



DATA SHEET FOR SPIRAL WOUND GASKETS

A spiral wound gasket is manufactured by spirally winding a preformed metallic strip and a filler on the outer periphery of a metallic mandrel. Each spiral wound gasket is essentially a "customised" design, with the mechanical construction of the gasket determined by both the operating conditions and the available bolt stress.

In essence, a spiral wound gasket for a low pressure class (i.e. 150lb) is manufactured to a low density construction, with a low number a metallic windings per unit width. For a high density application, where a more resilient design is required, a high number of metallic windings per unit width is incorporated into gasket design.

For this reason, it is very difficult to offer a data sheet to cover all variations of the spiral wound gasket design. For this exercise, standard product specifications are detailed, 316S11 stainless steel winding strip and graphite filler material. In addition, a typical load/compression graph has been attached, detailing the general compression and recovery values of a spiral wound gasket. However, please note the load is dependent on the gasket construction.

APPLICATION

GASKET STYLE :	CGI
FILLER MATERIAL :	GRAPHITE (Flexicarb)
WINDING STEEL :	316S11
GUIDE RING STEEL :	316S31

NOTE: The filler material (graphite), and the winding material (316S11) used in this construction have been evaluated and are suitable for the application stated above. An external and internal guide ring (316S31) has been used in this particular construction to avoid over compressing the sealing element. The guide ring will act as a compression stop.

Graphite filler material (flexicarb)

Density:	1.0 to 1.1 g/cc	ASTM C559
Ash content:	2.0% (maximum)	ASTM C561
Total carbon:	98% (minimum)	ASTM C571
Leachable chlorides:	20ppm (maximum)	ASTM D512
Thickness:	0.5mm (+/- 10%)	
Tensile:	4.3 Mpa	

316 Winding steel

Grade:	316S11 from BS1449 Pt.2		
Chemical analysis :	C	=	0.030 % max
	Si	=	1.00 % max
	Mn	=	2.00 % max
	P	=	0.045 % max
	S	=	0.030 % max
	Cr	=	16.5 to 18.5 %
	Mo	=	2.0 to 2.5 %
	Ni	=	11.0 to 14.0 %

Mechanical properties:	Proof stress Rp 0.2 min.	=	190 N/mm ²
	Proof stress Rp 1.0 min.	=	225 N/mm ²
	Tensile strength Rm min.	=	490 N/mm ²
	Elongation A. min.	=	40 %
	Hardness HV max.	=	195

Thickness: 0.178mm (+/- 10%)

316 Guide ring material

Grade :	316S31 from BS1449 Pt.2		
Chemical analysis :	C	=	0.070 % max
	Si	=	1.00 % max
	Mn	=	2.00 % max
	P	=	0.045 % max
	S	=	0.030 % max
	Cr	=	16.5 to 18.5 %
	Mo	=	2.0 to 2.5 %
	Ni	=	10.5 to 13.5 %

Mechanical properties:	Proof stress Rp 0.2 min.	=	205 N/mm ²
	Proof stress Rp 1.0 min.	=	240 N/mm ²
	Tensile strength Rm min.	=	510 N/mm ²
	Elongation A. min.	=	40 %
	Hardness HV max.	=	205

Thickness: 2.97 to 3.33mm

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We reserve the right to change the details given on this Data Sheet as additional information is acquired. Customers requiring the latest version of this Data Sheet should contact our Applications Engineering Department.

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