



LARAMID

Based on semi-aromatic Polyamide

Key benefits:

- **High melting point, good strength and stiffness at high temperatures**
- **High glass transition temperature**
- **Excellent mechanical properties**
- **Improved long term temperature resistance**
- **Low moisture absorption and good dimensional stability**
- **Good chemical resistance**
- **Very good surface appearance with special mineral fillers (up to 60%)**
- **Tailor-made grades also fulfil specific requirements such as flame retardancy, wear resistance and electrical conductivity**

LARAMID compounds, based on special semi-aromatic Polyamide resins, have been developed in order to achieve improved performance compared with traditional aliphatic Polyamides such as PA 6 and PA 66.

Having a semi-crystalline structure, LARAMID offers an outstanding combination of mechanical and thermal properties and bridges the performance gap between standard engineering and higher-performance thermoplastics with an excellent cost-to-performance ratio.

A special feature of the LARAMID range is the relatively low moisture absorption which enables to obtain moulded parts having improved dimensional stability throughout their service lives, and having better consistency of mechanical properties in humid environments. The melting temperature of the base polymer, which lies in the region of 300°C, gives an additional short-term thermal resistance improvement at very high temperatures.

LARAMID can be easily compounded to meet specific customers' requirements with glass-reinforcement, mineral fillers, specific additives for self-lubrication, etc. Coloured versions may also be available upon specific request.

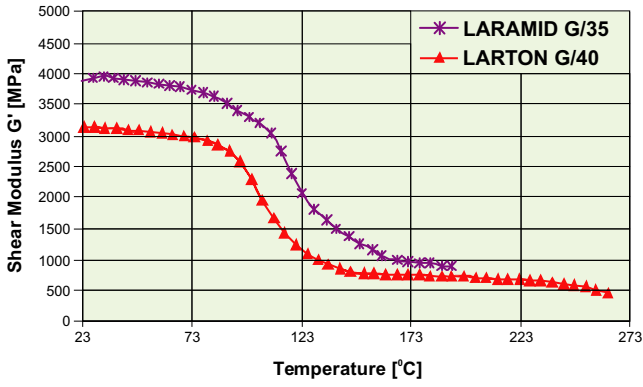
It is also worth remembering that LARAMID can be easily processed by using both conventional thermoplastic injection moulding machines and moulds. However, in order to get moulded parts with the greatest thermal, mechanical and chemical properties, the tool temperature should be set to around 130 - 140°C.

LATI is willing to share with you its expertise in this field, and its T.S. and R&D Teams are at your complete disposal to analyse your requirements and collaborate on project developments.

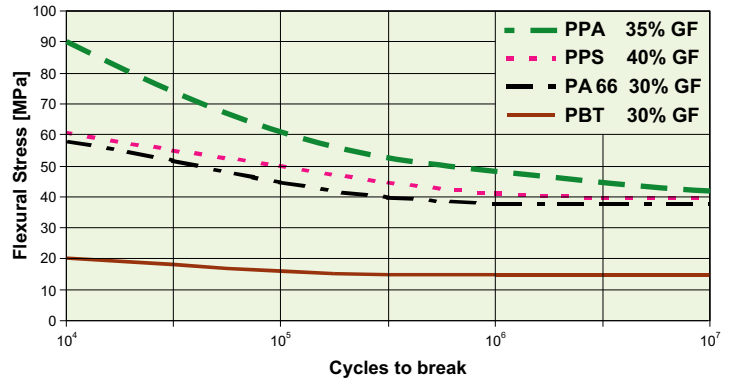
PROPERTIES (typical values)

