

rubber gasket

gasket spec

description

rubber is material, which is retrieve from natural rubber or synthetic rubber adding catalytic agent and by action of heat.

kind of rubbers

Acrylonitrile butadiene rubber - NBR

NBR is polymer from acrylonitrile and butadiene. the amount of acrylonitrile is between 18% and 50%. NBR is resistance to swelling in mineral oils, greases, fuels, aliphatic hydro-carbons, hydraulic fluids, vegetable and animal fats, hot water, inorganic acids and bases. the temperature application is from -30°C up to 100°C, in short time period up to 130°C.

Hydrogenated acrylonitrile butadiene rubber - HNBR

HNBR is obtaining from normal NBR polymers by full or partial hydration of the double bonded butadiene components. in this way the heat and oxidation stability increases with peroxide cross linking. the material produced feature high mechanical strength and improved abrasion resistance. mediums resistance is the same like NBR, but the temperature range is from -30°C up to 150°C.

Silicon rubber

Vinyl methyl polysiloxane - VMQ, Phenyl vinyl methyl polysiloxane - PVMQ. silicones are polymer organosiloxanes that feature high thermal resistance, good low temperature flexibility, good dielectric properties, very good resistance to attack from oxygen and ozone, low temperature dependency of the technological properties. permeability for gases is higher then for other elastomers at the room temperature. the material is broken down with the release of oxygen at high temperatures due to de-polymerisation. silicones are resistance the swelling in mineral oils, brake fluids, aqueous salt solutions, monohydric and polyhydric alcohols and water up to 100°C. a thermal application is possible from -60°C up to 200°C, in short time period up to 230°C.

Fluorosilicone rubber fluoromethyl polysiloxane - FVMQ

FVMQ is fluoromethyl silicone rubber with groups containing fluorine. elastomers made this synthetic rubber are significantly more resistance to swelling in fuels, mineral and synthetic oils than those made of silicone rubber. the thermal application is from -80°C up to 175°C. by means of the polymerization of vinylidene fluoride and alternatively, the use of variable proportions of hexafluoropropylene, tetrafluoroethylene, 1-hydro pentafluoropropylene and perfluoro methyl vinyl ether, it is possible to manufacture copolymers, terpolymers or tetrapolymers with varying structure and the fluorine content of 65-71%, and as a result different mediums resistance and low temperature flexibility cross linking is performed either with diamine, bisphenols or organic peroxide. the special advantages of this material are its high temperature resistance and chemical stability. gas permeability is low; in a vacuum has a minimal weight loss. the ozone, weathering, and light crack resistance is very good, as is flame resistance. FKM is resistance to swelling mineral oils, greases, fuels, aliphatic and aromatic hydro carbons, fire retardants, hydraulic liquids, synthetic aviation engine oils, alcohols, hot water, steam and so on. the thermal application is from -20°C to 200°C.

Fluoro elastomer – FKM – Viton

with the use of specially perfluorinated monomers and corresponding compounding and process techniques, material with highly elastic properties can be manufactured that come very close to PTFE in their mediums and thermal resistance. seals and perfluoro elastomer are used everywhere where extreme safety standards apply, and a high maintenance and repair effort outweighs the price for the seals. preferred fields are the chemical industry, oil production and processing industry, appliance manufacturing and power station applications, as well as for aerospace project. a thermal application is from -15°C to 175°C.

**Perfluoro elastomer – FFKM – Kalrez**

with the use of specially perfluorinated monomers and corresponding compounding and process techniques, material with highly elastic properties can be manufactured that come very close to PTFE in their mediums and thermal resistance. seals and perfluoro elastomer are used everywhere where extreme safety standards apply, and a high maintenance and repair effort outweighs the price for the seals. preferred fields are the chemical industry, oil production and processing industry, appliance manufacturing and power station applications, as well as for aerospace project. a thermal application is from -15°C to 175°C.

Natural rubber – NR

NR is a high polymer isoprene. the vulcanization feature is high mechanical strength and elasticity as well as good low temperature behaviour. they are therefore preferred for the production of torsion vibrations dampers, engine mounts, machine mounting, rubber metal spring components, diaphragms and moulded parts. NR is resistance to swelling in low concentrating acids and bases, alcohols, water and brake fluids on a glycol ether base. the thermal application is from -60°C to 80°C.

Styrene butadiene rubber – SBR

SBR is a polymer made of butadiene and styrene. materials made of SBR are preferred for the manufactured of sealing components for hydraulic brakes. SBR is resistance to swelling in inorganic and organic acids and bases, alcohols, water and brake fluids on the glycol ether base. the thermal application is from -50°C to 100°C.

