TYPES OF GASKETS

- SPIRAL WOUND GASKETS
- GRAPHITE with CORRUGATED METAL CORE
- EXPANDED PTFE with CORRUGATED METAL CORE
- HIGH PRESSURE GRAPHITE SEALS
- CAMMPROFILE
- HEAT EXCHANGER GASKETS
- JACKETED
- DOUBLE JACKETED
- SOLID METAL

APPLICATIONS

- HEAT EXCHANGERS
- PRESSURE VESSELS
- MANHOLE COVERS
- HANDHOLE
- VALVE BONNETS
- PIPE FLANGES
MC and MCR Gaskets

For Manhole Cover Assemblies

MC Gasket (manhole cover)

- Spiral winding only, containing preformed metal and soft filler material

MCR Gasket (manhole cover with centering ring)

- Centering ring accurately locates the gasket on the flange face, provides additional radial strength, and acts as a compression limiter
- Spiral winding (sealing element) consists of pre-formed metal and soft filler material

Ordering Information

When ordering, specify:

- Make and model of boiler and/or equipment if available
- Gasket style and configuration
- Dimensions of gasket (thickness, flange seating width, and shape)
- Maximum operating pressure and temperature
- Type of metal and filler materials

WARNING:
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Dimensions of MC and MCR Gaskets

<table>
<thead>
<tr>
<th>Style</th>
<th>Nominal I.D. Dimensions (Inches)</th>
<th>Thickness (Inches)</th>
<th>Flange Width (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC Oval</td>
<td>11 x 15</td>
<td>0.175</td>
<td>3/4</td>
</tr>
<tr>
<td>MC Oval</td>
<td>11 x 15</td>
<td>0.175</td>
<td>15/16</td>
</tr>
<tr>
<td>MC Oval</td>
<td>11 x 15</td>
<td>0.175</td>
<td>1-1/4</td>
</tr>
<tr>
<td>MC Oval</td>
<td>12 x 16</td>
<td>0.250</td>
<td>15/16</td>
</tr>
<tr>
<td>MCR Oval</td>
<td>12 x 16</td>
<td>0.250</td>
<td>13/16</td>
</tr>
<tr>
<td>MC Oval</td>
<td>12 x 16</td>
<td>0.175</td>
<td>3/4</td>
</tr>
<tr>
<td>MC Oval</td>
<td>12 x 16</td>
<td>0.175</td>
<td>1-1/4</td>
</tr>
<tr>
<td>MC Oval</td>
<td>12 x 16</td>
<td>0.250</td>
<td>1-1/4</td>
</tr>
<tr>
<td>MC Round</td>
<td>16-1/16</td>
<td>0.175</td>
<td>3/4</td>
</tr>
</tbody>
</table>

Notes:
1. For pitted and rough flange surfaces, specify a gasket thickness of 0.250”.
2. Orders for special cover assemblies should be accompanied by a dimensional drawing showing the minimum width of seating surfaces and other essential dimensions.
3. Style MC oval and obround gaskets are available in 0.175” and 0.250” thickness and in varying widths as shown above.
4. Orders for non-standard gaskets should also include a sketch or drawing of the cover assembly with all dimensions shown.

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HH Gaskets

For Boiler Handhole and Tubecap Assemblies

- Fits most standard boilers (specify maximum operating pressure when ordering)
- Available in thicknesses of 0.125" (special), 0.175" (standard) and 0.250" (special—for pitted surfaces)

