



Category: Metallic Gasket Products
Group: Thermody™ Jacketed Gasket

Metal Jacketed Gasket



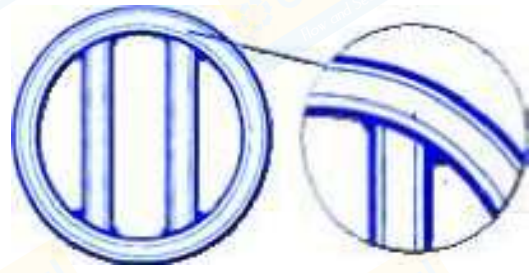
Thermody™ jacketed gaskets consist of a metal cover and a soft sealing material filler.



The sealing filler provides outstanding resilience, while the metal jacket guarantees excellent sealing and protects the filler against pressure conditions, fluctuating temperatures and corrosion.



One-Piece Construction



Welded Construction

Standard Profiles



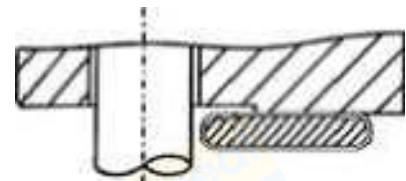


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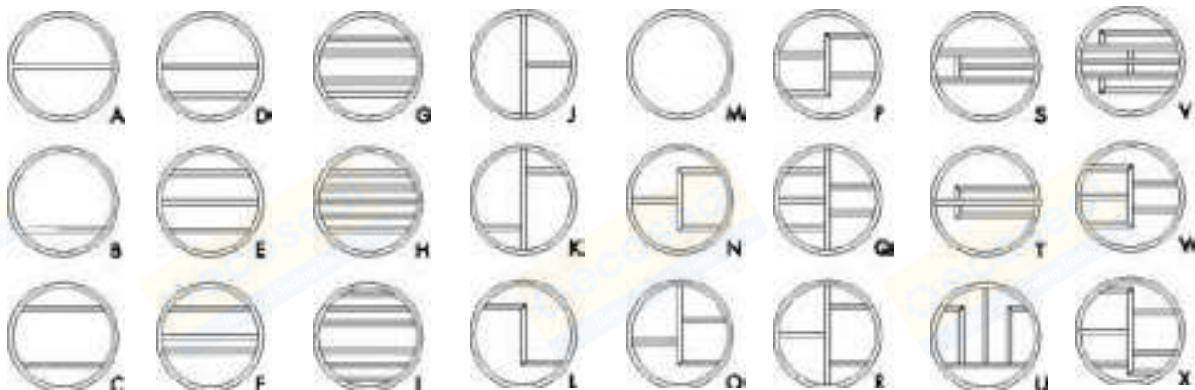
Characteristics

- * The Custom-built to provide accurate and easy assembly of gasket pass partition bars into the tubesheet grooves.
 - * Perfect fit and sealing efficiency ensured by our accumulated experience, design and manufacturing facilities and highly skilled craftsmen.
- Weld-in bar exchanger gaskets offer the following benefits over one-piece gaskets with integral bars:
- * Technically superior and safe - extra sealing safeguards - a better gasket.
 - * Long sealing life - bars seal independently of the outer ring.
 - * New and high standards of technical quality.



Thermody™ Jacketed Gasket Profiles

Thermody™ jacketed gaskets can be produced in a variety of styles. You will find a summary of the standard shapes for vessels and heat exchangers.





Category: Metallic Gasket Products
Group: Thermody™ Ring Type Joint Gasket

Ring Type Joint Gasket

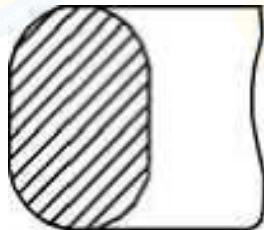


Thermody™ Ring Joint Gaskets are metallic sealing rings, suitable for high pressure and high temperature duties. Ring Joint Gaskets are always applied to special, accompanying flanges which ensure good, reliable sealing with the correct choice of profiles and material. Thermody™ produces gaskets in accordance with specific tolerances, using high-quality computer-aided(CNC) lathe centres.

