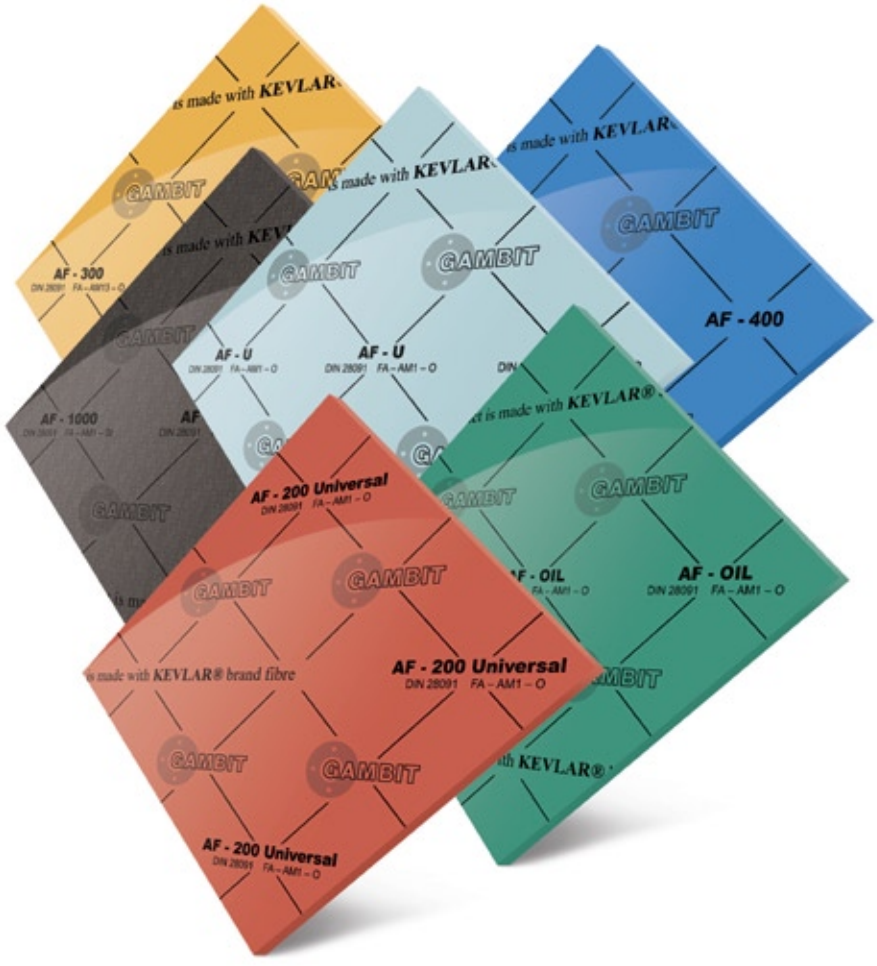
GASKET SHEETS

GAMBIT AF series asbestos-free gasket sheets are state-of-the-art materials for technical sealing of various media, and for application in a broad range of temperatures and pressures. These products are composites of top quality aramide fibres, specially composed inorganic fibres, and fillers, as well as elastomers selected for specific working conditions. Highly specialised calendering process of sheets, meeting the requirements of ISO-9001, guarantees high and stable quality.
Technical parameters of GAMBIT AF sheets meet the requirements for the majority of applications. Wherever specific working conditions prevent using GAMBIT AF sheets we offer sheets based on expanded graphite, expanded vermiculite, or PTFE. All these products offer the highest level of quality and reliability.



