

Aromatic Carbothane™ AC Series TPU

20% Barium Sulfate Filled Thermoplastic Polyurethane

Type: Radiopaque (20% BaSO₄ filled) medical grade polycarbonate-based aromatic Thermoplastic Polyurethanes (TPUs)

Features: This series exhibits excellent oxidative stability in blood contact and provides superior mechanical performance and chemical resistance properties. The inclusion of 20% (by weight) barium sulfate (BaSO₄) in the material provides radiopaque properties.

Process: Extrusion and injection molding

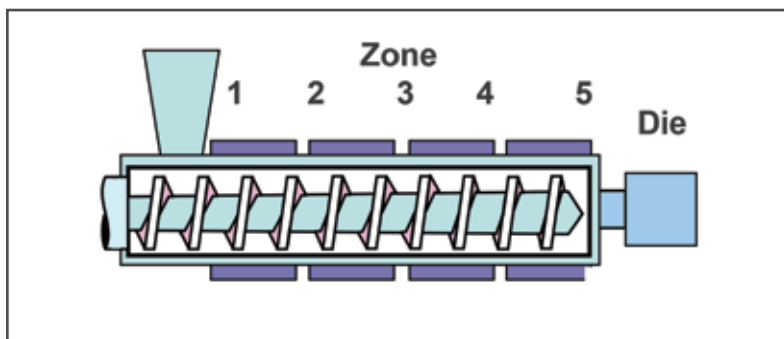
Products & Properties	ASTM Test	AC-4075A-B20	AC-4085A-B20	AC-4095A-B20	AC-4055D-B20
Durometer (Shore Hardness)	D2240	78A	90A	95A	56D
Specific Gravity	D792	1.38	1.40	1.43	1.44
Ultimate Tensile (psi)	D412	8300	8900	9300	10,000
Ultimate Elongation (%)	D412	400	360	300	350
Tensile Modulus (psi)	D412				
at 100% Elongation		560	1700	3300	3600
at 200% Elongation		1300	3500	5700	5400
at 300% Elongation		3400	6600	n/a	8600
Flexural Modulus (psi)	D790	1800	5700	10,900	20,700
Vicat Temperature (°C)	D1525	55	82	94	95
Mold Shrinkage (in/in) (1"x.25"x6" bar)	D955	0.011	0.010	0.009	0.009

Note: These test results are based on small samples of Carbothane™ 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 the best results, always dry the material at least two hours at 95°C (200°F) or overnight at 80°C (180°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 (260°C) melt temperature.

Processing Conditions: Carbothane™ Aromatic TPU's 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.

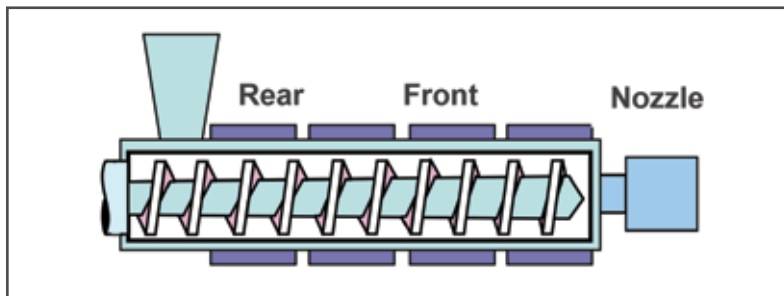
Recommended Starting Extrusion Temperature Profile:



	AC-4075A-B20	AC-4085A-B20	AC-4095A-B20	AC-4055D-B20
	°F/°C	°F/°C	°F/°C	°F/°C
Zone 1	390/199	390/199	390/199	410/210
Zone 2	400/204	400/204	400/204	420/215
Zone 3	410/210	410/210	410/210	430/221
Zone 4	410/210	410/210	410/210	430/221
Adapter 5	400/204	400/204	400/204	420/215
Die	400/204	400/204	400/204	420/215

Screen Pack Recommendation: 100/250/100 mesh

Recommended Starting Injection Molding Temperature Profile:



	AC-4075A-B20	AC-4085A-B20	AC-4095A-B20	AC-4055D-B20
	°F/°C	°F/°C	°F/°C	°F/°C
Rear	365/185	365/185	374/190	374/190
Front	365/185	365/185	392/200	392/200
Nozzle	356/180	356/180	356/180	356/180
Melt	365/185	365/185	374/190	374/190
Mold	50-80/10-27	50-80/10-27	50-80/10-27	50-100/10-38

Further guidance is available on the [LLS Health Resource Hub](#) or by contacting our [technical solutions team](#).