### Style HH Configurations

#### Round

- Diameter
- Height
- Width

#### Rectangle

- Width
- Height
- Diameter

#### Obround

- Width
- Height

#### Diamond

- Width
- Height
- Diameter

#### Oval

- Width
- Height
- Diameter

#### Pearl

- Width
- Height
- Diameter

### Boiler Gasket Dimensions

<table>
<thead>
<tr>
<th>Manufacturer and Model No.</th>
<th>Shape</th>
<th>Nominal I.D. Dimensions (Inches)</th>
<th>Flange Width (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babcock and Wilcox</td>
<td>Diamond</td>
<td>3-3/8 x 3-3/4</td>
<td>3/16</td>
</tr>
<tr>
<td>207</td>
<td>Oval</td>
<td>3-13/16 x 4-3/4</td>
<td>7/32</td>
</tr>
<tr>
<td>#208</td>
<td>Oval</td>
<td>4-1/12 x 5-1/2</td>
<td>7/32</td>
</tr>
<tr>
<td>#24</td>
<td>Round</td>
<td>2-1/32</td>
<td>3/16</td>
</tr>
<tr>
<td>#70</td>
<td>Round</td>
<td>3-9/32</td>
<td>3/16</td>
</tr>
<tr>
<td>#28 (212)</td>
<td>Round</td>
<td>4-13/16 x 5</td>
<td>7/32</td>
</tr>
<tr>
<td>Badenhausen</td>
<td>Obround</td>
<td>3-9/32 x 4-17/32</td>
<td>3/8</td>
</tr>
<tr>
<td>(See Riley Stoker)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaver-Brooks</td>
<td>Obround</td>
<td>3-9/32 x 4-17/32</td>
<td>3/8</td>
</tr>
<tr>
<td>Combustion Engr. 29N-L839</td>
<td>Diamond</td>
<td>3-3/8 x 4-1/4</td>
<td>1/4</td>
</tr>
<tr>
<td>4N-L740</td>
<td>Oval</td>
<td>3-1/8</td>
<td>1/4</td>
</tr>
<tr>
<td>5N-L902</td>
<td>Round</td>
<td>3-5/8</td>
<td>1/4</td>
</tr>
<tr>
<td>Foster Wheeler 2 3/4 (1003)</td>
<td>Obround</td>
<td>2-25/32 x 3-13/32</td>
<td>7/32</td>
</tr>
<tr>
<td>3 15/16 (1005)</td>
<td>Oval</td>
<td>4-3/16 x 5-3/16</td>
<td>5/16</td>
</tr>
<tr>
<td>Heine</td>
<td>Round</td>
<td>3-5/8</td>
<td>3/8</td>
</tr>
<tr>
<td>Keeler</td>
<td>Obround</td>
<td>3 x 4</td>
<td>3/8</td>
</tr>
<tr>
<td>Oilfield</td>
<td>Oval</td>
<td>3 x 4</td>
<td>3/8</td>
</tr>
<tr>
<td></td>
<td>Oval</td>
<td>3-1/2 x 4-1/2</td>
<td>3/8</td>
</tr>
<tr>
<td>Riley Stoker W-C2</td>
<td>Obround</td>
<td>3-23/32 x 5-23/32</td>
<td>11/32</td>
</tr>
<tr>
<td>Springfield</td>
<td>Oval</td>
<td>3-17/32 x 4-17/32</td>
<td>5/16</td>
</tr>
<tr>
<td>Union</td>
<td>Oval</td>
<td>3 x 4</td>
<td>3/8</td>
</tr>
<tr>
<td></td>
<td>Pearl</td>
<td>4-1/4 x 5-1/4</td>
<td>3/8</td>
</tr>
<tr>
<td>Vogt</td>
<td>Oval</td>
<td>4-1/4 x 5-1/8</td>
<td>7/32 (new)</td>
</tr>
<tr>
<td>Wickes</td>
<td>Pearl</td>
<td>4-1/8 x 5-1/8</td>
<td>9/32</td>
</tr>
<tr>
<td></td>
<td>Oval</td>
<td>3 x 4</td>
<td>5/16</td>
</tr>
<tr>
<td></td>
<td>Oval</td>
<td>3-1/2 x 4-1/2</td>
<td>5/16</td>
</tr>
</tbody>
</table>

### Ordering Information

When ordering, specify:

- Make and model of boiler and/or equipment, if available
- Gasket style and configuration
- Dimensions of gasket (thickness, flange seating width, and shape)
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Corrugated Metal Gasket

The superior technology of gaskets ensures excellent sealing performance and reliability, even in the most difficult applications. Each of the three styles combines a corrugated metal core with a compressible sealing element of various materials, for resistance to a wide range of harsh conditions, including extreme temperature, corrosive chemicals, and thermal cycling.

Applications

- Valves
- Pumps
- Flanges
- Heat exchangers
- Vessels

CG Gasket (Style 905-FG)

With flexible graphite sealing element

- Accommodates a wide range of temperatures
- Seals effectively during thermal cycling
- Fire safe—passed API 6FB fire tests
- Chemically resistant
- Long service life

CEP Gasket (Style 905-E)

With ePTFE sealing element

- Chemically inert
- Forms a tight seal under low bolt load
- Conforms to minor sealing surface imperfections
- Withstands temperatures to 500°F (260°C)

Gasket (Style 905G-E)

With graphite and ePTFE sealing element

- Combines fire safety with chemical resistance
- Conforms to minor sealing surface imperfections
- Rigid yet compressible

Construction

Compressible Sealing Element

- Metal Core

Sealing Elements

- Flexible graphite
- ePTFE
- Combination graphite and ePTFE

Standard Metals

- 316L Stainless
- 304 Stainless
- Carbon steel
- INCONEL® 600
- INCONEL® 625
- INCOLOY® 800
- INCOLOY® 825
- HASTELLOY® C276
- MONEL® 400

Engineered Data

<table>
<thead>
<tr>
<th></th>
<th>GRAPHITE</th>
<th>ePTFE and G.E.T.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum:</td>
<td>-400°F (-240°C)</td>
<td>-400°F (-240°C)</td>
</tr>
<tr>
<td>Max. in atmosphere:</td>
<td>850°F (454°C)</td>
<td>500°F (260°C)</td>
</tr>
<tr>
<td>Max. in steam:</td>
<td>1,200°F (650°C)</td>
<td>500°F (260°C)</td>
</tr>
<tr>
<td>Max. continuous:</td>
<td>850°F (454°C)</td>
<td>500°F (260°C)</td>
</tr>
<tr>
<td>Pressure, max.:</td>
<td>1,000 psig (70 bar)</td>
<td>1,000 psig (70 bar)</td>
</tr>
<tr>
<td>P x T, max.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/16&quot; thickness:</td>
<td>700,000 (25,000)</td>
<td>250,000 (8,500)</td>
</tr>
<tr>
<td>1/8&quot; thickness:</td>
<td>400,000 (13,500)</td>
<td></td>
</tr>
</tbody>
</table>

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INCOLOY® is a registered trademark of Inco Alloys International, Inc.
HASTELLOY® is a registered trademark of Haynes International.
MONEL® is a registered trademark of International Nickel.

