

ABOUT US

In 2020, Mehrad Ramesh Maham's technical and engineering team, with the support of the Shahid Hashemi nejad Refinery Innovation Growth Center, has taken valuable steps towards producing one of the strategic sectors in the oil, gas, and petrochemical fields.

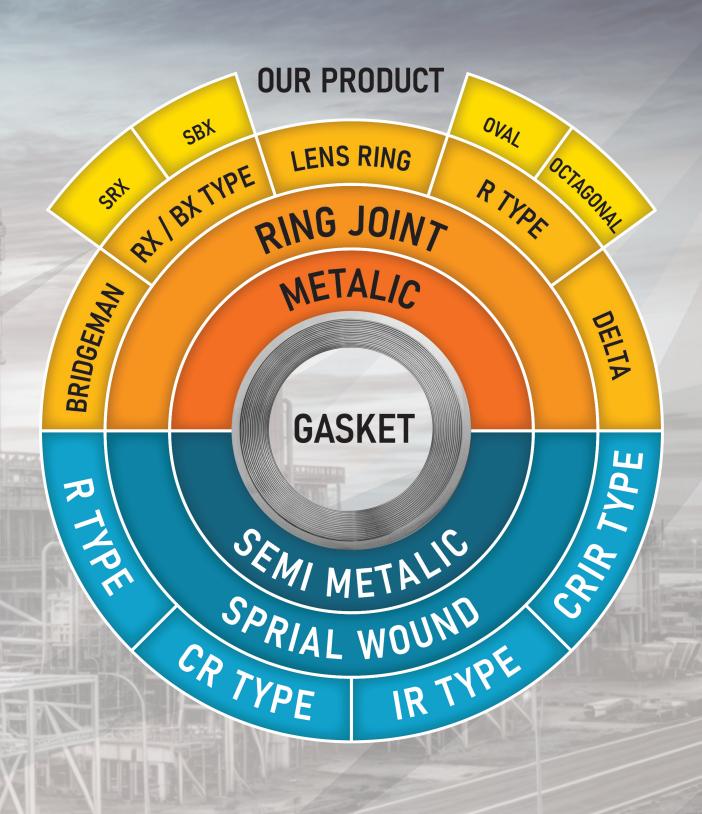
Outlook

- Providing quality products
 according to Internationally
 standards
- Creating the ability to export to neighboring countries by taking advantage of Sarakhs' exceptional geographical conditions.

Mehrad Ramesh

Maham's values (MAHAMAN)

- 1- Providing quality products in accordance with global standards
- 2- Commitment and timely delivery of goods
- 3- Ability to rebuild spiral wound gaskets of industrial complexes based on standard
- 4- Entrepreneurship and job creation in the deprived and border region of Sarakhs
- 5- Allocating a portion of the company's annual income to providing educational facilities for needy children in deprived areas.



GASKET

A gasket is a mechanical seal which fills the space between two or more mating surfaces, generally to prevent leakage from or into the joined objects while under compression. It is a deformable material that is used to create a static seal and maintain that seal under various operating conditions in a mechanical assemble

Gaskets categories

Gaskets can be segregated into three main categories

- Non-metallic (soft)
- ► Semi-metallic
- Metallic

SEMI METALIC _

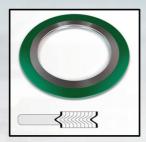
Spiral Wound Gaskets

These gaskets are comprised of a preformed "V" or chevron shaped metal strips alternately wound with a conformable filler material. The metal windings provide strength and resilience, while the non-metallic filler portion conforms to the irregularities of the flanges aiding in the joint seal. These gaskets can be constructed in a variety of densities accommodating available bolting and pressure conditions.





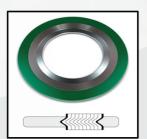
R Type: REINFORCE GASKET



CR Type: REINFORCE GASKET With Centering Ring



IR Type: REINFORCE GASKET With Inner Ring



CRIR Type: REINFORCE GASKETWith Inner Ring & Centering Ring

| ssaux | INITIAL GASKET TICKNESS | RECOMMENDED COMPRESSED THICKNESS | | |
|----------------------------|----------------------------|-------------------------------------|--|--|
| Required Gaskets Thickness | 1.6 | 1.3/1.4 | | |
| | 2.5 | 1.9/2.0 | | |
| | 3.2 | 2.3/2.5 | | |
| | 4.5 | 3.2/3.4 | | |
| | 6.4 | 4.6/5.1 | | |
| | 7.2 | 5.1/5.6 | | |
| edi | & MAHAMAN MANUFATURER | | | |
| <u> </u> | COSTOMIZE THICKNESS | | | |

| Standard for Spiral Wound | Baskets Use With Flanges |
|---------------------------|---------------------------------|
| Ste | Ga |

| SWG STANDARDS | FLANGES STANDARDS | | |
|-----------------------|--|--|--|
| DIN | DIN 2632 - 2638 | | |
| EN 1514 -2 | Pr EN 1092 -1 , Flanges | | |
| ASME B16.20 (API 601) | ANSI B 16.50 ASME B16.47 (API 605) MSS SP 44 | | |
| ASME B16.20 | ANSI B16.5 BS 1560 ASME B16.47 | | |
| EN 1514-2 [DIN 2691] | DIN 2512 | | |
| EN 1514 -2 [DIN 2692] | DIN 2513 | | |
| ANSI B16.5 | ANSI B16.21 | | |