Ethylene propylene diene rubber – EPDM

precision moulded parts and sealing components made of EPDM are preferably used in washing machines, dishwashers and water fittings. likewise, seals made of this material are used in hydraulic systems with fire retardant fluids of groups HFC and HFD and in hydraulic brake systems. elastomer made of EPDM has very good ozone, ageing and weathering resistance and therefore are very well suited to the manufacture of profile strips and sealing strips subjected to the weather. EPDM is resistance to swelling in hot water, steam, washing lye, oxidising mediums, acids, bases, polar organic mediums, ketones, fire retardant hydraulic fluids of group HFC and some types of group HFD, brake fluids on a glycol ether base. the thermal application is from -50°C to 150°C.

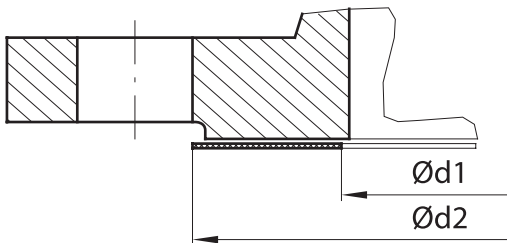
level of sealing surfaces

3,2 - 6,3 µm Ra

the sealing surfaces would be in a parallel way together, so as the deviation value wasn't greater then 0,4mm per all sealing surface. the sealing surfaces would be uniplanar, so as the deviation value wasn't greater then 0,2mm per width of gasket.

dimensions of rubber gasket

according to EN1514-1 type IBC - raised face



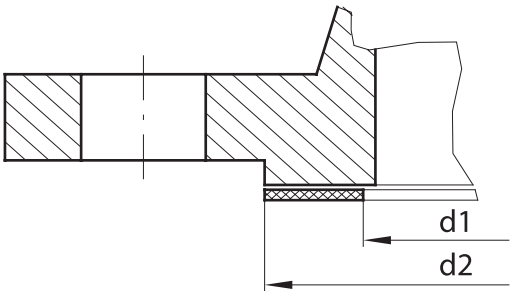
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	d1	d2						d1	d2
		PN 2,5	PN 6	PN 10	PN 16	PN 25	PN 40	PN63	
10	18	39	39	46	46	46	46	18	56
15	22	44	44	51	51	51	51	21	61
20	27	54	54	61	61	61	61	25	72
25	34	64	64	71	71	71	71	30	82
32	43	76	76	82	82	82	82	41	88
40	49	86	86	92	92	92	92	47	103
50	61	96	96	107	107	107	107	59	113
60	72	-	106	117	117	117	117	68	123



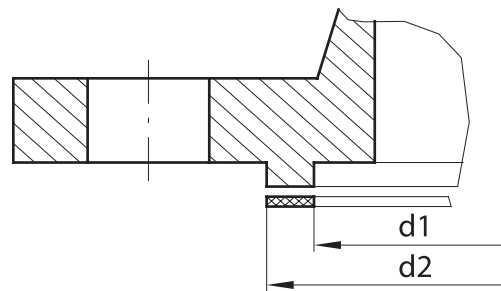
DN	IBC -raised face								
	d1	d2						d1	d2
		PN 2,5	PN 6	PN 10	PN 16	PN 25	PN 40	PN63	
65	77	116	116	127	127	127	127	73	138
80	89	132	132	142	142	142	142	86	148
100	115	152	152	162	162	168	168	110	174
125	141	182	182	192	192	194	194	135	210
150	169	207	207	218	218	224	224	163	247
175	-	-	-	-	-	-	-	185	277
200	220	262	262	273	273	284	290	210	309
250	273	317	317	328	329	340	352	264	364
300	324	373	373	378	384	400	417	314	424
350	356	423	423	438	444	457	474	360	486
400	407	473	473	489	495	514	546	415	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		
700	712	784	784	810	804	833			
800	813	890	890	917	911	942			
900	915	990	990	1017	1011	1042			
1000	1016	1090	1090	1124	1128	1154			
1100	1120	-	-	1231	1228	1254			
1200	1220	1290	1307	1341	1342	1364			
1400	1420	1490	1524	1548	1542	1578			
1500	1520	-	-	1658	1654	1668			
1600	1620	1700	1724	1772	1764	1798			
1800	1820	1900	1931	1972	1964	2000			
2000	2020	2100	2138	2182	2168	2230			
2200	2220	2307	2384	2384					
2400	2420	2507	2558	2594					
2600	2620	2707	2762	2794					
2800	2820	2924	2972	3014					
3000	3020	3124	3172	3228					
3200	3220	3324	3382						
3400	3420	3524	3592						
3600	3620	3734	3804						
3800	3820	3931							
4000	4020	4131							



according to EN1514-1 type SR -male female



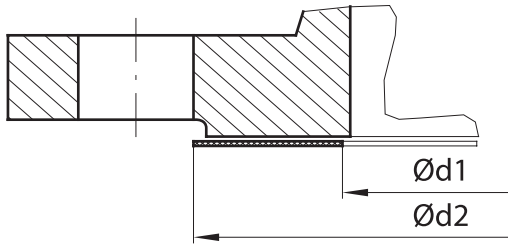
according to EN1514-1 type TG - tongue groove



