

## PTFE G400 – MOULDED VIRGIN PTFE

PTFE is a polymer of tetrafluorethylene. The strength of its carbon-fluorine bonds **makes it a material with a unique combination of special properties** such as:

- ✓ superior thermal stability
- ✓ excellent chemical inertness
- ✓ superior dielectric properties
- ✓ useful mechanical properties
- ✓ low coefficient of friction
- ✓ excellent release properties
- ✓ excellent weatherability
- ✓ flame resistance
- ✓ vast temperature range
- ✓ almost infinite shelf life



### MAIN SEGMENT APPLICATIONS

AGRICULTURE  
 AEROSPACE & AERONAUTICAL  
 ARCHITECTURE  
 AUTOMOTIVE & TRANSPORTATION  
 CIVIL ENGINEERING  
 CHEMICAL & PHARMA  
 INDUSTRIAL/MECHANICAL  
 HEALTH & BIOMEDICAL  
 HYDRAULICS  
 FOOD & BEVERAGE  
 ELECTRONICS AND SEMICON  
 ENERGY  
 OIL & GAS  
 PRINTING & CONVERTING  
 SPORT & LEISURE  
 TEXTILE

### THERMAL PROPERTIES

Thermal insulating material stable up to 260°C. The least flammable of all plastics.

### CHEMICAL PROPERTIES

PTFE withstands all chemical agents except for alkaline metals, chlorotrifluoride and elemental fluorine at high temperature and pressure.

### ELECTRICAL PROPERTIES

PTFE is an excellent electrical insulator retaining its dielectric properties in a wide range of frequencies and temperatures with no substantial alterations up to 300°C.

### TRIBOLOGICAL PROPERTIES

The lowest coefficient of friction of all plastics – the preferred choice for sliding applications.

### PTFE G400 APPROVALS

- ACS
- WRAS
- KTW
- W270
- BELGAQUA
- 3A SANITARY
- API 6A
- USP CLASS VI
- DVGW
- NORSOK M710

### PTFE G400 FOOD CONTACT APPROVALS

- REG EU 10/2011
- FDA 177.1550
- CHINESE FOOD CONTACT SPEC. (GB NORMS)



**GUARNIFLON SPA**  
 (Società Socio Unico Soggetta all'attività di direzione e coordinamento ex art.2497 bis C.C. da parte di Mazza Holding srl)

VIA T.TASSO N° 12 - 24060 CASTELLI CALEPIO (BG) ITALY  
 VAT N° IT 01406020162 - C.F. 01406020162  
 REG.IMPRESSE DI BG - REA N. 203233  
 CAPITALE SOCIALE € 10.000.000 interamente versato

Fluorobased Product Division  
 www.guarniflon.com - info@guarniflon.com

Phone +39.035.4494311

D-U-N-S © Number: 429385180



UNI EN ISO 9001:2015

PTFE G400 – VIRGIN PTFE			
TYPICAL PROPERTIES	UNIT	METHOD	DATA - MOULDED
<b>PHYSICAL - MECHANICAL</b>			
Density	g/cm <sup>3</sup>	ASTM D792	2,14 – 2,18
Hardness – Shore D	/	ASTM D2240	≥ 51
Tensile Strength – CD*	N/mm <sup>2</sup>	ISO 527 v = 50mm/min microtensile die	≥ 24
Elongation at Break – CD*	%	ISO 527 v = 50mm/min microtensile die	≥ 250
Compressive Strength at 1% Deformation – CD*	N/mm <sup>2</sup>	ASTM D695	4 - 5
Deformation under Load at Room Temperature After 24 Hours at 13,7 N/mm <sup>2</sup> – CD*	%	ASTM D621	≤ 17
Permanent Deformation Under Load After 24 Hours of Rest at Room Temperature – CD*	%	ASTM D621	≤ 9
Deformation under Load at 260°C after 24 Hours at 41N/mm <sup>2</sup>	%	ASTM D621	≤ 32
Permanent Deformation Under Load After 24 Hours of Rest at Room Temperature – CD*	%	ASTM D621	≤ 19
Impact Strength IZOD	J/m	ASTM D256	153
<b>TRIBOLOGICAL</b>			
Dynamic Coefficient of Friction	/	ASTM D1894 ASTM D3702	0,06
Wear Factor K	/	ASTM D3702	2,900
PV Limit			
at 3 n/min			2,4
at 30 n/min	N/mm <sup>2</sup> •m/min	/	4,2
at 300 m/min			5,7
<b>THERMAL</b>			
Service Temperature (Min-Max)	°C	/	- 200 / + 260
Thermal Expansion Coefficient (Linear) 25 – 100°C	10 <sup>-5</sup> (mm/mm)/°C	Similar to ASTM D696	12 - 13
<b>ELECTRICAL</b>			
Dielectric Strength (Specimen 0,5 mm. Thick)	KV/mm	ASTM D149	≥ 40
Dielectric Constant at 60 Hz and 10 <sup>6</sup> Hz	/	ASTM D150	2,05 – 2,40
Volume Resistivity	Ω • cm	ASTM D257	10 <sup>18</sup>
Surface Resistivity	Ω	ASTM D257	10 <sup>17</sup>
*CD=Cross Direction			

Note: the data listed herein fall within the normal range of product properties described, but they should not be used to establish specification limits nor used alone as the basis of design. Guarniflon® Spa assumes no obligation or liability for any advice furnished by it or for results obtained to these products.



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