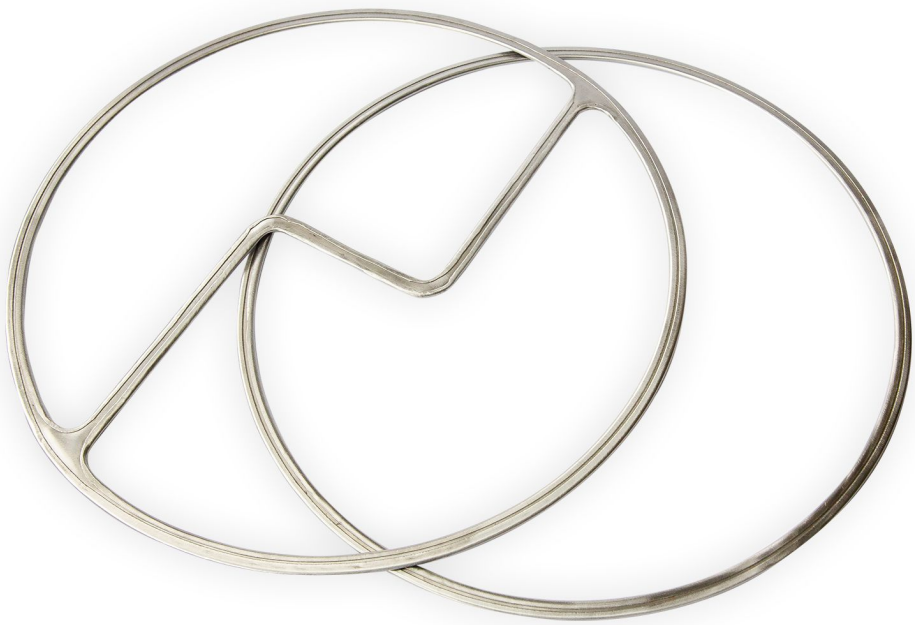
Aerolite®
SEALING MATERIALS

Metal Jacketed Gasket



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Metal Jacketed Gasket

- Metal Jacketed gaskets are the most basic type of semi-metallic gaskets combining the high pressure suitability and blow out resistance of metallic materials with the improved compressibility of soft materials.
- Metal jacketed gaskets offer an economical seal where sealing faces are narrow and can be produced in a variety of shapes and configurations, making them a good option for heat exchangers.
- Corrugated metal jacketed gaskets are a highly versatile family of products, available in wide variety of configurations and suited to wide range of applications.
- For improved sealing performance the corrugated gaskets can be partially or completely covered.
- Metal Jacketed gaskets can be manufactured to suit a range of chemical environments by the selection of a suitable alloy jacket or core.
- The fillers can be non asbestos mill board, non asbestos sheet material, Ceramic, Graphite, Mica or PTFE.
- Standard thickness is 3.0mm but thickness can vary to suit customer requirements.
- These gaskets are manufactured either as one piece or as ring rolled construction (bars are welded into place).
- The ring rolled version is the most commonly manufactured method due to material utilization and ease of production.
- **General Properties:**
  - Economical
  - Easy to handle and install
  - Suitable for high temperatures
  - Suitable for narrow flanges
  - Good blow-out resistance
- **Applications:**
  - Heat exchangers
  - Exhaust gases
  - Valve bonnet gaskets
  - Narrow flanges

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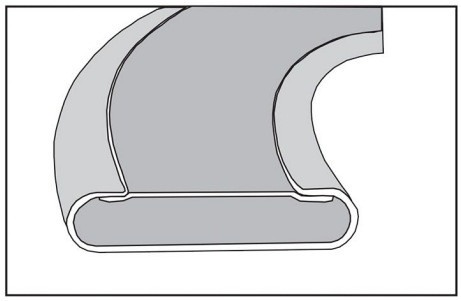
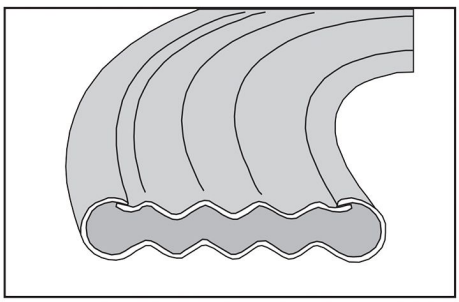
Gasket Types

