Unit 1/11 Karratha Street, Welshpool WA 6106 Ph: 08 6350 1755 FX: 08 6350 1644

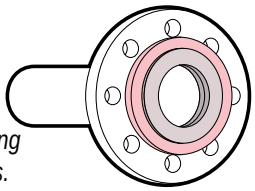
MINEPARTS AND SEALS PTY LTD

Your Complete Sealing Solution

Spiral Wound Gaskets

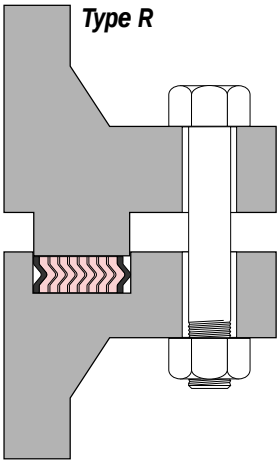
Certified Fire Safe According to API 6FB!

Summary of the eight versions of SWGs, the design principle, materials and mounting instructions.



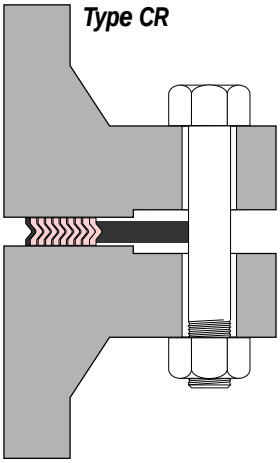
Spiral-Wound Gaskets

Type R



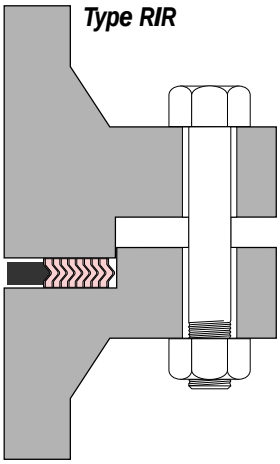
Wide choice of materials for metal strip and filler.
Suitable for high pressures and temperatures.
Recommended for flanges with tongue and groove.

Type CR



Solid metal outer ring used as a centerring device and compression stop.
Used on raised face and flat face flanges.

Type RIR



Solid metal inner ring.
Use with high pressures and temperatures.
Male to female flanges.

Standard Metal strip materials

1.4301	304
1.4401	316
1.4404	316 L
1.4541	321
1.4571	316 Ti

Special version:

Monel 400®, InConel 600®, InConel 625®, InConel X750®, Nickel 200®, Titanium, Incoloy 800®, Incoloy 825®

Other materials on request

Gasket thicknesses

Nominal thickness	Compressed thickness	Guide ring thickness
3.2 mm	2.3 - 2.5 mm	2 - 2.2 mm
4.5 mm	3.2 - 3.4 mm	3 - 3.3 mm
7.2 mm	5.0 - 5.5 mm	5 - 5.5 mm

The design principle of the Spiral-Wound Gaskets

The basic element of every gasket is the wound core. The V-shaped metal strip is spirally wound with the soft-material filler.

To improve the mechanical strength and other sealing characteristics, some layers at the beginning and at the end are wound without soft material and spot-welded over the total circumference.

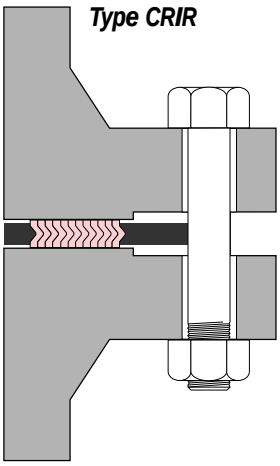
The constant tensile force during the complete winding process permits a defined, constant thickness of the structure.

This gives the gasket recovery forces which provide for a reliable surface load even at fluctuating operating conditions.

In the present 8 versions, the basic element is added by inner and/or outer rings as needed.