Standard Profile Shapes

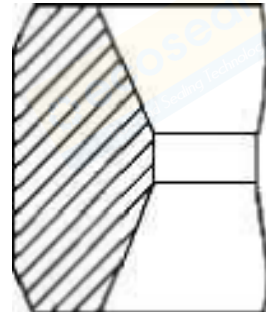
M8

R Oval



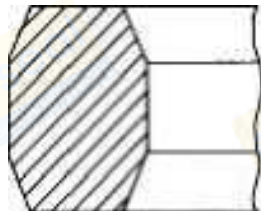
M12

RX



M9

R Octagonal



M11

BX

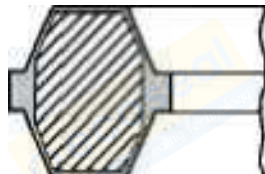


Non-Standard Profile Shapes

MX



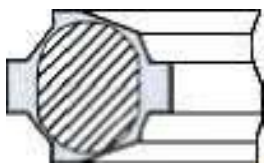
M9R



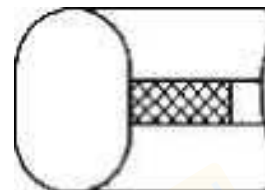
MFG



M8R



MIR



MCL





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Group: Thermody™ Ring Type Joint Gasket

Characteristics

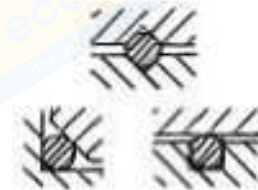
- * Can be used for very high and/or alternating pressure (up to 1500 bar), depending on the profile
- * Choice of material is a determining factor for use with high temperatures (up to 1000oC.) and in aggressive media
- * Operational reliability is especially high with meticulous assembly
- * Assembly and disassembly are simple due to the robust construction of the gasket
- * The carefully controlled hardness of Ring Joing Gaskets guarantees a very good seal without damage to the flange surfaces
- * Thermody™ Ring Joint Gaskets fully comply with the ASME B16.20 standard and the API spec 6A (where applicable)

Alternative Metal Profiles

M1
Flat Sealing



M6
O-Ring



M2
Insert Ring



M10
Convex Gaskets



M4
Lens Ring



M15
Delta Gasket



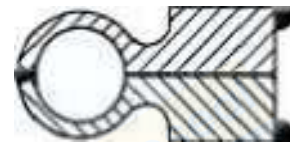
Alternative Metal Profiles

- Membrane Weld Gaskets

MW1



MW4



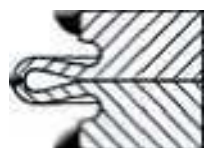
MW2



MW5



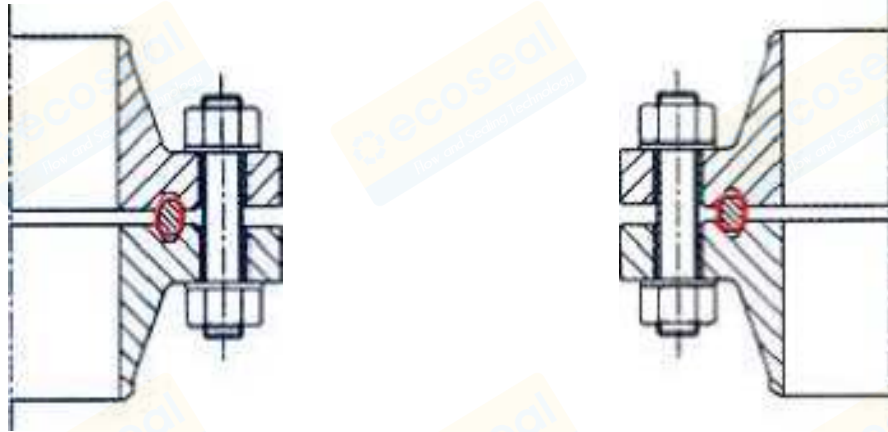
MW3





Category: Metallic Gasket Products
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Construction Example



