



Lubrizol LifeSciences

Pellethane® 5863-85A TPU

Type: Aromatic Polyether-based Thermoplastic Polyurethane (TPU)

Features: Good physical properties, hydrolysis resistance, low temperature performance and abrasion with a wide processing window for extrusion.

Process: Extrusion and Injection Molding.

Properties	Test Method	Values	Units
Durometer Hardness, Shore	ASTM D2240	85	A
Specific Gravity	ASTM D792	1.12	
Tensile Modulus 100% elongation 300% elongation	ASTM D412	900 (6.2) 1500 (10.3)	psi (MPa) psi (MPa)
Ultimate Tensile Strength	ASTM D412	7000 (48.3)	psi (MPa)
Ultimate Elongation	ASTM D412	570	%
Tear Strength Graves Trouser	ASTM D624 (die C) ASTM D470	490 (8.7) 150 (2.7)	lb/in (kg/mm) lb/in (kg/mm)
Taber Loss (1000 rev)	ASTM D3389 (H18, 1000g)	0.00130 (37)	oz (mg)
T _m (by DSC)	Lubrizol	275 (135)	°F (°C)
T _g (by DSC)	Lubrizol	-58 (-50)	°F (°C)
Application Properties			
Tensile Set (200% elongation)	ASTM D412	14	%
Kofler Melt Point	Lubrizol	293 (145)	°F (°C)
Haze (pressed between glass)	ASTM D1003	1.8	%
Volume Swell in Water (24h/23C)	ASTM D471	1.7	%

Prior to testing samples were conditioned at 23°C for 48 hours.

Based on extruded sheet (30 mills)

These test results are based on small samples and do not necessarily represent average results from larger test samples.

This information should NOT be used for establishing engineering or manufacturing guidelines and specifications.

Handling Conditions:

Properties of all thermoplastic polyurethane products in the molten state are adversely affected by moisture. For the best results, always dry the material at least 2-4 hours at 104°C (220°F) in a machine mounted dehumidifying dryer (a desiccant dryer delivering air at 1 liter/sec/kg at -40°C dew point (1 cfm/lb at -40°F dew point)). A dehumidifying dryer hopper or one shot loader is also recommended. Depending on the applied processing technique, the maximum moisture level should be 0.02%. Never to exceed 500°F (270°C) melt.

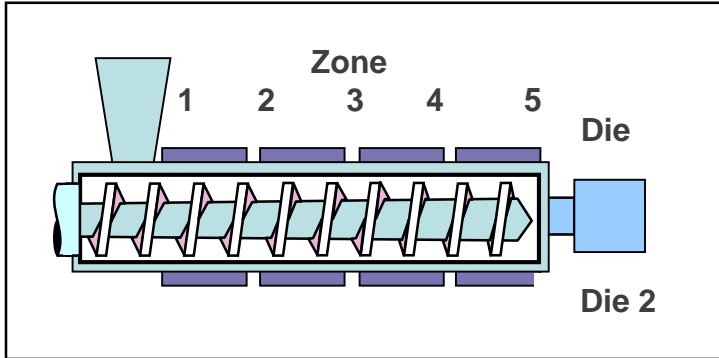
The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained. The information often is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance or reproducibility. Formulations presented may not have been tested for stability and should be used only as a suggested starting point. Because of the variations in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibility of the user. Lubrizol Advanced Materials, Inc. shall not be liable for and the customer assumes all risk and liability for any use or handling of any material beyond Lubrizol Advanced Materials, Inc.'s direct control. The SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation nor as an inducement to practice any patented invention without permission of the patent owner.



Processing Conditions:

Pellethane® 5863-85A can be processed on any conventional extruder or mold.

Recommended Starting Extrusion Temperature Profile:

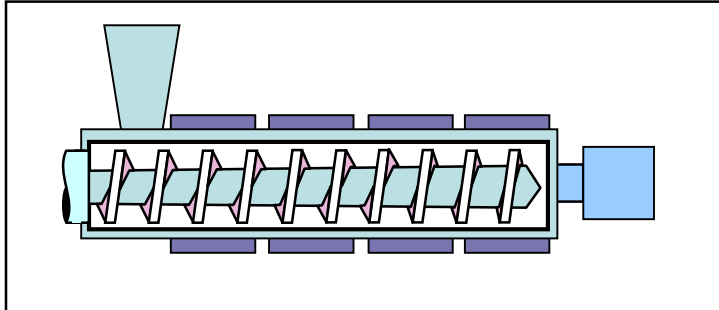


20/40/80/20

	°F/°C
Zone 1	340/171
Zone 2	350/177
Zone 3	360/182
Zone 4	370/188
Adapter 5	370/188
Die	370/188
Die 2	370/188

Screen Pack Recommendation:

Recommended Starting Injection Molding Temperature Profile:



	°F/°C
Rear	350/177
Front	360/182
Nozzle	370/188
Melt	370/188
Mold	60/15

For further information refer to Lubrizol Advanced Materials processing guides.

The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained. The information often is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance or reproducibility. Formulations presented may not have been tested for stability and should be used only as a suggested starting point. Because of the variations in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibility of the user. Lubrizol Advanced Materials, Inc. shall not be liable for and the customer assumes all risk and liability for any use or handling of any material beyond Lubrizol Advanced Materials, Inc.'s direct control. The SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation nor as an inducement to practice any patented invention without permission of the patent owner.