† P x T max. = psig x °F (bar x °C)
**CAMMPROFILE GASKET**

**Benefits**
- Accommodates standard ASME flanges as well as weaker and non-circular flanges
- Seals less-than-perfect flanges
- Handles pressures from vacuum to Class 2500
- Performance replacement for jacketed heat exchanger gaskets
- Fire safe—passed API 6FB fire tests
- Available in heat shield configuration for high temp applications above 850°F (454°C) (see page D-6)

**Serrated solid metal core**
- Solid metal core resists cold flow, overcompression and blowout
- Rigid core provides exceptional stability, even in large sizes, and facilitates handling and installation
- Available in wide variety of metals

**Applications**
- Valves
- Pumps
- Flanges
- Heat exchangers
- Vessels

**Style Selection Guide**

<table>
<thead>
<tr>
<th>Camprofile Styles</th>
<th>Construction</th>
<th>Centering Ring</th>
<th>Flange</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parallel Root</td>
<td>Convex Root</td>
<td>Integral</td>
</tr>
<tr>
<td>942 A</td>
<td><img src="image" alt="Parallel Root" /></td>
<td><img src="image" alt="Convex Root" /></td>
<td><img src="image" alt="Integral" /></td>
</tr>
<tr>
<td>942 AR</td>
<td><img src="image" alt="Parallel Root" /></td>
<td><img src="image" alt="Convex Root" /></td>
<td><img src="image" alt="Integral" /></td>
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<tr>
<td>942 AR2</td>
<td><img src="image" alt="Parallel Root" /></td>
<td><img src="image" alt="Convex Root" /></td>
<td><img src="image" alt="Integral" /></td>
</tr>
<tr>
<td>942 AC</td>
<td><img src="image" alt="Parallel Root" /></td>
<td><img src="image" alt="Convex Root" /></td>
<td><img src="image" alt="Integral" /></td>
</tr>
<tr>
<td>942 ARC</td>
<td><img src="image" alt="Parallel Root" /></td>
<td><img src="image" alt="Convex Root" /></td>
<td><img src="image" alt="Integral" /></td>
</tr>
<tr>
<td>946ARC2</td>
<td><img src="image" alt="Parallel Root" /></td>
<td><img src="image" alt="Convex Root" /></td>
<td><img src="image" alt="Integral" /></td>
</tr>
</tbody>
</table>

**Soft, deformable sealing material**
- Under compression, fills seating surface imperfections to form a tight connection
- Seals under low stress—ideal for weaker flanges
- Withstands extreme fluctuations in temperatures and pressures

**Gasket Style** | Gasket Factor "M" | Gasket Factor "Y" (psi)
|-----------------|------------------|------------------|
| Camprofile gasket | 4.00 | 1,000*

**Note:** When designing a flange, a "Y" value of 4,000 psi is suggested.

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### JACKETED GASKET STYLES

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Jacket</td>
<td>The most basic form of jacketed gasket, with coverage on one face and both edges.</td>
</tr>
<tr>
<td>Single Jacket with Overlap</td>
<td>Where full coverage is needed and flange is narrow relative to gasket ID.</td>
</tr>
<tr>
<td>Double Jacket</td>
<td>Where full coverage is needed and flange is wide relative to gasket ID.</td>
</tr>
<tr>
<td>Double Jacket with Double Shell</td>
<td>Stronger and more rigid than double jacket gasket.</td>
</tr>
<tr>
<td>Double Gasket Corrugated</td>
<td>Corrugations create a labyrinth seal across the gasket face.</td>
</tr>
</tbody>
</table>

### SOLID GASKET STYLES

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat Solid</td>
<td>Cut from sheet metal, these gaskets can be of unlimited size and shape. Mating surfaces need to be perfectly aligned and flat for metal gaskets to provide good seals.</td>
</tr>
<tr>
<td>Profiled and Serrated</td>
<td>A solid gasket with surface grooves facilitating a good seal with lower seating stresses. These styles can be jacketed to protect the flange surfaces.</td>
</tr>
<tr>
<td>Corrugated</td>
<td>Made from thin metal, these gaskets provide a seal at low seating stress. They may be surface-treated with ceramic, non-asbestos or flexible graphite, or they may be used with a PTFE envelope.</td>
</tr>
</tbody>
</table>

### METALS:
- STAINLESS STEEL
- COPPER
- SOFT IRON
- BRASS
- MONEL!
- INCONEL!
(OTHER MATERIALS ON REQUEST)

### FILLERS:
- NON-ASBESTOS
- FLEXIBLE GRAPHITE
- CERAMIC
- PTFE
- CORRUGATED METAL

### STANDARD SHAPES FOR HEAT EXCHANGER GASKETS