- Below are the most common gasket types:



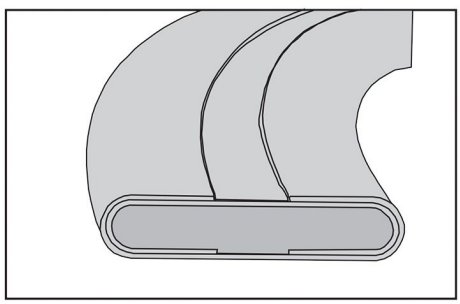
Double Metal Jacketed Gasket

Double jacketed gaskets are most commonly used in heat exchanger applications. They are available in virtually any material that is commercially found in 26 gauge sheet. They are also used in standard flanges where the service is not critical and at temperatures beyond which a soft gasket can be used. Since most double jacketed gaskets are custom made, there is virtually no limit to the size, shape or configuration in which these gaskets can be made. This particular type of gasket can be used in a myriad of applications.



Double Jacketed Corrugated Gasket

The double jacketed corrugated gasket is an improvement on a plain jacketed gasket in that the corrugations on the gasket will provide an additional labyrinth seal. It also provides the advantage of reducing the contact area of the gasket, enhancing its compressive characteristics. A double jacketed corrugated gasket still relies on the primary seal on the inner lap.



Double Jacketed Double Shell Gasket

The double-jacketed, double-shelled gasket is similar to the double jacketed gasket except that instead of using a shell and a liner, two shells are used in the fabrication of the gasket. It has the advantage of a double lap at both the ID and the OD of the gasket, adding greater stability to the gasket. The construction will withstand higher compressive loads. Double-shell gaskets are normally restricted to use in high pressure applications.

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Gasket Types

- A wide range of materials are available to suit specific temperature and corrosive conditions.

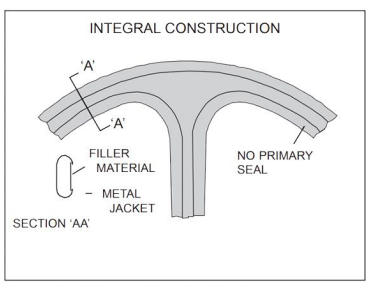
Metallic		
Soft Iron	Inconel®	Aluminum
Carbon Steel	Monel®	Brass
Stainless Steel	Nickel	Copper

(Other materials on request)

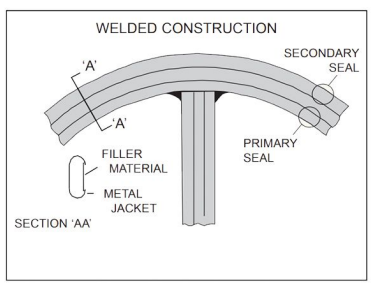
Non-Metallic
Compressed Fiber Millboard
PTFE
Flexible Graphite
Ceramic

- Metal Jacketed Gaskets are available in a wide range of sizes and configurations. They are traditionally used for heat exchanger applications, pumps, and valves, however the resilience and recovery properties of these gaskets are limited. Metal Jacketed Gaskets require smooth flange surface finishes, high bolt loads, and flange flatness in order to seal effectively.
- When pass partition bars are required, it is sufficient to use a gasket with a welded pass bar construction, as opposed to an integral pass bar construction.

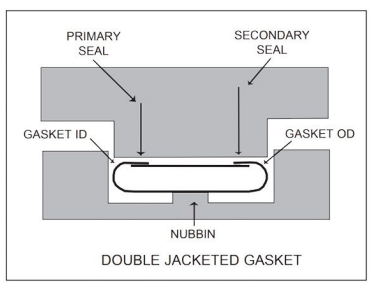
Jacketed Gaskets Standard Tolerances		
Gasket Outer Diameter	I.D.	O.D.
Up to 150mm 150 to 1500mm Above 1500mm	+0.8 / -0 (mm) +1.6 / -0 (mm) +2.4 / -0 (mm)	+0 / -0.8 (mm) +0 / -1.6 (mm) +0 / -2.4 (mm)



If leakage occurs across the pass partition bar, the fluid will flow along the length of the pass bar arrangements, and then flow to the outer diameter of the gasket being retained only by the secondary seal. The intermediate part of the gasket does very little to effect the sealing capabilities of the gasket.



