



**ICP DAS
BMP**



13485:2016

Engineering Arothane™

EARP Series

Medical Grade Rigid Aromatic Polyether-
Based Thermoplastic Polyurethane (TPU)



10993-5

- ✓ Good mechanical properties and biocompatibility
- ✓ Higher glass transition temperature (Tg)
- ✓ Color-Matched
- ✓ Suitable for injection molding and extrusion

Storage



Engineering Arothane™ - EARP TPU pellets should be stored in cool and dry environment in their original containers until used.



Storage temperature should not exceed 85°F/30°C.



If only a portion of TPU pellets was used, the container with the remaining TPU pellets should be tightly closed.

Products and Properties

Engineering Arothane™ EARP	ASTM Test	EARP-74D	EARP-76D	EARP-78D	EARP-80D
Durometer (Shore hardness)	D2240	73D	76D	78D	80D
Specific Gravity	D792	1.14	1.15	1.15	1.16
Flexural Modulus, (psi)	D790	75,000	146,000	260,000	300,000
Ultimate Tensile**, (psi)	D412	8,100	8,100	6,200	6,900
M100(psi)	D412	3,500	4,500	6,000	6,800
M200(psi)	D412	5,500	5,700	NA	NA
Elongation at Break**, %	D412	270	250	175	160
Mold Shrinkage (mm/mm)	D955	0.004-0.005	0.003-0.004	0.002-0.003	0.002-0.003
Glass Transition Temperature (Tg)	DSC	38	40	58	70

Note: These test results are based on small samples of EARP TPU. The manufacturing parameters should be adjusted according to users' actual conditions.

Processing Information

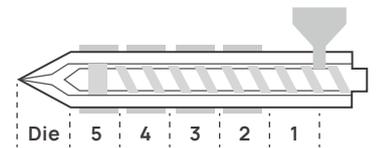
Engineering Arothane™ - EARP TPU pellets are hygroscopic and are necessarily dried before processing. Depending on the climate, the pellets absorb moisture rapidly when exposed to the atmosphere. The moisture might cause severe polymer degradation during processing and form bubbles or streaks in the molded and extruded parts. To ensure the efficient and successful processing, the moisture content in TPU pellets is recommended to be **less than 0.04%(400 ppm)**. For the moisture content analyzer, please proceed the test with the temperature setting of 145 degrees Celsius for at least 3 minutes.

A dehumidifying dryer is recommended for drying Engineering Arothane™ EARP TPU. For the best drying results, the dew point of the inlet air should not be higher than -40 ° F /-40 ° C. The recommended drying conditions are listed below **for a minimum of 5 hours**.

Engineering Arothane™ EARP	EARP-74D	EARP-76D	EARP-78D	EARP-80D
Recommended Drying Temperature (°F)	205-220			
Recommended Drying Temperature (°C)	95-105			



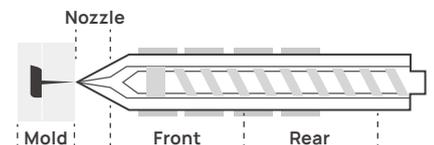
Recommended Extrusion Temperature Profile



Engineering Arothane™ EARP	EARP-74D (°F / °C)	EARP-76D (°F / °C)	EARP-78D (°F / °C)	EARP-80D (°F / °C)
Zone 1	420/215	420/215	430/220	435/225
Zone 2	430/220	430/220	435/225	435/225
Zone 3	430/220	430/220	435/225	445/230
Zone 4	435/225	435/225	445/230	445/230
Adapter 5	435/225	435/225	445/230	455/235
Die	430-445/220-230	430-445/220-230	435-455/225-235	445-465/230-240

Screen Pack Recommendation : 50/200/100

Recommended Injection Molding Temperature Profile



Engineering Arothane™ EARP	EARP-74D (°F / °C)	EARP-76D (°F / °C)	EARP-78D (°F / °C)	EARP-80D (°F / °C)
Rear	400/205	400/205	410/210	420/215
Front	410/210	410/210	420/215	430/220
Nozzle	420/215	420/215	430/220	435/225
Melt	455-475/235-245	455-475/235-245	465-480/240-250	475-490/245-255
Mold	75-120/25-50	75-120/25-50	85-140/30-60	85-140/30-60



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