LATILUB Y

Thermoplastic materials filled with Aramid Fibres

Key Properties:

- **High wear resistance;**
- **Low specific weight;**
- **Low friction coefficient;**
- **Ideal for metal-polymer and polymer-polymer contacts;**
- **Good dimensional stability;**
- **No deposit on the mould, excellent mouldability;**
- **Good mechanical properties.**

Gears realised in LATILUB 66-10T Y/15

Wear is an important issue for polymeric materials. LATI has faced it developing LATILUB compounds.

Thermoplastics family, filled with aramid fibre, is addressed to those application sectors in which traditional self-lubricating additives can not guarantee a sufficient resistance to wear and abrasion.

Aramid fibre is, in fact, softer and tougher than other fibres such as glass and carbon and it has a low tendency to break and abrade mating surfaces. It is ideal, therefore, for parts in relative motion against materials (both polymers or metals) which are easily worn, e.g. bronze, copper, aluminium.

The obtained compounds offer excellent self-lubricating properties, a reduced friction coefficient, a high PV limit but, above all, a very low wear performance.

As there is no deposit on the mold, moulding is easier, faster and cheaper than products with PTFE. Because of the material fluidity, these compounds are suitable for those parts in which the high viscosity of a carbon fiber-filled material could generate issues in thinner cavities filling.

Thanks to their non-abrasive nature, aramid fibres reduce, moreover, the wear of plasticizing screw, nozzles and moulds to a minimum. Their morphology allows not to alter mechanical properties of the part; this, on the contrary, may happen with other non-fibrous additives.

Excellent dimensional stability, good surface appearance, a lower specific weight in comparison with metal and reduced noise allow the use of these products, wherever quickly and safe solutions for self-lubricating problems are necessary, even in case of plastic over plastic applications, high or low relative speed.

Nowadays, LATI fills the most common thermoplastic resins with aramid fibres up to 20% (in weight):

- PA6 e PA66
- POM
- PPS
- PPA
- PEEK

In order to satisfy the requirements of the most drastic working conditions, LATI offers combined aramid fibres and PTFE self-lubricating compounds.

PROPERTIES (typical values)

	Test method	Measure unit	LATILUB 66-10T	LATILUB 66-10T G/10	LATILUB 66-10T K/10	LATILUB 66-10T Y/15	LATILUB 73/13 Y/20	LATILUB 88/10 10T-Y/10	LATILUB 80-10T Y/15
General			PA66+ PTFE	PA66 + PTFE + GF	PA66 + PTFE + CF	PA66 + PTFE + ARAMID	POM + ARAMID	PEEK + PTFE + ARAMID	PPS + PTFE + ARAMID
Density	ISO 1183	g/cm^3	1.19	1.26	1.23	1.23	1.4	1.38	1.39
Longitudinal shrinkage	LATI	%	1.3-1.5	0.6-0.8	0.2-0.3	0.9-1.3	1.8-2.2	1.8-2.3	0.5-0.7
Transversal shrinkage	LATI	%	1.3-1.5	0.9-1.2	0.6-0.9	1-1.4	1.8-2.2	1.8-2.3	0.5-0.7
Mechanical									
Stress of break	ISO 527	MPa	69	96	150	88	37	80	45
Strain at break	ISO 527	%	4	2.6	3	5.5	7	4.7	1.2
Elastic modulus	ISO 527	MPa	2700	4600	8800	4000	3000	3700	3750
Izod impact strength	ISO 178	J/m	40	42	52	40	30	50	14
Electrical									
Surface resistivity	CEI 60093	ohm	>10^14	>10^14	10^4	>10^14	>10^14	>10^14	>10^14

Legend: T = PTFE K = carbon fibre G = glass fibre GR = graphite Y = aramid fibre S = silicon M = molybdenum disulphide

