

Tecophilic™ HP Series TPU

Extrusion Processable Thermoplastic Polyurethane

Type: Medical Grade hydrophilic aliphatic polyether-based Thermoplastic Polyurethanes (TPUs)

Features: This series of hydrophilic TPU is specially formulated to absorb equilibrium water contents of up to 100% of the weight of dry resin

Process: Designed for extrusion, but can also be injection molded

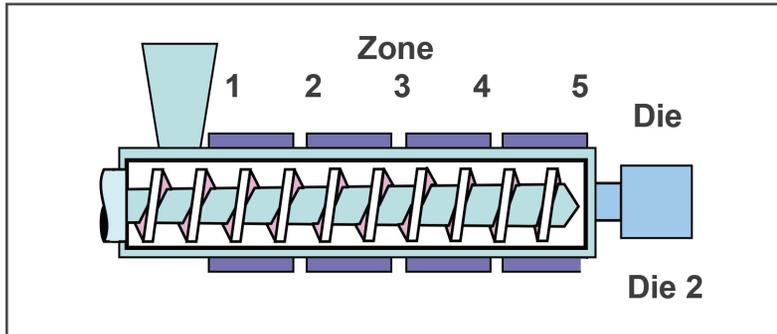
Products & Properties	ASTM Test	HP-60D-20	HP-60D-35	HP-60D-60	HP-93A-100
Durometer (Shore Hardness)	D2240	43D	42D	41D	83A
Specific Gravity	D792	1.12	1.12	1.15	1.13
Flexural Modulus (psi)	D790	4300	4000	4000	2900
Ultimate Tensile (psi)	D412				
Dry		8900	7800	8300	2200
Wet		5100	4900	3100	1400
Ultimate Elongation (%)	D412				
Dry		430	450	500	1040
Wet		390	390	300	620
Water Absorption (%)	Lubrizol Method	20	35	60	100

Note: These test results are based on a small samples of Tecophilic™ polyurethanes and do not necessarily represent average results from larger test samples. This information should not be used for establishing engineering or manufacturing guidelines or specifications.

Handling Conditions: Properties of all thermoplastic polyurethane products in the molten state are adversely affected by moisture. For best results, always dry the material at least two hours at 65.5°C (150°F) or overnight at 54.4°C (130°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 0.05%**. Never exceed 500°F (260°C) melt temperature!

Processing Conditions: Tecophilic™ TPUs can be processed on any conventional extruder or molder. Please refer to Lubrizol's processing guides for medical TPUs for further recommendations regarding equipment and process design at Lubrizol Life Science Health's (LLS Health) [Resource Hub](#) and by contacting our [technical solutions team](#).

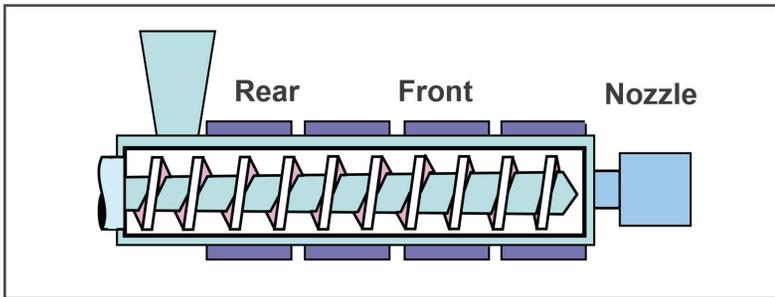
Recommended Starting Extrusion Temperature Profile:



	HP-93A-100	HP-60D-20	HP-60D-35	HP-60D-60
	°F/°C	°F/°C	°F/°C	°F/°C
Zone 1	350/177	350/177	350/177	350/177
Zone 2	360/183	360/183	360/183	360/183
Zone 3	370/188	370/188	370/188	370/188
Zone 4	380/193	380/193	380/193	380/193
Adapter 5	370/188	380/193	380/193	380/193
Die	370/188	380/193	380/193	380/193

Screen Pack Recommendation: 100/500/250

Recommended Starting Injection Molding Temperature Profile:



	HP-93A-100	HP-60D-20	HP-60D-35	HP-60D-60
	°F/°C	°F/°C	°F/°C	°F/°C
Rear	350/177	374/190	374/190	374/190
Front	370/188	383/195	383/195	383/195
Nozzle	380/193	392/200	392/200	392/200
Melt	<430/<221	<450/<232	<450/<232	<450/<232
Mold	90-130/32-54	90-130/32-54	90-130/32-54	90-130/32-54

For further information refer to Lubrizol Advanced Materials processing guides.

[LLS Health Resource Hub](#)