



# LARIPUR<sup>®</sup> Thermoplastic Polyurethane Hose & Tubing

Physical Properties		Test Method	Unit	LPR 7025EG	LPR 8025EG	LPR 9025EG	LPR 4525EG	LPR 5225EG	LPR 5725EG	LPR 7560EG	LPR 8860EG	LPR 9060EM	LPR 2103-90AE	LPR 5260EG	LPR 5760EG	LPR 2102-85A
Chemical nature				Ester	Ester	Ester	Ester	Ester	Ester	Ether	Ether	Ether	Ether	Ether	Ether	Ester PCL
Specific Gravity		DIN 53479	gr/cm <sup>3</sup>	1,18	1,19	1,20	1,22	1,22	1,23	1,10	1,12	1,10	1,14	1,15	1,16	1,16
Shore Hardness		DIN 53505	A/D	70 A	84A	90 A	46 D	51 D	56 D	77 A	86 A	88 A	90 A	50 D	56 D	84 A
Abrasion Loss		DIN 53516	mm <sup>3</sup>	30	30	30	35	35	35	35	35	30	35	35	35	30
Tensile Modulus:	50%	DIN 53504	N/mm <sup>2</sup>	2,8	4,3	6,4	10,7	12,2	15,5	3,6	5,3	5,6	8,3	10,3	16,4	4,5
	100%		N/mm <sup>2</sup>	3,9	5,6	7,8	12,9	14,5	18	5,0	7,2	7,4	10,4	12,2	20,8	6,5
	300%		N/mm <sup>2</sup>	10,1	13,7	18,6	27,9	34,6	43,9	9,1	14,1	13,5	21,2	23,5	45,4	16,0
Tensile Strength		DIN 53504	N/mm <sup>2</sup>	42	53,2	55,2	56,8	60,7	64,5	40,7	52,3	50,2	52	54,8	61,7	53,2
Elongation at Break		DIN 53504	%	680	620	580	530	480	440	690	540	620	550	530	410	520,0
Tear Strength		DIN 53515	N/mm	70	82	101	120	140	162	55	72	72	85	110	140	70
Vicat Softening Point		ISO 306	°C	60	73	104	120	127	138	70	80	87	98	120	130	89
Flexural Modulus		ISO 178	N/mm <sup>2</sup>					115	190					96	170	
Comp. Set:	70h/23°C	DIN 53517	%	23	20	24	28	25		22	25	26	22	27		17
	22h/70°C		%	58	42	45	48	45		50	45	46	48	50		36

### Typical Value\*

- \* This technical note has been written on the base of our present best knowledge, but the above mentioned data have not to be released as a specification for the materials in object.
- \* Properties reported in this bulletin are determined on annealed specimens obtained by injected test plaques and mostly represent an average of values gathered from a significative number of production lots.
- \* Even if we guarantee the quality consistency of the Laripur products, we could periodically issue up-dated version of this Technical Bulletin and modify the respective sales specification as well.
- \* The international standards here indicated have to be intended as a reference to carry out the various tests but the choice of available options and any possible variation are mentioned in our respective internal standards.

LARIPUR<sup>®</sup> TPU

FEATURES:	Very soft standard grade	Standard	Standard	Standard	Standard	Pneumatic, higher temp. and burst resistance	Soft, standard	Standard, a available also UV stabilized	Matt Surface, anti blocking	Standard	Standard	Pneumatic, high burst resistance	Very good PVC adhesion and good hydrolysis resistance
EEC food contact approved	EEC	EEC	EEC	EEC	EEC	EEC	EEC	EEC		EEC	EEC	EEC	EEC
FDA food contact approved	FDA	FDA	FDA	FDA	FDA	FDA	FDA	FDA		FDA	FDA	FDA	FDA
NSF 61 potable water approved							NSF			NSF	NSF	NSF	
USP Class VI medical grade							USP			USP	USP		

TPU hose and tubing are produced in several ways from multilayer and single layer hoses, flat or spiralized, medium-high pressure braided hoses and tubes.

Laripur<sup>®</sup> Hose & Tubing Main Application: Air powered tools, automotive, robotics, dental equipment, fire hoses, agriculture, automated equipment, pneumatic hoists, garden hoses, packaging equipment, transport of chemical liquids, abrasive substances, food and beverages

Laripur<sup>®</sup> polyether-based TPU main features: abrasion/cut/tear resistant, very good hydrolysis resistance, weather resistant, fuel and oil resistant, low temperature flexibility, low coefficient of friction, creep resistance, high temperature resistance, wear resistance, kink resistance, burst strength



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# LARIPUR<sup>®</sup> TPU

## Thermoplastic Polyurethane

Polyester, Polycaprolactone and Polyether based products with hardness ranges from 60 Shore A up to 75 Shore D:

- Toughness and Durability - Excellent Abrasion Resistance
- Excellent Low Temperature Flexibility • Resistance to Fuel, Oils, Grease and Fats
- Outstanding Compression Set Properties • Hydrolysis and Microbial Resistance.

### Series 15 and 18 Plasticized Ester

Developed to provide soft touch and flexibility and fast cycle time for injection moulding while maintaining good abrasion resistance and physical properties. Products also available without phthalate based plasticizers.

### Series 20 Standard Ester

Injection Molding grades providing strong resilience and tear resistance, excellent abrasion resistance and good stability in water, solvents and against light and oxidation.

### Series 25 Special Ester

Designed for both injection molding and extrusion of hose, tubes, profiles, belts, films and sheets. Higher resistance to hydrolysis and improved flexibility at low temperatures.

### Series 2102 Polycaprolactone Ester

Polycaprolactone based TPU. Improved elasticity and hydrolysis resistance compared to Special Esters.

### Series 50 Modified Ester

Polyester based TPU coupling high hardness with improved low temperature impact resistance.

### Series 60 and 2103 Ether

High quality polyether based TPU. Excellent resistance to hydrolysis and microbial attack with low temperature flexibility and high impact properties.

### Seal Grades

Both polyether and Polycaprolactone based TPUs exhibiting very low compression set values at high temperatures combined with good resistance to oils and chemicals.

### Special Grades

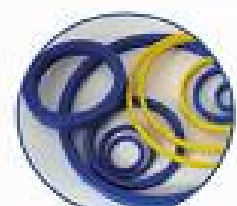
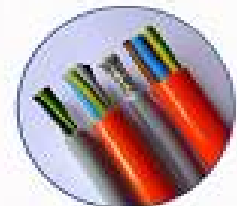
Specially developed TPUs to cover a variety of market and customer needs in specific application.

### LARICOL Thermoplastic Adhesives

A range of Crystalline Thermoplastic Polyurethane Adhesives supplied in pellet form.

Laricol products are designed to provide excellent bond to various substrates including plastics (TPU, PU, EVA, PVC,...), rubber, leather, textiles, wood, etc..

They can be used for solvent solution thermo-reactive adhesives, powder sintering and thermo-adhesive extruded film.



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