KINGEN Co., LTD

SPIRAL WOUND GASKETS

The most widely used
and cost-effective
sealing products

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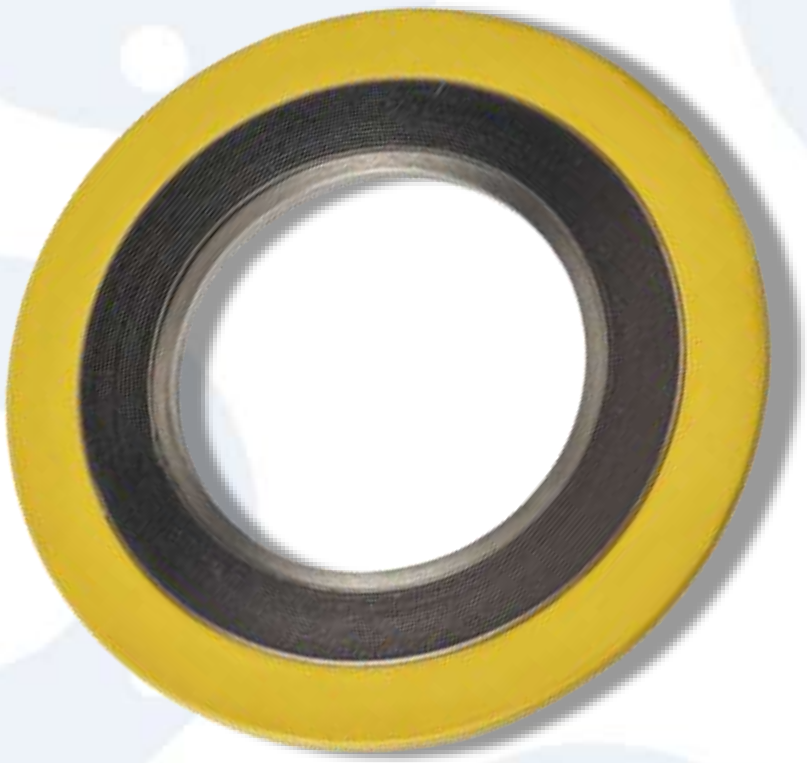
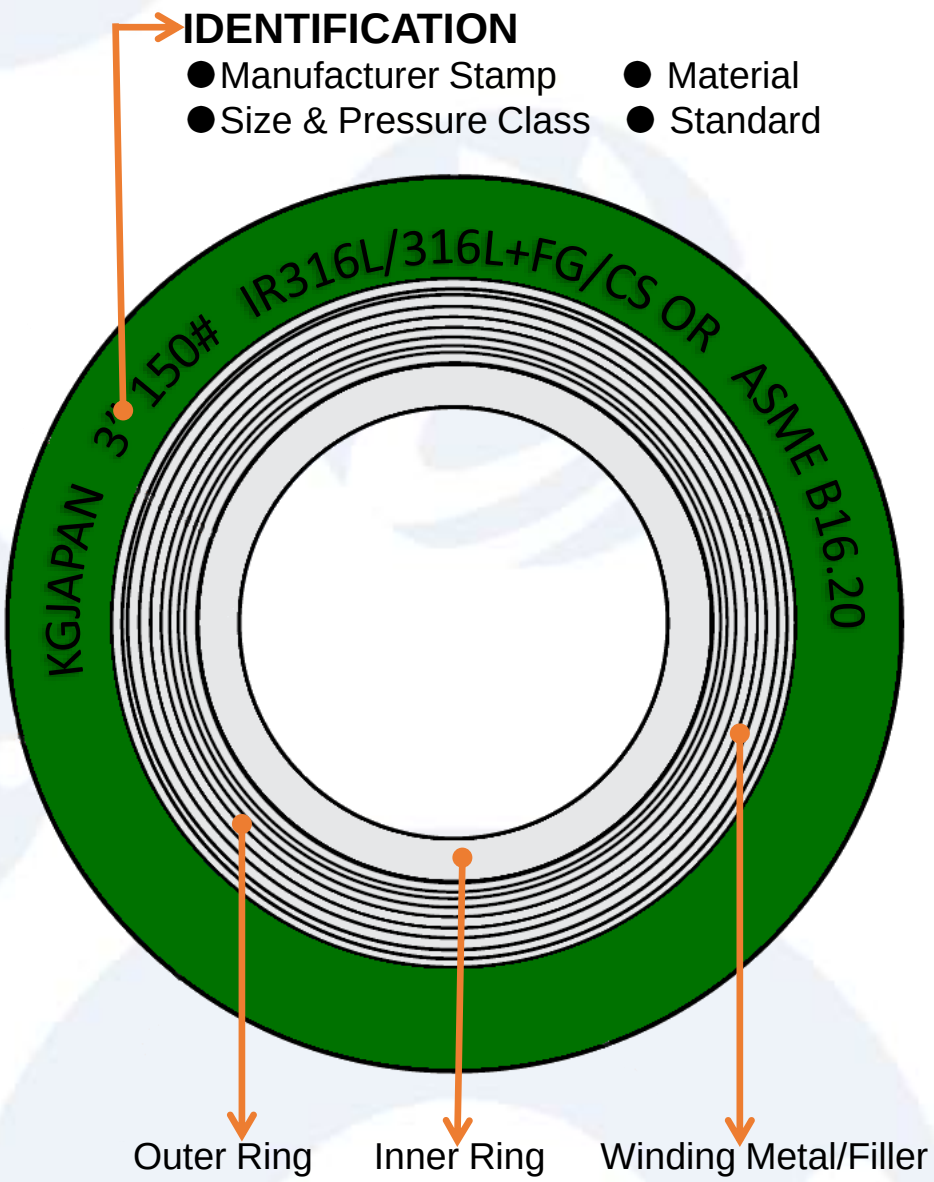
SPIRAL WOUND GASKET *Description*

