

## MATERIAL SPECIFICATION

(TYPICAL PROPERTIES)

PRODUCT: **Virgin ptfe (polytetrafluoroethylene)**

<u>Property</u>	<u>Method</u>	<u>Units</u>	<u>Specification</u>
Bulk density	ASTM D4894	g/l	370 – 800
Avg. Part. Size		µm	20 – 800
Specific gravity	ISO 13000-1	-	2,130 – 2,180
Tensile strenght	ISO 13000-1	MPa	20 - 35
Elongation	ISO 13000-1	%	200 - 350
Hardness	ISO 868	Shore D	54 – 60
Flexural modulus	23° C	N/mm2	600 – 700
Compressive strength 1% of deformation	ASTM D695	N/mm2	4 - 5
Deformation under load (140 Kg/cm <sup>2</sup> for 24 hrs. At 23° C)	ASTM D695	%	10 – 13
Permanent deformation (after 24 hrs. Relaxation at 23° C)	ASTM D695	%	6 – 7,5
Coefficient of static friction	ASTM D1894		0,08 – 0,10
Coefficient of dynamic friction	ASTM D1894		0,06 – 0,08
Thermal conductivity	ASTM C 177	W/m.K	0,24
Dielectric constant (ε) at 60 Hz to 2GHz	ASTM D150	/	2,1
Dielectric Strength	ASTM D149	KV/mm	20 – 70
Volume Resistivity	ASTM D257	Ohm cm	10 <sup>18</sup>
Coefficient of linear expansion (parallel to moulding direction)	DIN 53 752	K <sup>-1</sup>	30-100°C 12·10 <sup>-5</sup> 30-200°C 14·10 <sup>-5</sup> 30-260°C 17·10 <sup>-5</sup>

# fluorseals®

prodotti in p.t.f.e.

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Melting Point		C°	325 – 335
Flamability	UL 94	%	VE-0
Water absorption	ASTM D570	%	0,01

## Service Temperature:

Excellent resistance to continuous service temperatures up to 260° C and, for limited periods, even to higher temperatures; the low temperature resistance of the product allows satisfactory performance at as low –200° C.

## Chemical resistance:

PTFE possesses a high inertness towards nearly all known chemicals. It is only attacked by elemental alkali metals, chlorine trifluoride and elemental fluorine at high temperature and pressures.

## Solvents resistance:

PTFE is insoluble in all solvents up to temperatures as high as 300° C (572° F). Certain highly fluorinated oils only swell and dissolve PTFE at temperatures close to the crystalline melting point.

## FDA Approved:

(Code of Federal regulation 21 CFR Ch.1, revised as of April 1, 1999 Edition);  
sections 175.105 - 175.300 - 176.170 - 176.180 - 177.1520 - 177.1550 -  
177.2600 - 178.3570. "Perfluorocarbon Resins" of the Food and Drug Administration/USA.