



**FLEXITALLIC LIMITED**

PO BOX 3, MARSH WORKS, DEWSBURY ROAD  
 CLECKHEATON, WEST YORKSHIRE BD19 5BT  
 TEL: 01274 851273 FAX: 01274 851386



**PRODUCT REFERENCE:** FLEXITALLIC SIGMA 533

**DESCRIPTION:** SIGMA 533 is a high performance biaxially orientated sheet sealing material containing PTFE with barium sulphate (barytes) filler.

**COLOUR:** White

**SERVICE:** Suitable for sealing all chemicals across the whole pH range (0-14) with the exception of molten alkali metals, fluorine gas, anhydrous HF, and sulphuric acid at concentrations > 75 % and at temperatures above 65°C.

Maximum recommended temperature: 260°C (500°F)

Maximum recommended pressure: 8.5 MPa (85 bar; 1235 psi)

These temperature and pressure guides cannot necessarily be used simultaneously and may not apply at all thicknesses.

Complies with the requirements of FDA regulations.

Do NOT use gasket pastes.

**TYPICAL PHYSICAL PROPERTIES:**

Thickness	mm	0.8	1.5	2.0	3.0
Density	gcm <sup>-3</sup>	2.9	2.9	2.9	2.9
ASTM Compressibility	%	11	8	8	7
ASTM Recovery	%	46	43	43	45
ASTM Tensile Strength	MPa	15	15	15	17
DIN Residual Stress @ 175°C	MPa	35	28	24	19
DIN Gas Permeability	mL/min	<0.1	<0.1	<0.1	<0.1
ASTM Liquid Leakage; Fuel A 50 psi	mL/hr	2	3	3	3
ASTM Creep Relaxation	%	17	33	40	51

**AVAILABILITY:**

Sheet size: 2.0 m x 2.0 m  
 For larger sizes, welded gaskets are available.

Thickness range: 0.75 mm to 3.2 mm  
 Other thicknesses may be available on request.

PDS 127 07/07

This Data Sheet refers to the material as supplied. The information contained herein is given in good faith, but no liability will be accepted by the Company in relation to same. 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. The information given and, in particular, any parameters, should be used for guidance purposes only. The Company does not give any warranty that the product will be suitable for the use intended by the customer.

## HEALTH AND SAFETY

Because of the processes which take place during manufacture, the product is believed to present no health and safety hazard and, under normal handling and use it is unlikely that the product will give rise to significant levels of exposure to constituent materials.

SIGMA 533 contains PTFE and barium sulphate.

Under harsh mechanical treatment (e.g. high speed stamping operations or abrasion) the constituents may give rise to irritant dusts which, in extreme cases of exposure, could lead to more serious respiratory problems. Occupational exposure to such dusts should therefore be minimised and kept below relevant national exposure limits. Good standards of hygiene should be applied during gasket cutting operations and off-cuts should be disposed of by transfer to a site appropriately licensed to accept industrial materials of this nature.

Although the filler and polymeric binder are non-flammable, at elevated temperatures or in a sustained fire, decomposition will occur and give rise to irritant and in some instances harmful or toxic fumes.

For more detailed information, reference must be made to our Health and Safety Bulletin, Sections 1, 2, 2.9 (barium sulphate), 2.10, 3 and 3.4. This will enable you to carry out any necessary assessment of risk which may be required under national or local legislation.