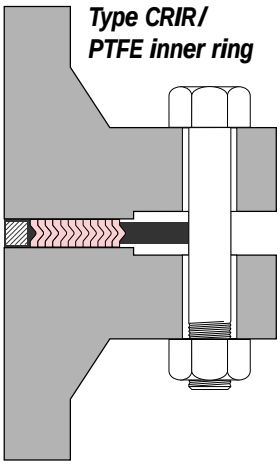
Spiral-Wound Gaskets

Type CRIR



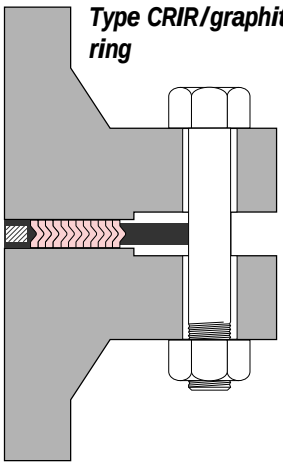
Solid metal outer and inner rings.
For use at high pressures and temperatures.
Suitable for raised face or flat face flanges.
Prevents turbulences and protects the flanges from erosion.
Protects the inner windings of the gasket element from high temperatures.

Type CRIR/ PTFE inner ring



Solid metal outer ring, PTFE inner ring.
Suitable for raised face or flat face flanges.
PTFE inner ring acts as an additional gasket and protects the inner windings of the gasket element from the fluid.

Type CRIR/graphite inner ring



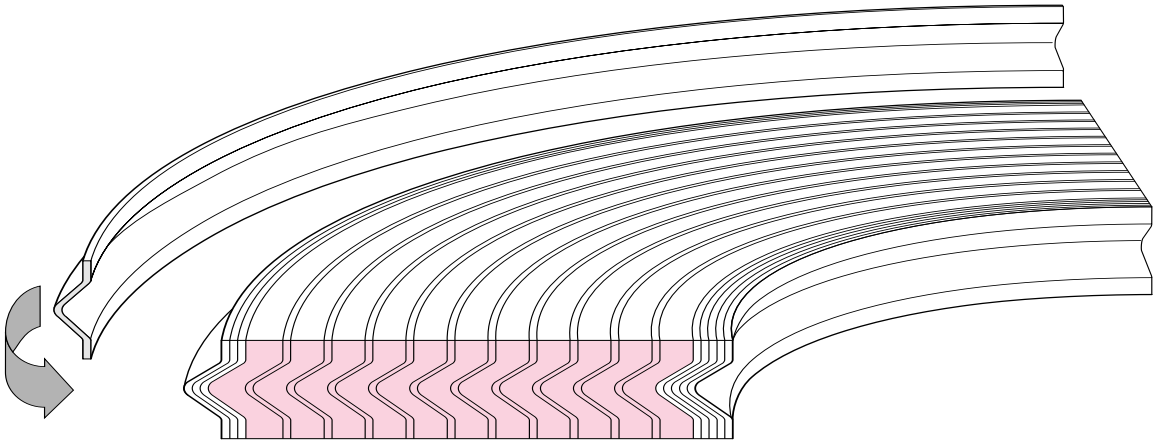
Solid metal inner ring with graphite facing.
For use at high pressures and temperatures.
Suitable for raised face or flat face flanges.
Suitable for corrosive media.
Graphite inner ring acts as an additional gasket.

Standard materials outer ring
Carbon steel, colour-powder coated
Stainless steel acc. to the standard metal strip materials

Standard materials inner ring
Stainless steel acc. to the standard metal strip materials

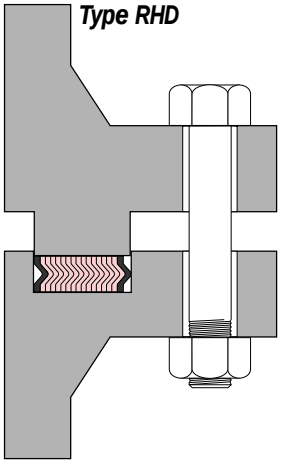
Fillers and temperature limits	
Ceramics	*approx. 800°C*
Graphite	*approx. 500°C*
PTFE	*approx. 260°C*
Mica	*approx. 900°C*