In the early 20th century, oil industry needed a gasket that could be used at different temperatures and pressures, so Flexitallic invented the spiral wound gasket in 1912. The gasket has good compressibility and recovery, and with temperature changes and bolt stress relaxation, it can still maintain good sealing performance.





The spiral wound gasket is alternately winded by pre-formed metal strip and sealing strip. The steel strip makes gasket have sufficient strength and recovery, and the sealing strip plays a sealing role. On this basis, adding a metal inner ring and an outer ring makes the gasket not easy to deform and fall apart after being compressed, also outer ring provides a positioning function, which is convenient for installation.

SPIRAL WOUND GASKET *Materials*

METAL WINDING STRIP	MAX. TEMPERATURE	COLOUR CODE
SS304	550℃	
SS304L	550℃	
SS316L	550℃	
SS316Ti	550℃	No Colour
SS321	550℃	
Inconel 625	450℃	
Inconel 825	450℃	
Hastelloy C276	450℃	
Monel 400	600℃	
S31803	300℃	No Colour
Titanium	350℃	No Colour

FILLER	MAX. TEMPERATURE	COLOUR CODE
C.N.A.F	250℃	No Colour
Graphite	450℃	
PTFE	260℃	
Mica	1000℃	

INNER & OUTER RING	
Carbon Steel	S31803
SS304	Inconel 625
SS304L	Inconel 825
SS316L	Hastelloy C276
SS316Ti	Monel 400
SS321	Titanium

Notes

- **Selected materials should be compatible with operating temperature and chemicals.**
- **In addition to the materials listed in the table above, other special materials are also available, please contact our technical staff.**