Category: Metallic Gasket Products

Model: Torque Required to Produce Bolt Stress/ Fitting Instructions

The torque or turning effort required to produce a certain stress in bolting is dependent upon a number of condition, some of which are:

- 1) Diameter of bolt
- 2) Type and number of threads on bolt
- 3) Material of bolt
- 4) Conditions of Nut bearing surfaces
- 5) Lubrication of bolt threads and nut bearing surfaces

The tables below reflect the results of many tests to determine the relation between torque and bolt stress. Values are based on steel bolting well lubricated with a heavy graphite and oil mixture. It was found that a non-lubricated bolt has an efficiency of about 50 percent of a well lubricated bolt and also that different lubricants produce results varying between the limits of 50 and 100 percent of the tabulated stress figures.



Category: Metallic Gasket Products

Model: Torque Required to Produce Bolt Stress/ Fitting Instructions

**Data for use with Machine Bolts and Cold Rolled Steel Stud Bolts
Load in pounds on Bolts and Stud Bolts when Torque Loads are applied.**

| NOMINAL DIAMETER OF BOLT (INCHES) | NUMBER OF THREADS (PER INCH) | DIAMETER AT ROOT OF THREAD (INCHES) | AREA AT ROOT OF THREAD (SQ. INCH) | STRESS | | | | | |
|--|---------------------------------------|--|--|-------------------|-----------------------|-------------------|-----------------------|-------------------|-----------------------|
| | | | | 7,500 PSI | | 15,000 PSI | | 30,000 PSI | |
| | | | | TORQUE FT. LBS | COMPRES- SION, LBS | TORQUE FT. LBS | COMPRES- SION, LBS | TORQUE FT. LBS | COMPRES- SION, LBS |
| 1/4 | 1/20 | 0.185 | 0.027 | 1 | 203 | 2 | 405 | 4 | 810 |
| 5/16 | 1/18 | 0.240 | 0.045 | 2 | 338 | 4 | 675 | 8 | 1350 |
| 3/8 | 1/16 | 0.294 | 0.068 | 3 | 510 | 6 | 1020 | 12 | 2040 |
| 7/16 | 1/14 | 0.345 | 0.093 | 5 | 698 | 10 | 1395 | 20 | 2790 |
| 1/2 | 1/13 | 0.400 | 0.126 | 8 | 945 | 15 | 1890 | 30 | 3780 |
| 9/16 | 1/12 | 0.454 | 0.162 | 12 | 1215 | 23 | 2430 | 45 | 4860 |
| 5/8 | 1/11 | 0.507 | 0.202 | 15 | 1515 | 30 | 3030 | 60 | 6060 |
| 3/4 | 1/10 | 0.620 | 0.302 | 25 | 2265 | 50 | 4530 | 100 | 9060 |
| 7/8 | 1/9 | 0.731 | 0.419 | 40 | 3143 | 80 | 6285 | 160 | 12570 |
| 1 | 1/8 | 0.838 | 0.551 | 62 | 4133 | 123 | 8265 | 245 | 16530 |
| 1 1/8 | 1/7 | 0.939 | 0.691 | 98 | 5190 | 195 | 10380 | 390 | 20760 |
| 1 1/4 | 1/7 | 1.064 | 0.89 | 137 | 6675 | 273 | 13350 | 545 | 26700 |
| 1 3/8 | 1/6 | 1.158 | 1.054 | 183 | 7905 | 365 | 15810 | 730 | 31620 |
| 1 1/2 | 1/6 | 1.283 | 1.294 | 219 | 9705 | 437 | 19410 | 875 | 38820 |
| 1 5/8 | 5 1/2 | 1.389 | 1.515 | 300 | 11363 | 600 | 22725 | 1200 | 45450 |
| 1 3/4 | 1/5 | 1.490 | 1.744 | 390 | 13080 | 775 | 26160 | 1550 | 52320 |
| 1 7/8 | 1/5 | 1.615 | 2.049 | 525 | 15368 | 1050 | 30735 | 2100 | 61470 |
| 2 | 4 1/2 | 1.711 | 2.300 | 563 | 17250 | 1125 | 34500 | 2250 | 69000 |