**pure graphite standard 98% purity or 99.85% nuclear grade*



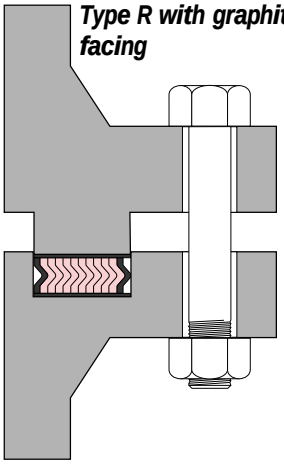
Spiral-Wound Gaskets

Type RHD



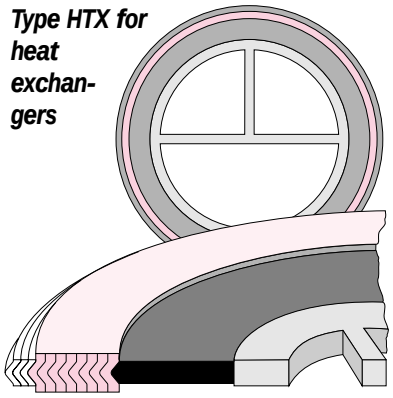
Spiral wound sealing element.
Wound high density.
Wide choice of materials for metal strip and filler material.
For use in high-pressure pumps, high-pressure valves and gas applications.
Low emission tested.

Type R with graphite facing



graphite facing 0.5 mm. For use in manhole gaskets. Suitable for use with low bolt loads and uneven gasket surfaces. Double sealing effect.

Type HTX for heat exchan-gers



Combined inner and outer rings. The inner ring could have pass bars or could carry either a metal clad or soft gasket with pass bars.

Recommended sealing strip roughness

These gaskets are capable of giving an excellent seal over a wide range of flange surface finishes.

However, as a general guide we recommend the following:

	R_a micrometer
general	*3.2 – 5.1*
critical	*3.2*
vacuum	*2.0*

(Larger flange surface finishes require higher bolt loads)

Subject to technical alterations.
Status: April 1999

Mounting Instructions

The principle

The spiral wound function is based on the metal winding/ filler relationship and the flange surfaces.

The surface roughness should be approx. R_a 3.2 µm. These gaskets can be used in flanges with larger surface roughnesses, but in this case the bolt loads should be increased so as to ensure proper function of the gasket.

When the gasket is compressed during mounting, the homogeneous filler „flows" into the irregularities of the flange. The metal windings enclose the filler and, at the same time, ensure the strength and elasticity of the gasket.

If the gasket is equipped with a PTFE filler it must have an inner ring since the PTFE permits no further compression, as is the case with other fillers. On the one hand, it prevents the gasket from springing open and on the other, penetration of the flowing PTFE in the pipeline. The larger the surface roughnesses in the flange surface, the larger the surface load required to permit a flow of the PTFE in the irregularities.

Mounting

Flange surface condition:
1. metallically clean
2. plane-parallel
3. dry
4. fat free
Do not use separating agents or sealing aids!

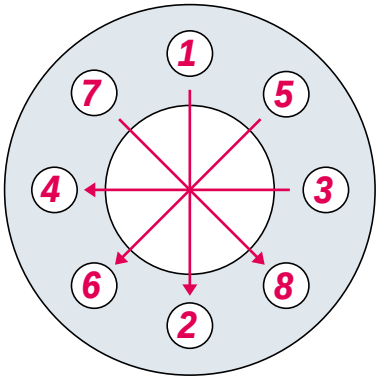
Mounting

The bolts should be free of damage and lubricated with high-temperature resistant greases before mounting.

Insert the gasket and fasten bolts finger-tight.

Next, tighten the bolts crosswise (see sketch) in at least 3 to 4 passes. The more passes you perform, the more uniform the force which is introduced into the flange-gasket system.

In the last pass, the bolts must be tightened only clockwise.



All information is provided in accordance with the current state of knowledge. As we cannot influence the specific application conditions, we would ask you to consider this as a non-binding recommendation.

We can assume no liability for any resulting damage.

MPS reserve the right to technical modifications.