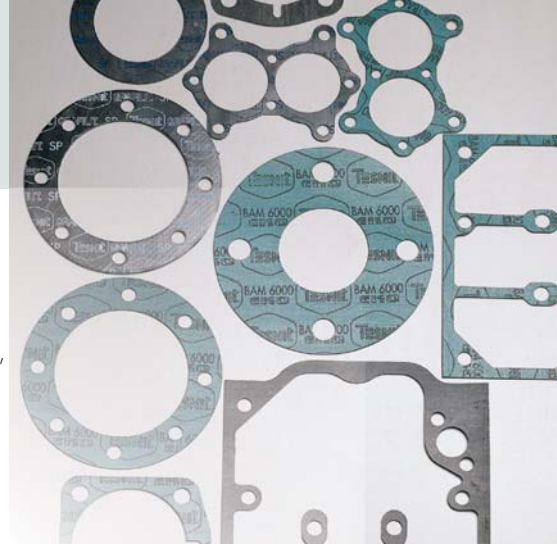


7. NON METALLIC FLAT GASKETS



PROPERTIES AND APPLICATION

The non-metallic or flat gaskets are the most typical ones from the family of flat static gaskets. They are used in a large number by various industries and in a variety of applications. Soft gaskets are made of non-asbestos (CSF), graphite, PTFE, mica, aramide/graphite and rubber sealing materials. Available are standard and nonstandard gasket design.

Gasket materials and application

Coppresed-S. Line	Basis	Max. T [C°/F°]		Max. P [bar/psi]	Application and properties
		• Peak	• Continuous		
BA-202	Organic fibres, NBR	• Peak • Continuous	180/356 140/284	40/580	for lower loadings, good resistance to water, gases, oils, fuels
BA-203	Aramid fibres, NBR	• Peak • Continuous	250/482 200/392	50/725	for medium loading, good resistance to water, gases, oils, fuels
BA-50	Aramid fibres, NBR	• Peak • Continuous	280/536 220/428	80/1160	good dynamic resistance for higher loading, gas, food industry
BA-55	Syntetic fibres, NBR	• Peak • Continuous	350/662 270/518	100/1450	excellent thermal properties and good steam resistance, economical quality for wide field of application
BA-U	Aramid fibres, NBR	• Peak • Continuous	350/662 250/482	100/1450	general use
BA-GL	Glass fibres, NBR	• Peak • Continuous	440/824 350/662	100/1450	very good thermal properties and excellent torque retention
BA-CF	Carbon fibres, NBR	• Peak • Continuous	400/752 300/572	100/1450	resistance to steam and alkaline media, chemical and petrochemical industry
BA-Auto	Aramid fibres, SBR	• Peak • Continuous	280/536 220/428	80/1160	controlled swell properties in oil, automotive industry
BA-N	Aramid fibres, CR	• Peak • Continuous	350/662 270/518	100/1450	resistance to refrigerant, general use
BA-C	Aramid fibres, CSM	• Peak • Continuous	200/392 150/302	60/870	excellent resistance to acids and alkaline media
BA-R	Aramide fibres, NBR/SBR, wire reinforced	• Peak • Continuous	400/752 350/662	140/2030	great strenght, for dynamic loadings, automotive and petrochemical industry, shipyards
BA-R300	Inorganic fibres, NBR, special reinforced	• Peak • Continuous	550/1022 450/842		excellent dynamic and thermal resistance, automotive and petrochemical industry, shipyards
BA-R302	Inorganic fibres, NBR, special reinforcement	• Peak • Continuous	650/1202 600/1112		extreme dynamic and thermal resistance, automotive and petrochemical industry, shipyards
BA-U R200	Aramid fibres, NBR, Expanded metal	• Continuous	300/572	140/2030	improved strenght, for dynamic loadings, high pressure applications, district heating, ship's piping system

High Performance Line	Basis	Max. T [C°/F°]		Max. P [bar/psi]	Application and properties
		• Peak	• Continuous		
BAU 2000	Aramid fibres, NBR	• Peak • Continuous	400/752 280/536	140/2030	environment friendly gasket material with specially balanced sealing, thermal, chemical and mechanical properties allows universal use
BAGL 3000	Glass fibres, NBR	• Peak • Continuous	440/824 350/662	120/1740	environment friendly gasket material with excellent torque retention and thermal resistance
BACF 4000	Carbon fibres, NBR	• Peak • Continuous	440/824 350/662	120/1740	environment friendly gasket material with very good resistance to strong alkaline media and steam
BAX 5000	Aramid fibres, NBR	• Peak • Continuous	400/752 250/482	150/2175	environment friendly gasket material with supreme mechanical properties
BAM 6000	Biosoluble mineral fibres, NBR	• Peak • Continuous	440/824 350/662	120/1740	environment friendly gasket material with excellent resistance to steam and long-term steam sealability