	Test Method	Unit	Glass fibre	Mineral filler	Mineral filler and glass fibre	Carbon fibre	Flame-retardant	Self-Lubricating	Partially-conductive
			LARAMID G/45	LARAMID CE/60	LARAMID D GCE/650	LARAMID D K/35	LARAMID D G/35-V0	LATILUB 57-01M G/35	LATIOHM 57D-05 PD01 G/15
Physical									
Density	ISO 1183	g/cm ³	1.55	1.80	1.82	1.34	1.63	1.50	1.34
Shrinkage – along flow	LATI	%	0.30	0.80	0.30	0.30	0.30	0.40	0.40
Shrinkage – across flow	LATI	%	0.70	0.80	0.30	0.40	0.60	0.70	0.70
Mechanical									
Tensile strength at yield	ISO 527	MPa	225	105	170	260	197	190	190
Elongation at break	ISO 527	%	2	0.5	1.2	1.3	2.1	2	1.8
Flexural strength at yield	ISO 178	MPa	270	130	250	380	270	310	320
Flexural modulus	ISO 178	MPa	15000	9600	16000	24000	15000	12000	12000
Notched Izod	ASTM D256	J/m	105	18	52	60	81	78	52
Electrical									
Dielectric strength	ASTM D149	KV/mm	21	20	20	2	20	20	3
Comparative tracking index	IEC 112	V	500	>500	>500	<100	450	500	<100
Surface Resistivity	ASTM D257	ohm	1E16	1E16	1E16	1E2	1E16	1E16	1E3
Thermal									
H.D.T. 1.82 MPa	ISO 75	°C	285	160	246	274	270	266	258
Continuous use temperature	UL746B	°C	140	140	140	140	140	140	140
Flammability									
Rating @ 1.5 mm thickness	UL-94	-	HB	HB	HB	HB	V-0	HB	HB

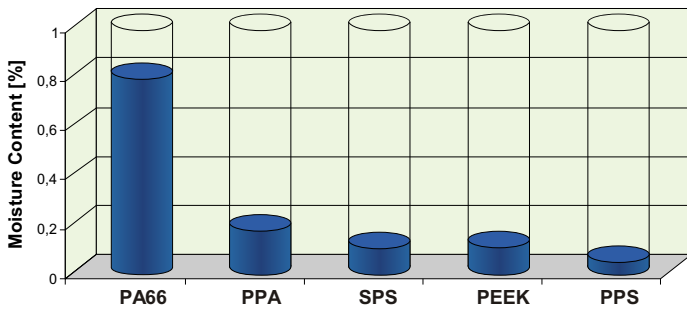
LATI Viscoelastic behaviour with Temperature



LATI Flexural Fatigue Strength (23°C - 60Hz)



Moisture Absorption (24 hours immersion in water) **LATI**



Reagents	LATI LARAMID
Aliphatic Hydrocarbons	G
Aromatic Hydrocarbons	G
Chlorinated Hydrocarbons	G
Oils and Greases	G
Ketons	G
Esters	G
Phenols	S
Alkalis	G
Strong Acids	F
Methanol	F
Methylene Chloride	F

Resistance: E= Excellent; G= Good; F= Fair; S= Severe attack

Thanks to its highly aromatic structure, LARAMID exhibits a superior chemical resistance when compared to other polyamides

Industry Sectors:

- Automotive (underbonnet)
- Electrical
- Industrial
- Teletronics
- Power tools
- Others



Hydraulic pump lid in LARAMID G/15



Pump housing for cooling systems in LARAMID G/35

Note: should you be interested in receiving a more detailed brochure, just contact our Offices

This document contains information based on average values as obtained from the results of laboratory tests and observations made on our materials. Tested materials were injection moulded, used in their natural colour, and conditioned in compliance with Standard ASTM D 618, procedure A (40 h - 23°C - 50%R.H.). These data refer to our best technical and scientific knowledge at the moment of testing and cannot be used as a basis for the development of applications.

For a better assessment of the materials, you are kindly requested to contact our technical or commercial offices, which are at your disposal and will supply detailed information on the most suitable characteristics for the intended use. With reference to DPR n. 224 dated May 24, 1988 issued in accordance with EC Guide-lines 85/374, LATI Industria Termoplastici S.p.A. declines all responsibility arising from an improper use of the products described in this document.