BAR without end-rings.	Single packing inventory, Eliminates flush-water and leaks, Amperage reduction of 15% is typical, Outlasts typical packings by factor of 6, 4800 fpm/24 ms (without flush)	Petrochemical Oil & Gas, Pulp & Paper, Nuclear and Hydro-Electric Plants & other rotating equipment
pH range	1 - 14			
3300 LC	Low chloride, high purity for nuclear service			
3300 LS	Low sulfur, high purity for nuclear service			

PYRO-TEX GASKET MATERIAL

Woven gasket sheets

Material advantages

A resilient, compressed sheet reinforced with Flat Metal. Surface nodules promote flexibility and flow into oxidized surfaces, scratches, pores and steam cuts. Flat metallic leaf springs, jacketed with graphite foil, make this 80'' x 80'' sheet the most resilient gasket you will need.
It takes rough handling like no other graphite foil, handling and feeling like tough leather.
Pyro-Tex gasket sheet eliminates the need for a compressing ring to prevent crushing.
Layering of sheets allows for greater thicknesses.

Ready to be cut for use in severe conditions. Die cut or shears to shape, do NOT use circle cutters.

Areas of application

POWER PLANTS
CHEMICAL INDUSTRIES
FOOD INDUSTRY
INDUSTRIAL PUMPS
PAPER AND CELLULOSE INDUSTRY
OIL & GAS INDUSTRY

Joint Sealant HP

Material properties

HP (high-pressure) Joint Sealant is made from the same patented stainless-steel foil yarns as our sheet (also available with carbon fiber reinforcement). Available in 25 and 50 foot spools in various configurations, shapes, and thicknesses. Can be made to virtually any thickness or width with individual strands reinforced with 304 SS or Inconel foil.

Areas of application

GENERAL PURPOSE
HIGH TEMP. APPLICATIONS
POWER PLANTS
INDUSTRIAL PUMPS
CHEMICAL INDUSTRY
OIL & GAS INDUSTRY

Material advantages

>> Change gasket without pulling tube bundles,
>> Adhesive bonds in place during installation
>> Self forms into endless gasket
>> Never hardens or dries out
>> Re-adjustable, often re-usable
>> Eliminates the need to remove heat exchanger
>> tubes from the shell
>> Stops damage from rough handling
>> Adjusts to warped flanges
>> Fills pits and scratches up to 1/8'' deep

Max. operating conditions

Max. Temperature	°C	over 540
Max. Pressure	Psi	4500 (stainless, inconel)

*The pressure/temperature shown above can not be used simultaneously.

SOOT BLOWER PACKING

SLADE soot blower packing sets

Material properties

Slade offers the best, most reliable Soot Blower seal technology, combining carbon fiber reinforced graphite foil with composite bearing rings. Sealing soot blowers under the toughest service conditions for extended service life and equipment reliability. Tests have proven the extended life of Slade Soot Blower Packing Sets with minimal wear and less amperage – even in extreme conditions outside typical usage.

Material advantages

>> Self-Lubricating: Graphite Foil Sealing Rings lubricate by filling pits, pores, scratches & machine marks with a micro finish of graphite.
>> High Density: No voids to trap condensed steam. High density carbon fiber reinforced graphite foil
prevents the formation of condensed steam pockets during cool-down which eliminates the destructive effect of rapidly expanding steam during heat-up.
>> Lubricated Bearing Support: The bearing surface formed by the graphite composite supports the feed tube when in cantilevered positions.
>> Deployment of Gland Stress: Deployed where it's needed most! The graphite/alloy rings deploy gland stress where it is needed most, at the leading edge of the first seal ring.
>> Alloy/Graphite Composite Rings: Protects the feed tube surfaces to reduce wear, platelets of a Slade solid high temperature lubricant impale themselves on micro-jagged surfaces to prevent tearing of the packing sets.

Area of application

POWER PLANTS

EGC SOLUTIONS

Material properties

DYNOTEQ is a trusted partner of EGC for more than 7 years now.
A thorough understanding of flexible graphite is part of our joint core philosophy. It attracts some of the best engineering minds in the business and makes EGC truly unique. It's having a focus on properties and capabilities and knowing its creep rate, clamping load, and its ability to seal long term in spite of temperature. It's having a firm handle on thermal management alternatives to conventional heating elements – customized solutions that provide faster time-to-temperature, more efficient transfer of heat and more uniform heat distribution.

Area of application

POWER PLANTS

EGC Engineered solutions - Experts in Flexible Graphite Technologies

VSG Graphite Pressure Seal

The answer to a cost-effective alternative high pressure valve seal is flexible graphite. It's soft and resilient and can micro-seal a surface.

Material advantages

>> **Lower Total Operating Cost** – both considering cost and maintenance cost
>> Trouble-free **seal removal**
>> No need to **machine or resurface** valve sealing surfaces
>> EGC pressure-seals install quickly and easily conforms to **irregular surfaces**
>> EGC pressure-seals require significantly **lower loads to seal**
>> EGC is the only graphite pressure seal **tested and approved** for the US Naval Standards

Disclaimer:

All testings are done by external institutes and re-confirmed by end-users. The competitive product is one of the leading producers. All information is based on years of experience in production and operation of sealing elements. However, in view of the wide variety of possible installation and operating conditions one cannot draw final conclusions in all application cases regarding the behaviour in gasket joint. The data may not, therefore, be used to support any warranty claims. This edition cancels all previous issues. Subject to change without notice.

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