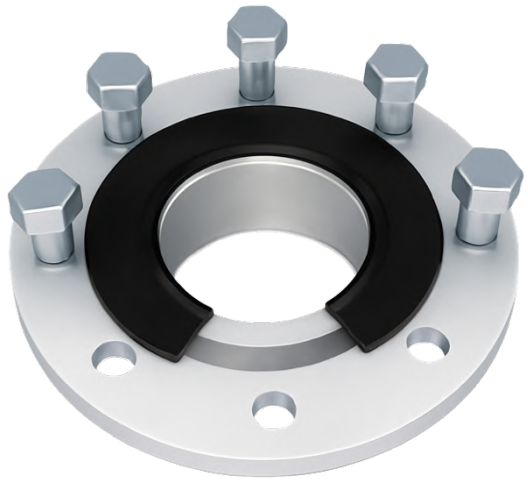
MechaVerse
A New Dimension of Engineering

PIPELINE SEALING & ISOLATION SOLUTIONS

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.

STANDARDS

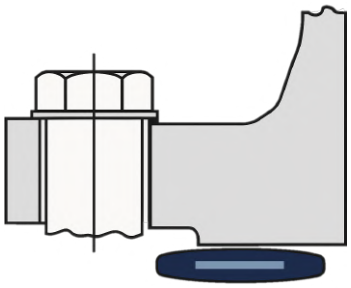
PROPERTIES	TEST METHOD	EPDM
Specific Gravity	ASTM D-792	1.6 ± 0.05
Hardness (Shore A)	ASTM D-2240	70 ±5
Tensile Strength	ASTM D-412	8 MPa
Elongation At Break	ASTM D-412	350 % min.
Tear Resistance	ASTM D-624	≥ 20 kN/m
Temperature Range	-	-40°C to +130°C

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.

FIELD OF APPLICATION

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

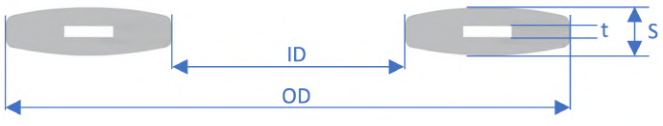


Typical flange installation



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	

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A NEW DIMENSION OF ENGINEERING

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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	51	51	51
65	34	34	34
80	43	43	43
100	45	62	62
125	59	88	88
150	78	108	108
200	74	110	140
250	106	161	212
300	144	163	225
350	185	270	347
400	238	347	512
450	237	305	353
500	326	373	440
600	476	497	710

General Note:

Values apply to **RF-type** gaskets on raised-face flanges, lubricated bolting (μ = 0.12), the number and sizes of fasteners comply with detail within BS EN 1092-1. The maximum is set by the gasket surface pressure (15 N/mm²), so higher-strength bolting (e.g. A193 B7) does not permit higher torque.

If bolts are dry (μ = 0.20): increase the above by ~60 % to hit the same preload.

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 = Min. Torque in Nm

PN25: DN x 0.7 = Min. Torque in Nm

PN40: DN x 0.8 = Min. Torque in Nm

Rapid field **estimation** on standard EN 1092-1 flanges.

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	19	29
65	4	0.63	22	34
80	4	0.63	33	49
100	8	0.63	23	35
125	8	0.75	34	51
150	8	0.75	43	64
200	8	0.75	58	87
250	12	0.88	54	82
300	12	0.88	72	108
350	12	1.00	89	133
400	16	1.00	85	128
450	16	1.13	128	192
500	20	1.13	113	169
600	20	1.25	159	239

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	155	233
700	28	1.25	143	214
750	28	1.25	163	245
800	28	1.5	218	327
850	32	1.5	210	303
900	32	1.5	235	343
950	32	1.5	259	362
1000	36	1.5	252	338
1050	36	1.5	285	419
1100	40	1.5	278	394
1150	40	1.5	300	411
1200	44	1.5	301	431
1250	44	1.75	372	516
1300	44	1.75	399	536
1350	44	1.75	426	551
1400	48	1.75	424	578
1450	48	1.75	452	598
1500	52	1.75	443	566

General Note:

Values apply to **RF-type** gaskets on raised-face flanges, lubricated bolting (μ = 0.12), ASTM A307 Gr. B / A193 B8–B8M or stronger. The maximum is set by the gasket surface pressure (15 N/mm²), so higher-strength bolting (e.g. A193 B7) does not permit higher torque.