Data for use with Alloy Steel Stud Bolts / Load in pounds on Stud Bolts when Torque Loads are applied

| NOMINAL DIAMETER OF STUD (INCHES) | NUMBER OF THREADS (PER INCH) | DIAMETER AT ROOT OF THREAD (INCHES) | AREA AT ROOT OF THREAD (SQ. INCH) | STRESS | | | | | |
|--|---------------------------------------|--|--|-------------------|-----------------------|-------------------|-----------------------|-------------------|-----------------------|
| | | | | 30,000 PSI | | 45,000 PSI | | 60,000 PSI | |
| | | | | TORQUE FT. LBS | COMPRES- SION, LBS | TORQUE FT. LBS | COMPRES- SION, LBS | TORQUE FT. LBS | COMPRES- SION, LBS |
| 1/4 | 20 | 0.185 | 0.027 | 4 | 810 | 6 | 1215 | 8 | 1620 |
| 5/16 | 18 | 0.240 | 0.045 | 8 | 1350 | 12 | 2025 | 16 | 2700 |
| 3/8 | 16 | 0.294 | 0.068 | 12 | 2040 | 18 | 3060 | 24 | 4080 |
| 7/16 | 14 | 0.345 | 0.093 | 20 | 2790 | 30 | 4185 | 40 | 5580 |
| 1/2 | 13 | 0.400 | 0.126 | 30 | 3780 | 45 | 5670 | 60 | 7560 |
| 9/16 | 12 | 0.454 | 0.162 | 45 | 4860 | 68 | 7290 | 90 | 9720 |
| 5/8 | 11 | 0.507 | 0.202 | 60 | 6060 | 90 | 9090 | 120 | 12120 |
| 3/4 | 10 | 0.620 | 0.302 | 100 | 9060 | 150 | 13590 | 200 | 18120 |
| 7/8 | 9 | 0.731 | 0.419 | 160 | 12570 | 240 | 18855 | 320 | 25140 |
| 1 | 8 | 0.838 | 0.551 | 245 | 16530 | 368 | 24795 | 490 | 33060 |
| 1 1/8 | 8 | 0.963 | 0.728 | 355 | 21840 | 533 | 32760 | 710 | 43680 |
| 1 1/4 | 8 | 1.088 | 0.929 | 500 | 27870 | 750 | 41805 | 1000 | 55740 |
| 1 3/8 | 8 | 1.213 | 1.155 | 680 | 34650 | 1020 | 51975 | 1360 | 69300 |
| 1 1/2 | 8 | 1.338 | 1.405 | 800 | 42150 | 1200 | 63225 | 1600 | 84300 |
| 1 5/8 | 8 | 1.463 | 1.680 | 1100 | 50400 | 1650 | 75600 | 2200 | 100800 |
| 1 3/4 | 8 | 1.588 | 1.980 | 1500 | 59400 | 2250 | 89100 | 3000 | 118800 |
| 1 7/8 | 8 | 1.713 | 2.304 | 2000 | 69120 | 3000 | 103680 | 4000 | 138240 |
| 2 | 8 | 1.838 | 2.652 | 2200 | 79560 | 3300 | 119340 | 4400 | 159120 |
| 2 1/4 | 8 | 2.088 | 3.423 | 3180 | 102690 | 4770 | 154035 | 6360 | 205380 |
| 2 1/2 | 8 | 2.338 | 4.292 | 4400 | 128760 | 6600 | 193140 | 8800 | 257520 |
| 2 3/4 | 8 | 2.588 | 5.259 | 5920 | 157770 | 8880 | 236655 | 11840 | 315540 |
| 3 | 8 | 2.838 | 6.324 | 7720 | 189720 | 11580 | 284580 | 15440 | 379440 |