

Roughness of sealing surface

One of the frequently asked questions concerns the “correct” roughness value of a sealing surface. Soft gaskets from Frenzelit are very tolerant in this issue. They are working properly even at a wide range of roughness values.

Generally spoken a certain roughness of the sealing surface can be considered as an advantage, because it is helpful for a good conjunction between the flange and the gasket. However very high surface roughness is disadvantageous and cannot be compensated by the gasket material and the surface adaptability of the gasket might be exceeded. The adaptability of gaskets of Frenzelit product family novaphit are beyond the average.

We recommend to follow the guidelines of EN 1092-1 concerning roughness values of sealing surface. The following table shows an extract of the given values:

Shape of sealing surface acc. EN 1092-1	R _A		R _Z	
	[µm]	[µin]	[µm]	[µin]
A – full face	3.2 – 12.5	125 – 500	12.5 – 50	500 – 2000
B ₁ – raised face	3.2 – 12.5	125 – 500	12.5 – 50	500 – 2000
E,F – male and female	3.2 – 12.5	125 – 500	12.5 – 50	500 – 2000
B ₂ – raised face	0.8 – 3.2	32 – 125	3.2 – 12.5	125 – 500
C,D – tongue and groove	0.8 – 3.2	32 – 125	3.2 – 12.5	125 – 500

Exemplary leakage tests with compressed fibre gaskets (novapress) in raised face flanges (shape B₁) resulted in an optimised roughness grade of approx. R_Z 30 – 40 µm. All Frenzelit gasket grades can be used within the whole range given in the table above without any problems.

Additional Information:

Formerly used figures “N” from replaced ISO 1302:1992	N 6	N 7	N 8	N 9	N 10
R _A [µm]	0.8	1.6	3.2	6.3	12.5
R _A [µin]	32	63	125	250	500

Application engineering questions?

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