

Technical Data

Product Description

LARIPUR®
LPR5225

SERIES 25 SPECIAL ESTER

Products based on special grade saturated polyester. The features are similar to those of Series 20 but are characterised by a higher resistance to hydrolysis failure and improved flexibility at low temperatures.

Generic
TPU-Polyester

This data represents typical values that have been calculated from all products classified as: Generic TPU-Polyester

This information is provided for comparative purposes only.

General	LARIPUR® LPR5225	Generic TPU-Polyester
Manufacturer / Supplier	<ul style="list-style-type: none"> COIM S.p.A. 	<ul style="list-style-type: none"> Generic
Generic Symbol	<ul style="list-style-type: none"> TPU-Polyester 	<ul style="list-style-type: none"> TPU-Polyester
Material Status	<ul style="list-style-type: none"> Commercial: Active 	<ul style="list-style-type: none"> Commercial: Active
Literature ¹	<ul style="list-style-type: none"> Technical Datasheet (English) 	--
Search for UL Yellow Card	<ul style="list-style-type: none"> COIM S.p.A. LARIPUR® 	--
Availability	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe Latin America North America 	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe Latin America North America
Features	<ul style="list-style-type: none"> Abrasion Resistant Good Compression Set Good Flexibility Good Tear Strength Hydrolysis Resistant Low Temperature Flexibility Oil Resistant Oxidation Resistant Resilient Solvent Resistant 	--
Processing Method	<ul style="list-style-type: none"> Extrusion Injection Molding 	--

Physical	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Density / Specific Gravity				
--	1.22	--	g/cm ³	DIN 53479
--	--	1.17 to 1.24	g/cm ³	ASTM D792
--	--	1.18 to 1.25	g/cm ³	ISO 1183
--	--	1220	kg/m ³	ISO 1183 ³
--	--	0.337 to 1.19	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/8.7 kg)	--	12 to 30	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (190°C/21.6 kg)	--	34 to 77	cm ³ /10min	ISO 1133
Molding Shrinkage				
Flow	--	0.39 to 0.91	%	ASTM D955
Across Flow	--	0.79 to 0.82	%	ASTM D955
--	--	0.76 to 0.82	%	ISO 294-4



Mechanical	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Tensile Modulus				
--	--	5.52 to 51.0	MPa	ASTM D638
--	--	140 to 730	MPa	ISO 527-1
Tensile Stress				
Break	--	27.5 to 60.7	MPa	ISO 527-2
--	--	0.500 to 30.7	MPa	
Tensile Strain (Break)				
	--	400 to 750	%	ISO 527-2
Flexural Modulus				
--	--	8.96 to 154	MPa	ASTM D790
--	115	9.30 to 227	MPa	ISO 178
Taber Abrasion Resistance				
	--	8.30 to 70.7	mg	ASTM D1044
Abrasion Loss				
	35.0	--	mm ³	DIN 53516
Tear Resistance				
	140	--	MPa	DIN 53515
Torsion Modulus				
-20°C	169	--	MPa	DIN 53447
20°C	26.0	--	MPa	DIN 53447
Ratio (-20°C/+20°C)	6.50	--		
Elastomers	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Tensile Stress				
20% Strain	--	0.500 to 6.00	MPa	ISO 37
50% Strain	12.2	--	MPa	DIN 53504
50% Strain	--	1.00 to 17.4	MPa	ASTM D412
100% Strain	14.5	--	MPa	DIN 53504
100% Strain	--	1.54 to 15.0	MPa	ASTM D412
100% Strain	--	1.00 to 18.5	MPa	ISO 37
300% Strain	34.6	--	MPa	DIN 53504
300% Strain	--	2.00 to 27.2	MPa	ASTM D412
300% Strain	--	2.00 to 36.0	MPa	ISO 37
Tensile Strength				
Yield	--	19.3 to 47.0	MPa	ASTM D412
Yield	--	24.7 to 55.4	MPa	ISO 37
Break	60.7	--	MPa	DIN 53504
Break	--	2.10 to 60.8	MPa	ASTM D412
Break	--	19.0 to 55.0	MPa	ISO 37
--	--	17.3 to 51.3	MPa	ASTM D412
Tensile Elongation				
Break	480	--	%	DIN 53504
Break	--	270 to 820	%	ASTM D412
Break	--	330 to 920	%	ISO 37
Tear Strength				
--	--	0.0750 to 211	kN/m	ASTM D624
Split	--	18 to 51	kN/m	ASTM D470
--	--	32.6 to 182	kN/m	ISO 34-1