Chemical resistance of gasket sheets GAMBIT

Item	Chemical medium	GAMBIT AF-1000	GAMBIT AF-400	GAMBIT AF-200G	GAMBIT AF-OIL	GAMBIT AF-300	GAMBIT AF-U	GAMBIT AF-200 UNIVERSAL	GAMBIT AF-CD	GAMBIT AF-202	GAMBIT AF-153	GAMBIT SOFT	GAMBIT AF-CHEMACID	PARO-GAMBIT
1	Acetone	■	▲	▲	▲	▲	▲	▲	■	■	■	■	▲	▲
2	Alcohol, ethyl	●	●	●	●	●	●	●	●	●	●	●	●	●
3	Alcohol, methyl	●	●	●	●	●	●	●	●	●	●	●	●	●
4	Ammonia	▲	●	●	●	▲	●	●	■	■	■	■	●	●
5	Aniline	■	■	■	■	▲	■	■	■	■	■	■	■	■
6	Benzene	▲	●	●	●	■	●	●	■	■	■	■	■	●
7	Gasoline	●	●	●	●	▲	●	●	●	●	▲	▲	▲	●
8	Chloride (wet)	■	▲	▲	▲	■	■	■	■	■	■	■	■	▲
9	Chloride (dry)	■	▲	▲	▲	▲	▲	▲	■	■	■	■	▲	▲
10	Chloroform	▲	▲	▲	▲	■	▲	▲	■	■	■	■	▲	▲
11	Cyclohexanone	▲	▲	▲	▲	■	▲	▲	■	■	■	■	▲	▲
12	Ethane	■	●	●	●	●	●	●	●	●	▲	▲	●	●
13	Phenol	■	▲	■	▲	■	▲	▲	■	■	■	■	▲	▲
14	Freon 11 and 12	■	●	●	●	▲	●	●	■	▲	■	■	●	●
15	Freon 22	■	▲	▲	▲	■	▲	▲	■	■	■	■	▲	▲
16	Ethylene glycol	●	●	●	●	●	●	●	●	●	●	●	●	●
17	Nitric acid 20%	■	▲	■	▲	▲	▲	▲	■	■	■	■	●	▲
18	Nitric acid 40%	■	▲	■	▲	▲	▲	▲	■	■	■	■	▲	▲
19	Phosphoric acid	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	▲
20	Formic acid	■	●	●	●	●	●	●	■	▲	■	■	●	●
21	Acetic acid	■	●	●	●	●	●	●	▲	▲	▲	▲	●	●
22	Sulfuric acid 20%	■	●	●	●	●	●	●	■	■	■	■	●	●
23	Fuming sulfuric acid	■	▲	■	▲	▲	▲	▲	■	■	■	■	▲	▲
24	Sulfuric acid 65%	■	▲	▲	■	■	■	■	■	■	■	■	●	▲
25	Hydrochloric acid 20%	■	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	▲
26	Hydrochloric acid 36%	■	▲	▲	■	■	■	■	■	■	■	■	●	■
27	Soap	●	●	●	●	●	●	●	●	●	●	●	●	●
28	Potassium permanganate	▲	●	▲	●	▲	●	●	▲	▲	▲	▲	●	●
29	Kerosene	▲	●	●	●	●	●	●	●	▲	▲	▲	▲	●
30	Ethyl acetate	■	▲	▲	▲	▲	▲	▲	■	■	■	■	▲	▲
31	Hydraulic oil Phosphate ester type	▲	●	●	●	▲	●	●	●	▲	▲	▲	●	●
32	Hydraulic oil Phosph. esters	▲	▲	▲	▲	■	▲	▲	■	■	■	■	▲	▲
33	Silicone oil	●	●	●	●	●	●	●	●	●	●	●	●	●
34	Air	●	●	●	●	●	●	●	●	●	●	●	●	●
35	Trichloroethylene	▲	▲	▲	▲	■	▲	▲	■	■	■	■	▲	▲
36	Water	●	●	●	●	●	●	●	●	●	●	●	●	●
37	Sea water	■	●	●	●	●	●	●	●	●	●	●	●	●
38	Ammonium hydroxide	▲	●	●	●	●	●	●	▲	▲	▲	▲	●	●
39	Potassium hydroxide	▲	▲	▲	▲	▲	▲	▲	■	▲	■	■	▲	▲
40	Sodium hydroxide	▲	▲	▲	▲	▲	▲	▲	■	▲	■	■	▲	▲
41	Calcium hydroxide	▲	●	●	●	●	●	●	▲	●	▲	▲	●	●

● Suitable for use. ▲ Can be used only after successful trials under working conditions. ■ Not suitable for use.

All information in this catalogue is based on years of experience in manufacture and use of the discussed products. Since sealing performance in the joint is subject to multiple factors such as mounting method, system parameters, and sealed medium, technical parameters specified herein are of informative nature only and cannot be used as grounds for any claims; any special uses of products are subject to consulting with the manufacturer.

GASKET SHEETS

Gasket sheet Gambit AF-200 UNIVERSAL

Test Results of Gambit AF–200 Universal Published on Gasketdata.org

The below tests were run according to EN 13555, the most up-to-date norm in this domain. The results confirm the quality of our products and assist the design of flanges according to norm EN 1591-1+A1:2009/AC:2011.

The results have been approved by Center of Sealing Technologies (CST) at Münster University of Applied Sciences (MUAS) and published on www.gasketdata.org together with the datasheets of the world's leading manufacturers of sealing materials.

CST is an independent laboratory focused on the research and development in the field of sealing materials in order to assist both the producers and the users.