7. NON-METALLIC FLAT GASKETS

		Basis	Max. temperature [°C / F]	Max. pressure [bar/psi]	Application and properties
Graphite sealing material					
GRAFILIT	SF	Expanded graphite	Continuous (air) 450 / 842	80 / 1160	excellent creep, strength, chemical stability
	SL	Expanded graphite, Flat stainless steel insertion		100 / 1450	excellent creep, strength, chemical stability with very good surface loadings and operating pressure
	SP	Expanded graphite, Tanged stainless steel insertion		200 / 2900	excellent creep, strength, chemical stability with very good surface loadings and operating pressure
Aramid / Graphite sealing material					
DONIFLEX	GLD	Aramid fibers, fillers and graphite	Continuous 360 / 680	100 / 1450	outstanding chemical and thermal resistance, environment friendly, steam sheet
	GMD	Aramid fibers, fillers and graphite			excellent resistance to hot water, steam and oils
	GMDr	Aramid fibers, fillers and graphite			excellent resistance to hot water, steam and oils, specially designed for radiators and boilers
	GR-A	Aramid fibers, fillers and graphite, tanged steel insert	Continuous 400 / 752	150 / 2175	excellent thermal and stress resistance for applications that require high strength and thermal integrity at extreme temperature
	GR-EM	Aramid fibers, fillers and graphite, expanded mild steel insert			exceptional radial strength, significantly improved tensile strength, resilience and other fluid resisting properties
	GR-SP	Aramid fibers, fillers and graphite, pegged AISI 316 steel core			excellent thermal and stress resistance, good adaptability, for application in automotive, petrochemical industry and exhaust systems
Elastomeric sealing products					
DONIGUM		NBR, SBR, NR, CR, BR, EPDM	depends on product type	depends on product type	various applications for low bolting loads - depends on product type
PTFE sealing materials					
DONIFLON		Virgin PTFE, Filled PTFE, Expanded PTFE	Continuous 270 / 543 Peak 315 / 588	depends on installation and working parameters	excellent resistance to strong chemicals

Temperature and pressure represent maximum values and should not be used simultaneously. They are given only as guidance, since they depend not only on the type of gasket material but also on the assembly conditions. Very important factors are thickness of material, nature of service medium, type of flange and surface stress. Steam application requires special considerations.

Request for detail product Catalogues

To obtain more information about our products do not hesitate to contact us. Any requested product Data Sheets or Catalogue will be sent to you immediately. Our highly skilled group of experts organised in the technical service department can assist you in solving practically any sealing problem.

If you need our help, contact us.

SIZE AND CONSTRUCTION-custom made gaskets

The non-metallic gaskets are produced in several sizes and shapes to meet the most demanding applications. They are available in standard and non-standard gasket design. By non-standard gasket we can provide any shape and size according to customer design or sample.

DIMENSIONS

The dimensions of our standard gaskets meet the requirements of the EN 1514-1, ANSI B16.21 or other standards. Gaskets of up to 1500 mm x 1500 mm are made from one piece, while larger ones are assembled from segments. Two kinds of splicing are used: dove-tail and bevelled (practically there is no limitation regarding gasket dimension). According to the gasket shapes and sizes all other dimensions can be manufactured upon request.

7. NON-METALLIC FLAT GASKETS

CUTTING CAPABILITIES

With our cutting technology, experience and knowledge we are able to cut almost any material. A wide range of cutting equipment provides competitive pricing and high quality regardless of the gasket size or quantity. A large range of presses, special cutting tools, CAM-CAD Water Jet, and also a skilled team for the swift production of small quantities are available. Custom-cut gaskets according to the customers own drawing and specification, samples and templates. Cutter manufacture-cutting tools are made in-house as an integral part of the production unit. There is an extensive catalogue of cutters available.

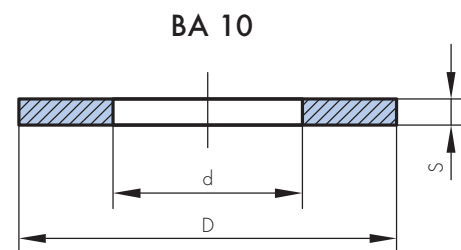
Water Jet Cutting

CAM-CAD Water Jet cutter is an excellent system for manufacturing a variety of a two-dimensional items both large and small in simple or complex shapes from a wide range of materials. Steel, rubber, aluminium are just a few of the materials that can be cut to the desired shape-drawn, programmed and stored on a CAD-system. The process will leave a smooth finish on steel with no heat affected zones and exceptional two-dimension accuracy.

