

## LARTON G/40

Polyphenylene Sulphide (PPS) based compound.

Glass fibers. Very good chemical resistance. Very good thermal properties. Low smoke density and low toxicity index.

PHYSICAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
Density	ISO 1183	1.67 g/cm <sup>3</sup>
Linear shrinkage at moulding		
Longitudinal (0.078in/8,700psi)	ISO 294-4	0.002 ÷ 0.004 in/in
Transversal (0.078in/8,700psi)	ISO 294-4	0.002 ÷ 0.004 in/in
Moisture absorption (in air) after 24hrs	ISO 62-4	0.04 %
MECHANICAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
CHARPY impact strength		
Unnotched, at +73°F	ISO 179-1eU	14.02 ft.lb/in <sup>2</sup>
Unnotched, at -4°F	ISO 179-1eU	13.08 ft.lb/in <sup>2</sup>
Notched, at +73°F	ISO 179-1eA	4.21 ft.lb/in <sup>2</sup>
Notched, at -4°F	ISO 179-1eA	4.21 ft.lb/in <sup>2</sup>
Tensile elongation		
At break (0.196 in/min), 73°F	ISO 527 (1)	1.4 %
At break (0.196 in/min), 140°F	ISO 527 (1)	1.5 %
At break (0.196 in/min), 195°F	ISO 527 (1)	2.0 %
At break (0.196 in/min), 250°F	ISO 527 (1)	3.0 %
At break (0.196 in/min), 300°F	ISO 527 (1)	3.4 %
Tensile strength		
At break (0.196 in/min), 73°F	ISO 527 (1)	26100 psi
At break (0.196 in/min), 140°F	ISO 527 (1)	24600 psi
At break (0.196 in/min), 195°F	ISO 527 (1)	20300 psi
At break (0.196 in/min), 250°F	ISO 527 (1)	14500 psi
At break (0.196 in/min), 300°F	ISO 527 (1)	10900 psi
Elastic modulus		
Tensile (speed 0.04 in/min), at 73°F	ISO 527 (1)	2320 kpsi
Tensile (speed 0.04 in/min), at 140°F	ISO 527 (1)	2250 kpsi
Tensile (speed 0.04 in/min), at 195°F	ISO 527 (1)	2180 kpsi
Tensile (speed 0.04 in/min), at 250°F	ISO 527 (1)	1420 kpsi
Tensile (speed 0.04 in/min), at 300°F	ISO 527 (1)	990 kpsi

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THERMAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
<b>Coefficient of linear thermal expansion (CLTE)</b>		
+86°C to +212°F (longitudinal)	ISO 11359-2	6 µin/(in·°F)
+86°C to +212°F (transversal)	ISO 11359-2	8 µin/(in·°F)
<b>VICAT - Softening point</b>		
11 lb (heating rate 122°F/h)	ISO 306	491 °F
<b>HDT - Heat Deflection Temperature</b>		
66 psi	ISO 75	536 °F
264 psi	ISO 75	518 °F
<b>C.U.T. - Continuous Use Temperature</b>		
Long period (20,000h)	ASTM E1641/E1877	428 °F
FLAMMABILITY	STANDARD	VALUE MEASURE UNITS
<b>Oxygen Index</b>		
	ASTM D 2863	44 %
<b>Flammability rating</b>		
0.118 in thickness	UL 94	V-0
0.059 in thickness	UL 94	V-0
0.029 in thickness	UL 94	V-0
<b>GWFI - Glow Wire Flammability Index</b>		
	IEC 60695-2-12	960°C/1mm
	IEC 60695-2-12	960°C/2mm
<b>GWIT - Glow Wire Ignition Test</b>		
	IEC 60695-2-13	775°C/1mm
	IEC 60695-2-13	775°C/2mm
ELECTRICAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
<b>CTI - Comparative Tracking Index</b>		
solution A (without surfactant)	IEC 60112	125 V
<b>Electrical resistivity</b>		
Surface	ASTM D 257	1E12 ohm

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### MATERIAL - STORAGE

Sealed, undamaged packages has to be kept in dry storage facilities, providing they are also able to protect them from weather and accidental damages.

### HANDLING AND SAFETY

Detailed information about a safe treatment of the material are indicated in the "Material Safety Data Sheet" (MSDS) furnished with the first material supply. The MSDS may be also sent again in case of loss.

### PREDRYING CONDITIONS

At least 3 hours at 212 ÷ 266°F

These are the suggested conditions to reduce the moisture content to adequate levels (<0.1%). Temperature and drying time can be reduced by using vacuum ovens

### ACTUAL MELT TEMPERATURE

554 ÷ 590°F

The injection molding machine settings needed to obtain the suggested melt temperature will depend greatly on shot size and machine capacity, as well as other molding parameters such as: injection speed, screw RPM, back pressure, etc. On small machines, running short cycles, it is possible to use higher melt temperatures to improve plastification, fluidity and surface appearance, paying attention to any indication of material degradation.

### MOLD TEMPERATURE

266 ÷ 284°F

The mold temperature suggested above is the actual tool steel temperature. This can be significantly different from the tool settings, due to the cooling system efficiency and the accuracy of the temperature control on the tool.

### INJECTION SPEED

Medium to high

The advisable injection speed greatly depends on cavity geometry and injection molding machine size. The use of high injection speed can improve the surface appearance, but it can also cause outgassing and burn marks due to overheating through shear stress.

### REGRIND USAGE

The use of regrind is possible, but should be assessed on the basis of the project, moulding parameters, and type of grinding used. The effect of using regrind on material properties must be evaluated by the customer on its specific project and process. High percentages of regrind may cause a reduction in viscosity and fibre length, reducing mechanical properties, first resilience. According to UL guideline, up to 25% of regrind is permitted, without affecting the ratings of the yellow card. However, LATI suggests that no more of 15% of regrind is used.

### HOT RUNNER MOLDS

Hot runner moulds may be used when a very tight temperature control is assured.

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### TO AVOID

Shut-off nozzles and internally heated hot runners have to be avoided. In order to prevent any material degradation, over-dimensioned machines should be avoided.

### NOTES

**Versions of product mentioned herein are suitable for applications in contact with foodstuff or for potable water transportation, or for toy manufacturing. However, manufactured parts have to be verified according to the specific directives. Versions of product mentioned herein may support applications in the pharmaceutical, medical or dental sector. However, manufactured parts have to be verified according to the specific directives.**

### APPROVALS

UK (WRAS): Product versions approved according WRAS recommendations are available.

USA (NSF51): Product versions approved according NSF51 recommendations are available.

USA (UL): Product versions approved according UL recommendations are available.

### CONTACTS

**LATI Industria Termoplastici S.p.A.**