



Associated Gaskets



## Matrix PTFE Gasket Materials

Lamons Matrix are premium sealing materials specifically designed for use in critical piping systems where superior chemical resistance and performance is required. Produced using the HS10 method developed by DuPont® in 1960, the result is a material that has exceptional strength and stability under load. The resultant biaxial orientation of the PTFE particles creates a unique strength where both the longitudinal and transverse directions are equally as strong. This superior matrix orientation and addition of premium fillers allows the material to resist creep and cold flow when subjected to load and temperature.

PTFE (commonly referred to as “Teflon®” which is a trade name owned by DuPont) is a fluorocarbon solid that has a very high molecular weight. The structure consists primarily of carbon and fluorine. PTFE is very non-reactive, partly because of the strength of the carbon-fluorine bonds. For this reason it possesses exceptional chemical resistance. Because it is chemically inert, PTFE cannot be crosslinked like an elastomer which can be cured with a chemical reaction. Due to this, PTFE has little memory or recovery and is susceptible to creep and movement under load.

While this feature is desirable from a conformance standpoint, it can be a detriment to maintaining load. Lamons Matrix manufacturing process allows the addition of fillers which are consistently and precisely dispersed throughout the mix. These fillers add body and stability to the finished gasket material resulting in a superior balance of surface conformance and creep resistance. This filler system and the biaxial orientation resultant from the HS10 process results in one of the highest performance PTFE sheet gasket materials available in the market.

### Matrix L100

A biaxially orientated high quality silica-filled PTFE sheet used for sealing most chemicals (except molten alkali metals, fluorine gas and hydrogen fluoride). This material is approved for potable water service, complies with FDA regulations and is used with all concentrations of sulphuric acid.



### Matrix L104

A superior performance, biaxially orientated sheet containing PTFE and hollow glass microspheres for use in sealing most chemical (except molten alkali metals, fluorine gas and hydrogen fluoride). This grade is used in potable water service and complies with FDA regulation. It also has exceptional compression properties making it good for use on glass lined flanges or where loading problems exist.



### Matrix L110

A pigment-free, biaxially orientated PTFE sheet with superior performance. L110 is barium sulphate-filled and used for sealing food, pharmaceutical and other chemical applications. This material complies with the requirements of FDA regulations and is acceptable for use in aqueous hydrofluoric acid below 49%. It is not suitable for sealing molten alkali metals or fluorine gas.



## Associated Gaskets

**Brisbane:** 07 3257 1144  
**Melbourne:** 03 9768 3113  
**Newcastle:** 02 4967 7677

**Phone:** 1300 098 060  
**Web:** [www.agaus.com.au](http://www.agaus.com.au)

**Perth:** 08 9258 5858  
**Sydney:** 02 9774 3333  
**Wollongong:** 02 4272 4800



## Matrix PTFE Gasket Materials

### Typical Physical Properties

	Matrix L100	Matrix L104	Matrix L110
Colour	Tan	Blue	Off White
Density	2.2 g/cm <sup>3</sup>	1.4 g/cm <sup>3</sup>	2.9 g/cm <sup>3</sup>
Temperature Limits	-268°C to 260°C	268°C to 260°C	268°C to 260°C
Max. Pressure	8.5 MPa	8.5 MPa	8.5 MPa
F36 Compression	7%	35%	6%
F36 Recovery	45%	45%	40%
F152 Tensile Strength	16 MPa	13 MPa	14 MPa
F37 Liquid Leakage	<0.3 ml/hr	<0.25 ml/hr	<0.2 ml/hr
F38 Creep Relaxation	35%	31%	13%
F149 Dielectric Strength	20 kV/mm	15 kV/mm	21 kV/mm
Residual Stress BS7531 @ 175°C	31 MPa	30 MPa	30 MPa
DIN Residual Stress @ 175°C	30 MPa	30 MPa	28 MPa
Gas Leakage—DIN 3535	<0.01 mg/s-m	<0.02 mg/s-m	<0.01 mg/s-m
Gas Leakage—BS7531	<0.005 mL/min	<0.01 mL/min	<0.004 mL/min
ROTT Constant Gb	172	23	146
ROTT Constant a	0.401	0.322	0.375
ROTT Constant Gs	2.76 x 10 <sup>-6</sup>	6.42 x 10 <sup>-3</sup>	1.2
Tpmax	2426	16370	60460
m	4	2	2
y	15 MPa	11 MPa	12 MPa

Complies with the requirements of FDA21 CFR 177.1550, TA-LUFT  
Test information is available for: HOBt, ROTT, EN 13555

### Availability

Matrix PTFE Gasket Materials are available from AG in 1.5mm and 3mm thick sheets. Standard sheet size is 1520mm / 1520mm though other sizes can also be supplied upon request. Of course, AG can also supply these premium sealing materials in cut gasket form. Our ISO 9001 certified production facilities allow us to offer a full range of cut gaskets to suit standard or custom flanges, delivered fast to meet your requirements.

For more information, including chemical compatibility and other data, please contact your local AG.

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