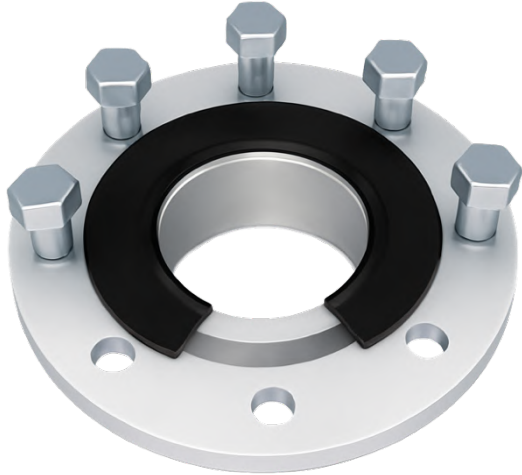


PRODUCT DATASHEET

GATRIX® Type RSG

EPDM - Steel Insert Gasket



PRODUCT OVERVIEW

Gatrix® Rubber-Steel gaskets, also known as rubber gaskets with steel inserts, have established a strong presence across a broad spectrum of sealing applications. These gaskets are particularly well-suited for scenarios that demand highly reliable sealing performance with minimal leakage, even under low bolt loads and moderate temperature conditions.

Gasket dimensions: ASME B16.21:2021 and EN 1514-1:2024

KEY FEATURES

The steel core provides structural integrity and dimensional stability, while the elastomeric outer layer ensures excellent adaptability to flange surfaces, enhancing sealing efficiency.

This combination makes rubber-steel gaskets an ideal choice for fluid and gas sealing in pipelines, equipment, and flanged connections where leak prevention and installation flexibility are critical.

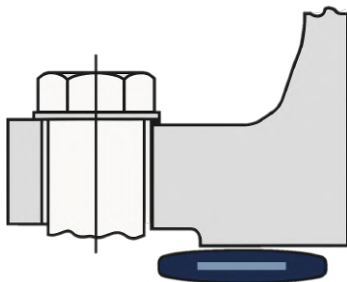
SPECIFICATIONS

Rubber Material	EPDM
Color	Black
Temperature	from -40°C to +110°C, short-term up to +130°C

Other materials like NBR, Neoprene and FKM Viton are available on request.

EPDM CHARACTERISTICS

Applications of EPDM vulcanized materials mainly result from the good resistance to chemicals. Furthermore, the EPDM quality has a good resistance against ozone and aging.



Typical flange installation

STANDARDS

PROPERTIES	TEST METHOD	EPDM
Specific Gravity	ASTM D-792	1.6 ± 0.05
Hardness (Shore A)	ASTM D-2240	70 ± 5
Tensile Strength	ASTM D-412	8 MPa
Elongation At Break	ASTM D-412	350 % min.
Tear Resistance	ASTM D-624	≥ 20 kN/m
Temperature Range	-	-40°C to +130°C

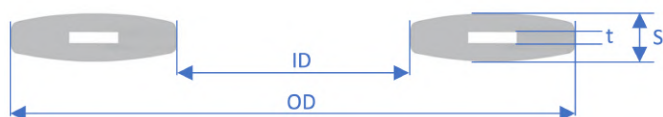
FIELD OF APPLICATION

- Drinking water.
- Wastewater and pumping stations.
- Chilled Water and HVAC Pipe works.
- Flanged connections (Valves, Pipes & Fittings)



Gasket Construction

DIMENSIONS



	≤ DN400	≥ DN450
Gasket Thickness (S)	3 mm	6.4 mm
Galv. Steel Thickness (t)	0.8 mm	2.0 mm

Flange Standards:

ASME B16.5 ASME B16.47 BS EN 1092-1 AWWA C207

Dimensional Tolerances of FF-Type and RF-Type Gaskets:

Nominal Size	≤ DN300	≥ DN350
Inner Diameter (ID)	± 1.5 mm	± 3.0 mm
Outer Diameter (OD)	0 ~ 1.5 mm	0 ~ 3.0 mm
Thickness (S)	± 0.5 mm	

PRODUCT DATASHEET

GATRIX® Type RSG

EPDM - Steel Insert Gasket

INSTALLATION INSTRUCTIONS

- Verify gasket size, material and service suitability; do not install a damaged gasket.
- Clean and inspect flange faces. Keep them dry and free of oil, debris and sealing compounds.
- Align and support the pipework so flange faces are parallel; do not pull them together with the bolts.
- Centre the gasket between the flanges. Ensure it does not protrude into the pipe bore or become pinched.
- Lubricate fasteners as specified, keeping lubricant off the gasket and flange faces.
- Tighten bolts crosswise in multiple passes with a calibrated torque wrench to the approved joint torque.
- Check the assembled joint and perform the specified leak test. **Do not reuse the gasket.**



STANDARD TIGHTENING TORQUES (in N.m) FOR FLANGES EN 1092-1

Size DN	PN16	PN25	PN40
50	52	52	52
65	70	34	34
80	41	41	41
100	44	60	60
125	58	95	95
150	80	112	112
200	74	110	130
250	114	160	195
300	144	160	204
350	170	250	310
400	200	310	460
450	203	304	355
500	280	330	390
600	435	450	-

These are maximum target torque values (Nm) **(Lubricated Bolts)**. If bolts are dry: increase the above by ~25–30 % to hit the same preload.

The torque specifications are based on a coefficient of friction of $\mu = 0.12$ and a maximum surface pressure of **15 N/mm²**, the number and sizes of fasteners comply with detail within BS EN 1092-1.

The guideline values for tightening torque (Lubricated bolts) for flanges larger than DN600 can be calculated according to the following empirical formula:

PN16: DN x 0.5 = Torque in Nm

PN25: DN x 0.7 = Torque in Nm

PN40: DN x 0.8 = Torque in Nm

Rapid field estimation on standard EN 1092-1 flanges.

PRODUCT DATASHEET

GATRIX® Type RSG

EPDM - Steel Insert Gasket

STANDARD TIGHTENING TORQUES (in ft-lb) FOR FLANGES ASME B16.5 Class 150 (DN50 to DN600)

Size DN	No. of Bolts	Bolt Ø (in)	Min.	Max.
50	4	0.63	33	66
65	4	0.63	45	50
80	4	0.63	49	50
100	8	0.63	33	50
125	8	0.75	41	82
150	8	0.75	46	83
200	8	0.75	66	83
250	12	0.88	64	128
300	12	0.88	93	133
350	12	1.00	134	204
400	16	1.00	120	204
450	16	1.13	132	264
500	20	1.13	124	249
600	20	1.25	173	347

STANDARD TIGHTENING TORQUES (in ft-lb) FOR FLANGES ASME B16.47 Series A Class 150 (DN650 to DN1500)

Size DN	No. of Bolts	Bolt Ø (in)	Min.	Max.
650	24	1.25	238	318
700	28	1.25	224	299
750	28	1.25	248	331
800	28	1.5	309	412
900	32	1.5	309	411
1000	36	1.5	328	438
1050	36	1.5	354	472
1100	40	1.5	339	452
1200	44	1.5	342	456
1250	44	1.75	470	626
1350	44	1.75	535	713
1400	48	1.75	528	705
1500	52	1.75	530	707

These tables assume ASTM A307/A193 B8-B8M bolts at 25,000 psi bolt stress. If contractor is using A193 Grade B7 studs, the numbers roughly double.