DN	SR - male female	
	d1	d2
10	18	34
15	22	39
20	27	50
25	34	57
32	43	65
40	49	75
50	61	87
65	77	109
80	89	120
100	115	149
125	141	175
150	169	203
200	220	259
250	273	312
300	324	363
350	356	421
400	407	473
450	458	523
500	508	575
600	610	675
700	712	777
800	813	882
900	915	987
1000	1016	1092

DN	TG - tongue groove	
	d1	d2
10	24	34
15	29	39
20	36	50
25	43	57
32	51	65
40	61	75
50	73	87
65	95	109
80	106	120
100	129	149
125	155	175
150	183	203
200	239	259
250	292	312
300	343	363
350	395	421
400	447	473
450	497	523
500	549	575
600	649	675
700	751	777
800	856	882
900	961	987
1000	1062	1092

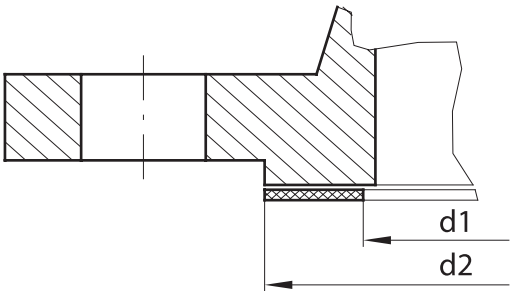
according to ASME B16.5 raised face



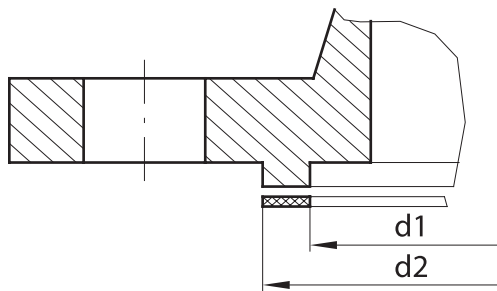
DN	RF - raised face							
	d1	d2						
		pressure class						
		150	300	400	600	900	1500	2500
1/2"	22	47	53	54	54	63	63	69
3/4"	27	57	66	66	66	69	69	76
1"	34	66	73	73	73	79	79	85
1 1/4"	43	76	82	82	82	88	88	104
1 1/2"	49	85	95	95	95	98	98	117
2"	61	104	111	111	111	142	142	146
2 1/2"	73	124	130	130	130	165	165	168
3"	89	136	149	149	149	168	174	196
3 1/2"	102	162	165	162	165	-	-	-
4"	115	174	180	175	193	206	209	234
5"	141	196	216	210	241	247	254	279
6"	169	222	251	244	266	289	282	317
8"	220	279	308	302	320	358	352	387
10"	273	339	362	355	400	435	434	476
12"	324	409	422	416	457	498	520	549
14"	356	450	485	479	492	520	577	-
16"	407	514	539	533	565	574	641	-
18"	458	549	597	590	612	638	704	-
20"	508	606	654	645	682	698	755	-
22"	550	660	705	702	733	-	-	-
24"	610	717	774	765	790	838	901	-



according to ASME B16.5 male female



according to ASME B16.5 tongue groove



DN	SR - male female	
	d1	d2
1/2"	21	35
3/4"	27	43
1"	33	51
1 1/4"	42	63
1 1/2"	48	73
2"	60	92
2 1/2"	73	105
3"	89	127
4"	114	157
5"	141	186
6"	168	216
8"	219	270
10"	273	324
12"	324	381
14"	356	413
16"	406	470
18"	457	533
20"	508	584
24"	610	692

DN	TG - tongue groove	
	d1	d2
10	24	34
15	29	39
20	36	50
25	43	57
32	51	65
40	61	75
50	73	87
65	95	109
80	106	120
100	129	149
125	155	175
150	183	203
200	239	259
250	292	312
300	343	363
350	395	421
400	447	473
450	497	523
500	549	575
600	649	675
700	751	777
800	856	882
900	961	987
1000	1062	1092