Elastomers	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Compression Set				
--	--	14 to 56	%	ASTM D395
--	--	14 to 52	%	ISO 815
Bayshore Resilience	--	25 to 51	%	ASTM D2632
Impact	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Charpy Notched Impact Strength	--	4.0 to 200	kJ/m ²	ISO 179
Hardness	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Durometer Hardness				
--	--	54 to 98		ASTM D2240
Shore D	51	--		DIN 53505
--	--	36 to 98		ISO 868
Shore A, 3 sec	--	86 to 98		ISO 868 ³
Shore D, 15 sec	--	38 to 60		ISO 868 ³
Thermal	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Brittleness Temperature	--	-68.0 to -13.6	°C	ASTM D746
Glass Transition Temperature				
--	--	-48.8 to -7.20	°C	ASTM E1356
--	--	-46.0 to -8.05	°C	DSC
Vicat Softening Temperature				
--	--	63.3 to 158	°C	ASTM D1525
--	--	66.7 to 159	°C	ISO 306
Melting Temperature				
--	--	68.0 to 171	°C	
--	--	110 to 221	°C	DSC
CLTE - Flow	--	9.9E-5 to 1.7E-4	cm/cm/°C	ASTM D696
Aging	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	Test Method
Change in Tensile Strength in Air	--	-3.2 to 21	%	ASTM D573 ISO 188
Change in Ultimate Elongation in Air	--	-0.25 to 52	%	ASTM D573 ISO 188
Change in Durometer Hardness in Air	--	-5.1 to 0.13		ASTM D573 ISO 188
Change in Tensile Strength	--	-28 to 20	%	ASTM D471 ISO 1817
Change in Ultimate Elongation	--	-8.5 to 31	%	ASTM D471 ISO 1817
Change in Durometer Hardness	--	-11 to 2.2		ASTM D471 ISO 1817
Change in Volume	--	-1.0 to 2.1	%	ASTM D471 ISO 1817
Thermoset	LARIPUR® LPR5225	Generic TPU-Polyester	Unit	
Demold Time	--	6.0 to 6.1	min	



Injection	LARIPUR® LPR5225	Generic TPU-Polyester	Unit
Drying Temperature	--	79 to 107	°C
Drying Time	--	2.0 to 4.3	hr
Dew Point	--	-31 to -30	°C
Suggested Max Moisture	--	0.020 to 0.030	%
Hopper Temperature	--	29 to 40	°C
Rear Temperature	--	170 to 212	°C
Middle Temperature	--	173 to 216	°C
Front Temperature	--	174 to 216	°C
Nozzle Temperature	--	179 to 221	°C
Processing (Melt) Temp	--	182 to 230	°C
Mold Temperature	--	23 to 51	°C
Injection Pressure	--	6.00 to 87.5	MPa
Holding Pressure	--	3.00 to 4.23	MPa
Back Pressure	--	0.165 to 10.0	MPa
Screw Speed	--	49 to 130	rpm
Clamp Tonnage	--	5.5 to 5.6	kN/cm ²

Injection Notes

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Extrusion	LARIPUR® LPR5225	Generic TPU-Polyester	Unit
Drying Temperature	--	79 to 107	°C
Drying Time	--	2.5 to 4.1	hr
Suggested Max Moisture	--	0.020 to 0.031	%
Hopper Temperature	--	33 to 36	°C
Cylinder Zone 1 Temp.	--	162 to 207	°C
Cylinder Zone 2 Temp.	--	170 to 207	°C
Cylinder Zone 3 Temp.	--	169 to 210	°C
Cylinder Zone 4 Temp.	--	168 to 211	°C
Cylinder Zone 5 Temp.	--	169 to 211	°C
Adapter Temperature	--	178 to 210	°C
Melt Temperature	--	190 to 206	°C
Die Temperature	--	187 to 221	°C

Extrusion Notes

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Notes

- ¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.
- ² Typical properties: these are not to be construed as specifications.
- ³ Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

