

Technical Data

Product Description

Elastollan®
C 65 A HPM

Thermoplastic Polyester Polyurethane Elastomers with excellent mechanical properties, very good damping and resilience performance, heat resistance and improved cycle times.

Typical applications
(Automotive) e.g. sealings, stop dampers, cable jackets.

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	Elastollan® C 65 A HPM	Generic TPU-Polyester
Manufacturer / Supplier	<ul style="list-style-type: none"> BASF Polyurethanes GmbH 	<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"> Processing - Elastollan (English) Technical Datasheet (English) 	--
UL Yellow Card ²	<ul style="list-style-type: none"> E140250-104632111 	--
Search for UL Yellow Card	<ul style="list-style-type: none"> BASF Polyurethanes GmbH Elastollan® 	--
Availability	<ul style="list-style-type: none"> Europe 	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe Latin America North America
Features	<ul style="list-style-type: none"> High Heat Resistance Resilient 	--
Uses	<ul style="list-style-type: none"> Automotive Applications Cable Jacketing Seals 	--
Processing Method	<ul style="list-style-type: none"> Blow Molding Extrusion Injection Molding 	--

Physical	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit	Test Method
Density / Specific Gravity				
--	--	1.17 to 1.24		ASTM D792
--	--	1.18 to 1.25	g/cm ³	ISO 1183
--	1.18	--	g/cm ³	ISO 1183/A
--	--	0.0439	lb/in ³	ISO 1183 ⁴
--	--	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	--	3.9E-3 to 9.1E-3	in/in	ASTM D955
Across Flow	--	7.9E-3 to 8.2E-3	in/in	ASTM D955
--	--	0.76 to 0.82	%	ISO 294-4



Mechanical	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit	Test Method
Tensile Modulus				
--	--	800 to 7400	psi	ASTM D638
--	--	20300 to 106000	psi	ISO 527-1
Tensile Stress				
Break	--	3990 to 8800	psi	ISO 527-2
--	--	72.5 to 4450	psi	
Tensile Strain (Break)				
	--	400 to 750	%	ISO 527-2
Flexural Modulus				
--	--	1300 to 22300	psi	ASTM D790
--	--	1350 to 32900	psi	ISO 178
Taber Abrasion Resistance				
Abrasion Loss	55.0	--	mm ³	ISO 4649-A
Elastomers	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit	Test Method
Tensile Stress				
20% Strain	218	--	psi	DIN 53504
20% Strain	--	72.5 to 870	psi	ISO 37
50% Strain	--	145 to 2520	psi	ASTM D412
100% Strain	--	223 to 2180	psi	ASTM D412
100% Strain	290	--	psi	DIN 53504
100% Strain	--	145 to 2680	psi	ISO 37
300% Strain	--	290 to 3940	psi	ASTM D412
300% Strain	580	--	psi	DIN 53504
300% Strain	--	290 to 5220	psi	ISO 37
Tensile Strength				
Yield	--	2800 to 6820	psi	ASTM D412
Yield	5370	--	psi	DIN 53504
Yield ⁵	3630	--	psi	DIN 53504
Yield	--	3580 to 8030	psi	ISO 37
Break	--	305 to 8820	psi	ASTM D412
Break	--	2760 to 7980	psi	ISO 37
--	--	2500 to 7430	psi	ASTM D412
Tensile Elongation				
Break	--	270 to 820	%	ASTM D412
Break	950	--	%	DIN 53504
Break ⁵	900	--	%	DIN 53504
Break	--	330 to 920	%	ISO 37
Tear Strength				
--	--	0.428 to 1200	lbf/in	ASTM D624
Split	--	100 to 290	lbf/in	ASTM D470
--	--	186 to 1040	lbf/in	ISO 34-1
-- ⁶	251	--	lbf/in	ISO 34-1



Elastomers	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit	Test Method
Compression Set				
--	--	14 to 56	%	ASTM D395
--	--	14 to 52	%	ISO 815
73°F, 72 hr	25	--	%	ISO 815
158°F, 24 hr	37	--	%	ISO 815
212°F, 24 hr	55	--	%	ISO 815
Bayshore Resilience	--	25 to 51	%	ASTM D2632
Impact	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
--	--	1.9 to 95	ft·lb/in ²	
-22°F	No Break	--		
73°F	No Break	--		
Hardness	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit	Test Method
Durometer Hardness				
--	--	54 to 98		ASTM D2240
--	--	36 to 98		ISO 868
Shore A, 3 sec	67	--		ISO 7619
Shore A, 3 sec	--	86 to 98		ISO 868 ⁴
Shore D, 15 sec	--	38 to 60		ISO 868 ⁴
Thermal	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit	Test Method
Brittleness Temperature	--	-90.4 to 7.52	°F	ASTM D746
Glass Transition Temperature				
--	--	-55.8 to 19.0	°F	ASTM E1356
--	--	-50.8 to 17.5	°F	DSC
Vicat Softening Temperature				
--	--	146 to 316	°F	ASTM D1525
--	176	--	°F	ISO 306/A120
--	--	152 to 319	°F	ISO 306
Melting Temperature				
--	--	154 to 339	°F	
--	--	230 to 430	°F	DSC
CLTE - Flow	--	5.5E-5 to 9.5E-5	in/in/°F	ASTM D696



Aging	Elastollan® C 65 A HPM	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	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit
Demold Time	--	6.0 to 6.1	min

Injection	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit
Drying Temperature	--	174 to 224	°F
Drying Time	--	2.0 to 4.3	hr
Dew Point	--	-23 to -22	°F
Suggested Max Moisture	--	0.020 to 0.030	%
Hopper Temperature	--	85 to 105	°F
Rear Temperature	--	338 to 413	°F
Middle Temperature	--	344 to 420	°F
Front Temperature	--	345 to 420	°F
Nozzle Temperature	--	355 to 429	°F
Processing (Melt) Temp	374 to 428	359 to 446	°F
Mold Temperature	68 to 122	73 to 124	°F
Injection Pressure	--	870 to 12700	psi
Holding Pressure	--	435 to 613	psi
Back Pressure	--	23.9 to 1450	psi
Screw Speed	--	49 to 130	rpm
Clamp Tonnage	--	4.0	tons/in ²

Injection Notes

Generic TPU-Polyester
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Extrusion	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit
Drying Temperature	--	175 to 225	°F
Drying Time	--	2.5 to 4.1	hr
Suggested Max Moisture	--	0.020 to 0.031	%
Hopper Temperature	--	91 to 97	°F
Cylinder Zone 1 Temp.	--	324 to 404	°F
Cylinder Zone 2 Temp.	--	337 to 404	°F



Extrusion	Elastollan® C 65 A HPM	Generic TPU-Polyester	Unit
Cylinder Zone 3 Temp.	--	336 to 410	°F
Cylinder Zone 4 Temp.	--	335 to 413	°F
Cylinder Zone 5 Temp.	--	337 to 412	°F
Adapter Temperature	--	353 to 411	°F
Melt Temperature	356 to 446	374 to 402	°F
Die Temperature	--	368 to 429	°F

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 A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

⁵ after storage in water for 21 days at 80°C

⁶ Method Bb, Angle (Nicked)

