RUBBER-STEEL.
Gaskets.

DESCRIPTION

Rubber-steel gaskets [G-ST] are used in bolted connections in which only low bolting forces can be realised. The elastomer properties allow on the one hand a very good adjustability to the sealing surface, on the other hand low leakage rates are achieved due to the homogeneous structure. The use of a centrally fitted, corrosion protected and vulcanised steel insert increases the blow-out resistance and stability. Therefore, the gasket is easy to handle even at large nominal widths. Extreme adhesion between steel insert and the rubber jacketing is ensured due to the vulcanisation. No moving, removal or even blow-out is possible even at the highest stress loads. The gaskets have a wide range of applications depending on the relevant elastomer and are suitable for water, water vapour, gas, air, acids, bases, hydrocarbons whilst application temperatures of up to 200 °C are possible.
Rubber-steel gaskets [G-ST] are manufactured in various shapes according to the application area and the specified flange material [e.g. steel, FRP] and can be used in off- load and main load applications.

- GS01: G-ST flange gaskets, universal application [main load]
- GS10: G-ST-P/S, universal application, ideal for flange connections made from steel-plastic and cast-plastic [main load]
- GS20: G-ST-P/OE, flexible design gasket with visible stainless steel insert [main load]
- GS30: G-ST-P/K, ideal for flange connections made from pairs of plastic compounds [main load]
- GS50: G-ST-P/KN, universal application, ideal for partially covered flanges and extreme stresses [off load]

The combination of G-ST-base body and O-Ring at the inner diameter combines the advantages of the individual elements. The sealing ring located at the force bypass clings perfectly to the sealing surface even at low surface pressures. Uneven areas and score marks, even slight adjustment tolerances are compensated. An hitherto impossible operational safety is ensured in addition to material-efficient assembly at only low necessary tightening torques. Rubber-steel gaskets comply with TA Luft when adhering to the maximum installation surface pressure.

PROPERTIES

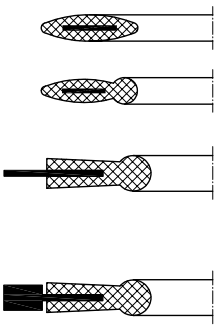
- High gas and liquid tightness even at low surface pressures
- Compensation for surface defects, very good elasticity and good recovery behaviour
- Flange and bolts can be of a weaker design
- Lifespan of plastic flange connections is significantly higher [consideration of the creep test behaviour]
- Good compensation behaviour in the event of angle deviations
- Complies with TA Luft 2002 [VDI 2440/2200] leakage requirements
- Blow-out resistant following TRBS 2152 part 2
- Very good handling during transport, installation and dismantling, mechanically stable
- Individual marking of each gasket at the outer edge
- Grooves for the sealing ring or offset-grooves on the flange are not neccessary [G-ST-P design]

APPLICATIONS

- Gaskets for pipeline flanges, device and container flanges
- Gas/water pipeline construction
- Plastic pipelines
- Rubberised flanges
- Connections sensitive to stress [e.g. glass flanges]
- Vacuum

PRODUCT RANGE

- Dimensions as per DIN EN 1514-1, DIN 2690, DIN16962 part 4, DIN16963 part 4 and ASME 16.21
- Basic designs
  - GS01 | Rubber-steel gasket
  - GS10 | Rubber-steel gasket with O-ring seal
  - GS20 | Flexible design Rubber-steel gasket with O-ring seal and visible stainless steel insert
  - GS30 | Rubber-Steel gasket with O-Ring seal and visible VA insert



Additionally: IDT Profile Overview | GS series

MARKING

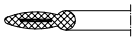
- Manufacturer • Design • Nominal width • Pressure stage
- Manufacturing date • Certificates • Hardness of the elastomer

MATERIALS AND APPROVALS

ABBREVIATION	DESCRIPTION	HARDNESS RANGE	TEMPERATURE RANGE	DRINKING WATER	FEATURES
NR	Natural rubber	Shore-A 60 ± 5	Max. -30 °C to 60 °C		
NBR-Duo	Acrylonitrilebutadiene rubber	Shore-A 80 ± 5	Max. -25 °C to 70 °C	Monitoring by DVGW TÜV Süddeutschland following DIN EN 681-1 KTW recommendation 1.3.13 in test range D2 as well as test following DVGW-work-sheet W270 [11/2007]	Monitoring by DVGW as per DIN EN 682 replaces DIN 3535, part 3
HNBR	Hydrated acrylonitrilebutadiene rubber	Shore-A 70 ± 5	Max. -25 °C to 150 °C		
CR	Chloroprene rubber	Shore-A 60 ± 5	Max. -25 °C to 95 °C		
CSM	Chlorine-sulfonated polyethylene	Shore-A 70 ± 5	Max. -20 °C to 120 °C		
EPDM*	Ethylene Propylene Diene Monomer Rubber	Shore-A 70 ± 5	Max. -30 °C to 125 °C		
EPDM-PW	Ethylene Propylene Diene Monomer Rubber	Shore-A 70 ± 5	Max. -30 °C to 125 °C	Monitoring by DVGW TÜV Süddeutschland following DIN EN 681-1 KTW recommendation 1.3.13 in test range D1 and D2 as well as hygiene test following DVGW-worksheet W270 [11/2007]	
FPM-S*	Fluorine rubber	Shore-A 80 ± 5	Max. -20 °C to 200 °C		Acid resistant
IIR	Isobutene Isoprene rubber [Butyl rubber]	Shore-A 50 ± 5	Max. -25 °C to 120 °C		
ST 37.2/1.4301	Steel insert				

*Also available as HP Version, suitable for clean room applications

RUBBER-STEEL.
Gaskets.

Product Name	**Rubber-Steel gasket [G-ST]**	**Rubber-Steel gasket [G-ST-P/S]**
Product name	**material dependent**	**material dependent**
Product image		
Profile No.	GS01 	GS10 
Features	The gasket consists of a lens-shaped rubber body and an interior steel ring. The rubber jacketing is vulcanised firmly to the steel insert which creates a sturdy compound which can withstand even high stresses. The steel insert increases the blow-out resistance and stability of the sealing system. The lens shape causes a partial increase in surface pressure. Complies with TA Luft and VDI 2290[1].	The lens-shaped base body is also equipped with an O-ring as static sealing element. Surface defects and angle deviations in the flange are compensated more easily. The rubber jacketing is vulcanised firmly to the steel insert which creates a sturdy compound which can withstand even high stresses. The steel insert increases the blow-out resistance and stability of the sealing system. Complies with TA Luft and VDI 2290[1].
OPERATIONAL DATA		
Pressure	Max. 25 bar	Max. 25 bar
Temperature	NR: -30°C to 60°C | NBR: -25°C to 70°C EPDM: -30°C to 120°C | CSM: -20°C to 120°C | FPM: -20°C to 200°C	NR: -30°C to 60°C | NBR: -25°C to 70°C EPDM: -30°C to 120°C | FPM: -20°C to 200°C
APPROVALS		
TA Luft 2002 [VDI 2440/2200]	**x**	**x**
BAM oxygen		
BAM EO/PO [Ethylene-/Propylene oxide]		
DVGW [DIN 3535-6]	**x**	**x**
KTW-guideline	**x**	**x**
Fire Safe Test		
FDA	**x**	**x**
EG 1935/2004		
Blow-out resistance		
Germanischer Lloyd		
Features	W270	W270

[1] Complies with VDI 2290 only in combination with a leakage certificate as per EN 1591-1