With a welded pass bar arrangement the fluid is retained by the primary seal at the inner diameter of the gasket. Thus the primary seal maintains its function, providing a seal of higher integrity.

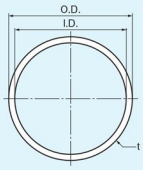


Due to the high bolt loads required to seat metal jacketed gaskets, designers often incorporate stress raising nubbins on the flange sealing face, the principle being that the majority of the applied bolt load is acting on a relatively small proportion of the gasket surface area, thus high surface stresses result. It is essential that the gasket is installed with the smooth side toward the nubbin.

Shapes of gaskets for heat exchangers

Aerolite can manufacture semi-metallic gaskets that are suitable for various heat exchangers. They are used in a wide range of applications. When placing an order, please specify the desired shape using the corresponding abbreriation shown below, or a drawing.

〔HE1〕



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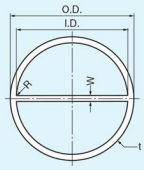

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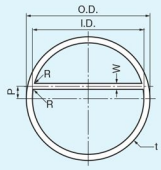

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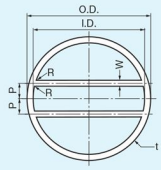

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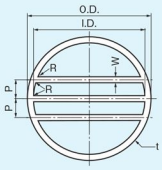

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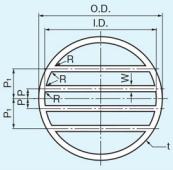

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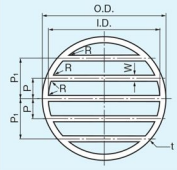

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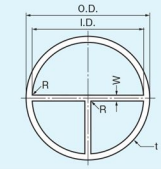

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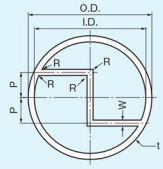

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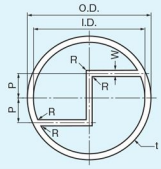

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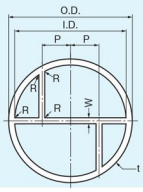

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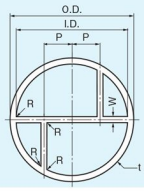

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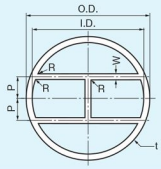

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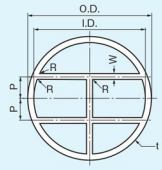

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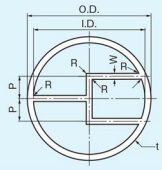

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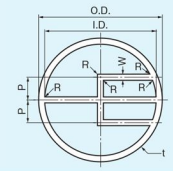

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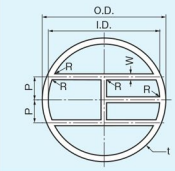

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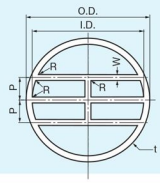

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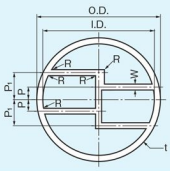

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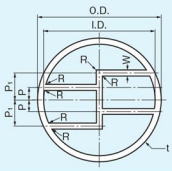

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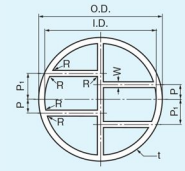

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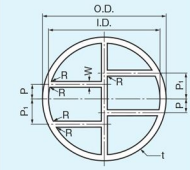

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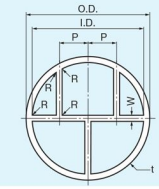

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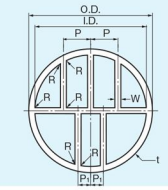

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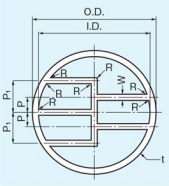

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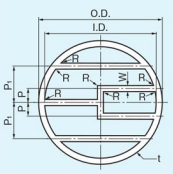

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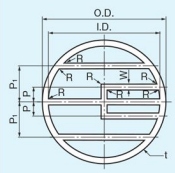

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