SPIRAL WOUND GASKET *Selections*

SEALING ELEMENT TYPE XY-S-K	INNER RING TYPE XY-S-N	OUTER RING TYPE XY-S-G
		
Winded by pre-formed metal strip and sealing strip, with additional winding strip at the beginning and end, which improves the strength and sealing performance. This gasket is suitable for male and female flanges, tongue and groove flanges.	Consists of a sealing element and inner ring. The inner ring prevents sealing element from over compression and also be a physical barrier between gasket and media stream. This gasket is recommended to use for male and female flanges and tongue and groove flanges.	Consists of a sealing element and outer ring. The outer ring prevents over compression of the sealing element and also ensures that the gasket is installed in the center of the flange face. This gasket is suitable for raised face and full face flanges in light to moderate service conditions.
INNER/OUTER RING TYPE **XY-S-R**	**HEAT EXCHANGER TYPE** **XY-S-E**	**MANHOLE COVER TYPE** **XY-S-I**
		
Consists of sealing element and inner and outer rings. The sealing element is confined within the inner and outer rings to prevent deformation of the sealing element. The inner ring also acts as a physical barrier against heat from the media. The outer ring ensure that the gasket is installed in the center of the flange. This gasket is suitable for raised and full face flanges in moderate to heavy service conditions.	Various rib-type spiral wound gaskets can be customized according to the customer's container. Generally, it is configured with an inner ring, and winding metal strips can also be added as the outer ring. The inner ring acts as a compression stop, preventing the sealing element from being over compressed. Winding outer ring ensures that the gasket is installed in the correct position in the flange groove.	Designed for manhole covers and boiler covers Assemblies. Using special high temperature resistant flexible graphite strip, it is an ideal choice for corrosive, high temperature and high pressure conditions. Available in round, square, oval, diamond, etc.

Note: When using PTFE filler material, Spiral Wound Gaskets shall be fitted with an inner ring.

SPIRAL WOUND GASKET *Availability*

About Thickness

For optimum sealing performance, we recommend the spiral wound gasket should be compressed to the thickness listed in table right.

Please compress the spiral wound gasket with metal ring as far as possible to the metal ring. This will not crush the gasket and affect the sealing effect, since the metal ring acts as a compression limit.

INITIAL GASKET THICKNESS	RECOMMENDED COMPRESSED THICKNESS
3.2mm	2.3~2.5mm
4.5mm	3.2~3.4mm
6.4mm	4.6~5.1mm
7.2mm	5.1~5.6mm

STANDARD	
GB/T4622	NB/T47025
HG20631	HG20610
ASME B16.20	EN1514-2
JIS B2404	

About Standard

In the table on the left are the common spiral wound gasket standards. These standard inner and outer rings are always available in stock. Customers can respond quickly when they urgently need gaskets on site. In addition, non-standard gaskets can also be produced according to drawings and sizes.

Ring Stock

SPIRAL WOUND GASKET *Installation*

In order to make the gasket have better sealing performance and longer service life, it is not only necessary to correctly select the type and material of the gasket, but also to install and maintain the gasket correctly.

Below guidelines are designed to assist the end user in install a gasket.

Gasket	● Use a new gasket ● Check the gasket is in good condition and the size is correct for the flange ● Do not apply any joint compound, grease or lubricant to gaskets and flanges
Flange	● Remove the old gasket and check that the flange faces are clean and free from indentations and scoring ● For spiral wound gasket, a surface finish between 3.2μm to 6.3μm is recommended ● Check the flange faces are parallel or the flanges allows to be pulled parallel and concentric without excessive bolt loads
Bolting	● Clean every bolts and nuts. Apply bolt lubrication to threads an faces. ● When installing the bolt and nut, make sure the back face of the flange is flat. If necessary, use a file or wire brush to clean the surface ● If possible use washers to transfer the bolt loads
Installation	● Ensure that the gasket is installed centrally ● It is recommended that using torque wrench to tighten bolts ● Tighten bolts in a star-like crossing pattern。①Tighten nuts by finger ②Tighten to 30% load ③Tighten to 60% load ④Tighten to full load ⑤Make a final tightening sequence