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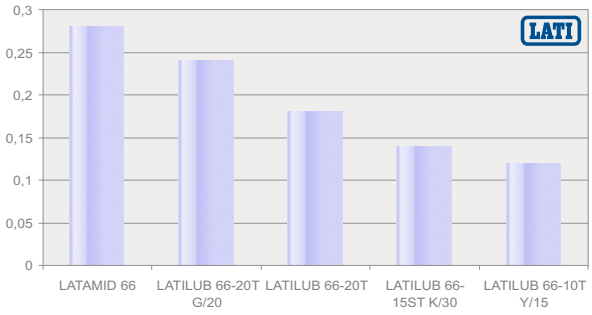
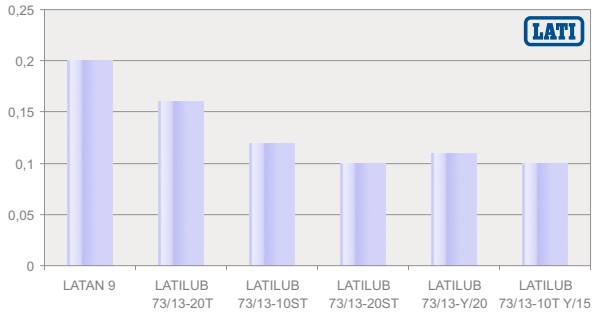
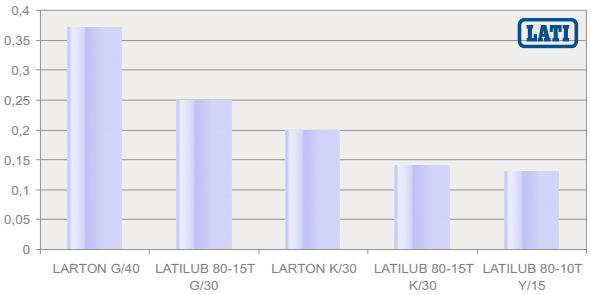
PA66 self-lubricating - Dynamic friction coefficient



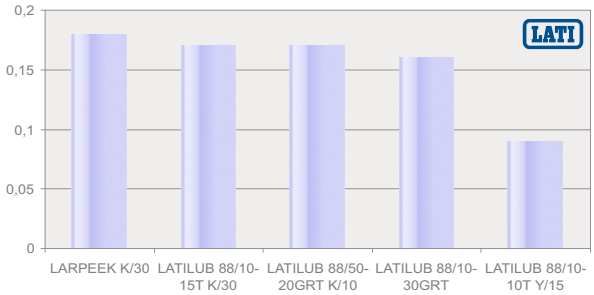
POM self-lubricating - Dynamic friction coefficient



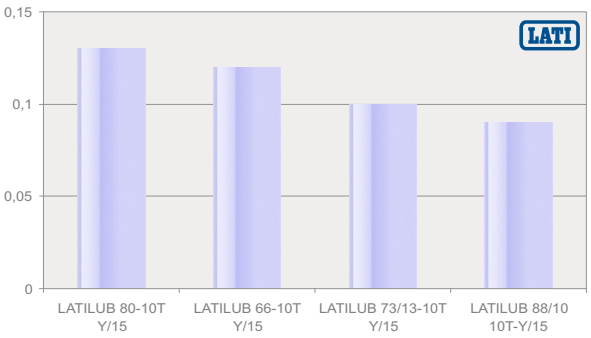
PPS self-lubricating - Dynamic friction coefficient



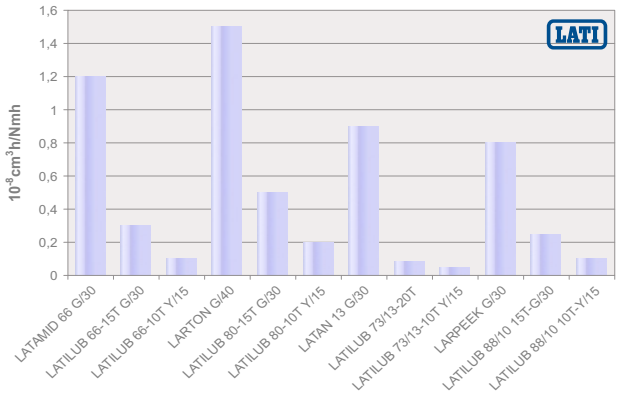
PEEK self-lubricating - Dynamic friction coefficient



Self-lubricating with aramid fibre - Dynamic friction coefficient

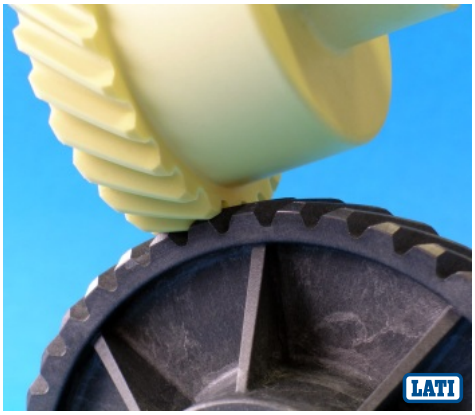


Wear factor (10^{-8}cm^{3}h/Nmh)



Applications Areas:

- **Bushings, bank supports;**
- **Gears and different types of kinematic motions;**
- **Sliding blocks;**
- **Gaskets and rings.**



Gears realised in LATILUB 66-10T Y/15

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.