STANDARDS FOR NON-METALLIC FLAT GASKETS	
Gasket Standard	Flange Standard
EN 1514-1 ASME B 16.21 (ASME B16.5)	EN 1092-1, -2, -3, -4, EN 545, EN 598, EN 969

BA 10 for raised face flanges ASME B 16.21 (ASME B16.5)

NPS (in)	d (mm)	D (mm)					
	Class (lb)	150	300	400	600	900	1500
1/2"	21.4	47.6	54	54	54	63.5	63.5
3/4"	27	57.2	66.7	66.7	66.7	69.8	69.8
1"	33.3	66.7	73	73	73	79.4	79.4
1 1/4"	42	76.2	82.5	82.5	82.5	88.9	88.9
1 1/2"	48.4	85.7	95.2	95.2	95.2	98.4	98.4
2"	60.3	104.8	111.1	111.1	111.1	142.9	142.9
2 1/2"	73	123.8	130.2	130.2	130.2	165.1	165.1
3"	88.9	136.5	149.2	149.2	149.2	168.3	174.6
3 1/2"	101.6	161.9	165.1	161	161		
4"	114.3	174.6	181	177.8	193.7	206.4	209.5
5"	141.3	196.8	215.9	212.7	241.3	247.6	254
6"	168.3	222.2	250.8	247.6	266.7	288.9	282.6
8"	219.1	279.4	308	304.8	320.7	358.8	352.4
10"	273	339.7	362	358.8	400	435	435
12"	323.8	409.6	422.3	419.1	457.2	498.5	520.7
14"	355.6	450.9	485.8	482.6	492.1	520.7	577.8
16"	406.4	514.4	539.7	536.6	565.1	574.7	641.3
18"	457.2	549.3	596.9	593.7	612.8	638.2	704.8
20"	508	606.4	654	647.7	682.6	698.5	755.7
22"	558.8	660.4	704.9	701.7	733.4		
24"	609.6	717.5	774.7	768.3	790.6	838.2	901.7
26"	660.4	774	835	831.9	866.8	882.6	
28"	711.2	831.9	898.5	892.2	914.4	946.1	
30"	762	882.7	952.5	946.2	971.6	1010	
32"	812.8	939.8	1006	1003	1022	1073	
34"	863.6	990.6	1057	1054	1073	1037	
36"	914.4	1047.	1118	1118	1130	1200	
38"	965.2	1111.3					
40"	1016	1162.1					
42"	1066.	1219.					
44"	1117.5	1276					
46"	1169.6	1327					
48"	1220	1384					
50"	1270	1435					
52"	1320	1492					
54"	1372	1549					
56"	1422	1606					
58"	1475	1663					
60"	1525	1714					



TOLERANCES:

(mm)	up to 600	over 600
d	±0.4	+ 0 - 3.2
D	±0.4	+ 0 - 3.2

7. NON-METALLIC FLAT GASKETS

BA 10 for EN 1092-1 flanges

DN (mm)	d (mm)	D (mm)							
	PN Class	PN 2.5	PN 6	PN 10	PN 16	PN 25	PN 40	PN 64	PN 100
10	18	38	38	45	45	45	45	56	56
15	22	43	43	50	50	50	50	61	61
20	28	53	53	60	60	60	60	72	72
25	35	63	63	70	70	70	70	82	82
32	43	75	75	82	82	82	82	88	88
40	49	85	85	92	92	92	92	103	103
50	61	95	95	107	107	107	107	113	120
65	77	115	115	127	127	127	127	138	145
80	90	132	132	142	142	142	142	148	155
100	115	152	152	162	162	168	168	175	180
125	141	182	182	192	192	195	195	210	217
150	169	207	207	218	218	225	225	247	257
175	195	237	237	248	248	255	267	277	287
200	220	262	262	273	273	285	292	309	324
250	274	318	318	328	330	342	353	364	391
300	325	373	373	378	385	402	418	424	458
350	368	423	423	438	445	458	475	486	512
400	420	473	473	490	497	515	547	543	627
450	470	528	528	540	557	565	572	588	704
500	520	578	578	595	618	625	628	657	813
600	620	680	680	695	735	730	745	764	950
700	720	785	785	810	805	830	850	879	
800	820	890	890	915	910	940	970	988	
900	920	990	990	1015	1010	1040	1080	1108	
1000	1020	1090	1090	1120	1125	1150	1190	1220	
1200	1220	1290	1305	1340	1340	1360	1395		
1400	1420	1490	1520	1545	1540	1575	1615		
1600	1620	1700	1720	1770	1760	1795	1830		
1800	1820	1900	1930	1970	1960	2000			
2000	2020	2100	2135	2180	2165	2230			
2200	2220	2305	2345	2380	2375				
2400	2420	2505	2555	2590	2585				
2600	2620	2705	2760	2790	2785				
2800	2820	2920	2970	3010					
3000	3020	3120	3170	3225					
3200	3220	3320	3380						
3400	3420	3520	3590						
3600	3620	3730	3800						
3800	3820	3930							
4000	4020	4130							

TOLERANCES:

(mm)	up to 600	over 600
d	±0.4	+ 0 - 3.2
D	±0.4	+ 0 - 3.2

GASKET ORDERING EXAMPLE

EN 1514-1, DN 65, PN 16, Form FF,
material TESNIT BA-U, 2 mm

ASME B 16.21, 4 - 300 lbs, Form RF,
material TESNIT BAM 6000, 2 mm