| MATERIAL | MIN TEMPERATURE | MAX TEMPERATURE | | |
|--------------------------|------------------|----------------------------------|--|--|
| Stainless Steel 304 | -254 C (-425 F) | 760 C (1400 F) | | |
| Stainless Steel 316 | -254 C (-425 F) | 760 C (1400 F) | | |
| Stainless Steel 317 | -198 C (-325 F) | 760 C (1400 F) | | |
| Stainless Steel 321 | -254 C (-425 F) | 760 C (1400 F) | | |
| Stainless Steel 347 | -254 C (-425 F) | 871 C (1600 F) | | |
| Soft Iron, Carbon Steel | -29 C (-20 F) | 538 C (1000 F) | | |
| Alloy 20 (UNS N08020) | -198 C (-325 F) | 871 C (1600 F) | | |
| Titanium | -59 C (-75 F) | 1093 C (2000 F) | | |
| Nickel | -198 C (-325 F) | 760 C (1400 F) | | |
| Monel 400 (UNS N04400) | -198 C (-325 F) | 816 C (1500 F) | | |
| Inconel 625 (UNS N06625) | -254 C (-425 F) | 1093 C (2000 F) | | |
| Hastelloy (UNS N10276) | -254 C (-425 F) | 1093 C (2000 F) | | |
| FILLER | | | | |
| Flexible Graphite | | | | |
| Non Oxidation Inhibited | -240 C (-400 F) | 400 C (752 F) - 450 C (842 F) | | |
| Oxidation Inhibited | | 500 C (932 F) - 525 C (977 F) | | |
| PTFE | -210 C (-346 F) | 260 C (500 F) | | |
| Mica | -240 C (-400 F) | 700 C (1292 F) – 750 C (1382 F) | | |
| Ceramic | -212 (-349 F) | 950 C (1742 F) - 1000 C (1832 F) | | |

SPIRAL WOUND Color Code According to ASME B16.20



NONMETALLIC FILLER MATERIALS











Graphite Ceramic Stripe Light Green Stripe

Phylosilicate / Thermiculite Light Blue Stripe

Metallic Gaskets

Metallic gaskets can be fabricated from a single metal or a combination of metallic materials, in a variety of shapes and sizes. Metallic gaskets are suitable for high temperature and pressure applications. Higher loads are required to seat the gaskets. Types include flat, grooved, round cross-section solid metal, lens rings, ring type joints (RTJ's) and welded gaskets.

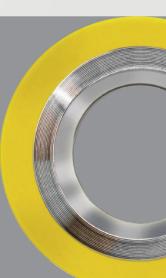


Standard sizes of these gaskets are manufactured to ASME B26.20 and API 6A specifications.

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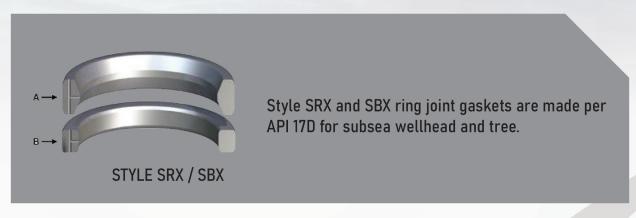


The RX style ring joint has a unique self-sealing action. The outside bevels of the ring make the initial contact with the groove as the flanges are brought together with the flange bolting. Style RX ring joint gaskets as specified in ASME B16.20 and API 6A are completely interchangeable with the oval and octagonal series of identical reference numbers and are used in the same flange grooves.



Style BX

grooved flanges on special applications involving high pressures from 344 bar (5,000 psi) to 1,034 bar (15,000 psi). Style BX ring joint gaskets can only be used with API BX flanges and are not interchangeable with the Style RX series.



Style SRX/SBX for Subsea Type

These ring joint gaskets, have cross-drilled holes which connects fluid volume located between the flange joint groove, the ring joint gasket and the bore or ID. This hole prevents fluid located between the joint groove and the ring joint gasket from interfering with proper seating of the gasket. During installation, the gasket is compressed into the flange groove and fluid is allowed to vent into the bore or ID. The SRX



and SBX gaskets have identical overall measurements to The RX and BX ring joint gaskets with the same number designation.

These additional vent holes are typically installed in one of two different patterns.

NOTE: The use of vent holes can also reduce the possibility of trapping pressure between one side of the ring joint gasket and the groove, creating a potentially dangerous situation during disassembly.



These are for high temperature, high pressure applications on pipework, valves and pressure vessels.

This pressure-activated design is used for pressure vessel and valve bonnet gaskets, at pressures 103 bar (1500 psi) and higher. This design has also been adapted to pipe joints which are subject to extreme thermal shock conditions.





The pressure-activated Delta cross-section is a pressure vessel or valve bonnet gasket, useful for pressure ranges of 344 bar (5000 psi) and higher.

Gasket Related Considerations

| TEMPERATURE | PRESSURE | FLUIDE | GASKET STRESS | GASKET STORAGE |
|-------------------------------------|---------------------------|---------------------------------|------------------|---|
| gross physical characteristics | working pressure | gas or liquid | Surface Finish | cool, dry location away from heat minimal dust and no chemical storage or high voltage electrical sources nearby |
| mechanical resistance properties | system design pressure | hot OR cold | Gasket Thickness | 40% to 75% relative humidity |
| chemical resistance properties | operating pressure | high or low pH | Material Type | as 4°C to 27°C (40°F to 80°F) |
| - | hydro test pressure | corrosive to benign | - | indirect sunlight |
| - | - | flammable or non - flammable | - | in a room with no windows and non -UV or low -UV producing lights |

NOTE:

For metallic and semi -metallic gaskets, maximum pressure limits are mostly dictated by the available flange load and flange working pressure. Therefore, metallic and semi -metallic gasket pressure ratings are not directly influenced by temperature.