Gasket characteristics acc. EN 13555 (05/2005) required for design calculations acc. EN 1591-1+A1:2009/AC:2011
Sealing element dimensions [mm] 92 x 49 x 2

Relaxation ratio P_{QR} for stiffness C = 500 kN/mm			
Gasket stress, MPa	Ambient temperature	Temperature 1 (175 °C)	Temperature 2 (300 °C)
Stress level 1 (30 MPa)	0,96	0,84	0,54
Stress level 2 (50 MPa)	0,97	0,78	0,57
P_{QR} at Q_{Smax} (220/60/60 MPa)	0,98	0,76	0,53

Maximal applicable gasket stress Q_{Smax}, MPa		
Q_{Smax}, MPa – ambient temperature	Q_{Smax}, MPa – temperature 1 (175 °C)	Q_{Smax}, MPa – temperature 2 (300 °C)
220	60	60

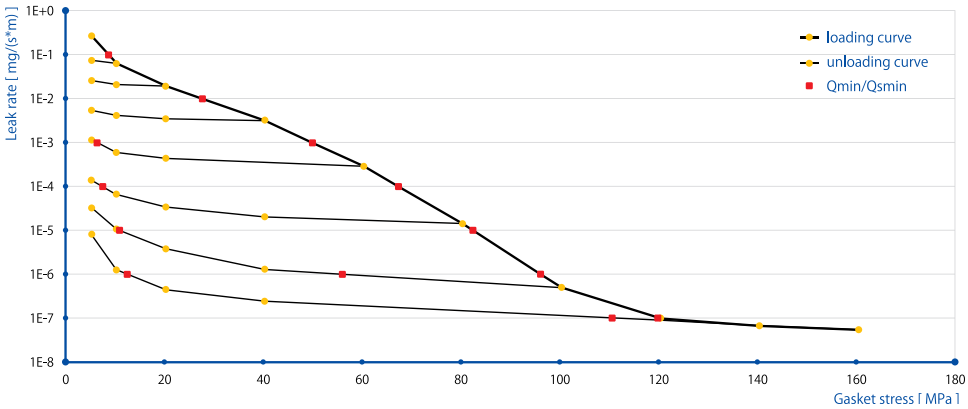
Sekant unloading modulus of the gasket E_G, MPa and gasket thickness e_G, mm						
Gasket stress, MPa	Ambient temperature		Temperature 1 (175 °C)		Temperature 2 (300 °C)	
	E_G, MPa	e_G, mm	E_G, MPa	e_G, mm	E_G, MPa	e_G, mm
0	-	-	-	-	-	-
1	-	2,134	-	2,027	-	2,036
20	1534	2,008	2314	1,880	5157	1,866
30	2547	1,982	2622	1,862	3929	1,848
40	3542	1,961	2839	1,836	3882	1,829
50	4325	1,942	3032	1,802	3981	1,806
60	4909	1,924	3252	1,761	4472	1,778
80	5837	1,891	-	-	-	-
100	6465	1,860	-	-	-	-
120	6887	1,832	-	-	-	-
140	7219	1,807	-	-	-	-
160	7401	1,783	-	-	-	-
180	7715	1,761	-	-	-	-
200	7989	1,741	-	-	-	-
220	8217	1,722	-	-	-	-

GASKET SHEETS

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{Smin(L)}$ (after off-loading) for inner pressure 10 bar										
Tightness class	$Q_{min(L)}$	$Q_{Smin(L)}$, MPa								
mg/(s x m)	MPa	Q_A 10MPa	Q_A 20 MPa	Q_A 40 MPa	Q_A 60 MPa	Q_A 80 MPa	Q_A 100 MPa	Q_A 120 MPa	Q_A 140 MPa	Q_A 160 MPa
10^0	5	5	5	5	5	5	5	-	-	5
10^{-1}	9	5	5	5	5	5	5	-	-	5
10^{-2}	28	-	-	5	5	5	5	-	-	5
10^{-3}	50	-	-	-	6	5	5	-	-	5
10^{-4}	67	-	-	-	-	7	5	-	-	5
10^{-5}	82	-	-	-	-	-	11	-	-	5
10^{-6}	96	-	-	-	-	-	56	-	-	12
10^{-7}	120	-	-	-	-	-	-	-	-	111

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{Smin(L)}$ (after off-loading) for inner pressure 40 bar										
Tightness class	$Q_{min(L)}$	$Q_{Smin(L)}$, MPa								
mg/(s x m)	MPa	Q_A 10MPa	Q_A 20 MPa	Q_A 40 MPa	Q_A 60 MPa	Q_A 80 MPa	Q_A 100 MPa	Q_A 120 MPa	Q_A 140 MPa	Q_A 160 MPa
10^0	18	-	10	5	5	5	5	-	-	5
10^{-1}	34	-	-	10	5	5	5	-	-	5
10^{-2}	52	-	-	-	12	6	5	-	-	5
10^{-3}	66	-	-	-	-	11	8	-	-	7
10^{-4}	76	-	-	-	-	33	13	-	-	9
10^{-5}	90	-	-	-	-	-	34	-	-	17
10^{-6}	116	-	-	-	-	-	-	-	-	75

Leakage - ambient temperature / inner pressure = 10 bar



Leakage - ambient temperature / inner pressure = 40 bar