

POLYURETHANE (PU) MATERIAL RANGE. MATERIAL PROPERTIES (for comparative purposes only).

RIGID RESINS



ARRK Resin	Simulates	Tensile Strength (Mpa)	Elongation to Break	Flexural Strength (Mpa)	Flexural Modulus (Mpa)	Shore Hardness	Impact Strength (KJ/m ²)	Heat Deflection Temp' (Tg)	Glass Transition Temp' (Tg)	Resin Colour
ABS Like PU	ABS	70	15%	105	2500	85D	65	90°C	100°C	Opaque Clear
HT-ABS Like PU	High Temp' ABS	60	11%	80	2300	80D	>60	‡ 110°C	‡ 140°C	Black
UHT-ABS Like PU	Ultra High Temp	61	13%	80	1850	80D	41	‡ 138°C	‡ 220°C	Amber Yellow
TF-PP Like PU	Talc Filler Poly Prop'	40	25%	80	1200	76D	>50	78°C	90°C	Opaque Clear
PP Like PU	High Impact Ploy Prop'	25	100-120%	30	500/450	65D			95°C	Light Brown
GFN Like PU	Glass Filled Nylon	85	3%	150	4500	85D	30	92°C	95°C	Off - White
FR Like PU	Fire Retardant (UL94-V0)	55	4%	133	3700	86D	26	90°C	100°C	Off - White
CLEAR PU	Acrylic / Polycarbonate	66	8%	110	2100	85D	48	‡ 85°C	‡ 95°C	Clear

‡ Temperature Resistance After Heat Treatment

Last Updated: Nov 2019

Linear Dimension (mm)	Tolerance:
Up to 70mm	+/- 0.35mm
70mm – 150mm	+/- 0.50% (0.50mm per 100mm)
150mm – 400mm	+/- 0.40% (0.40mm per 100mm)
Above 400mm	+/- 0.30% (0.30mm per 100mm)
Wall Thickness (mm)	Tolerance:
0.8mm – 1.5mm	+/- 0.3mm (Note: Minimum wall thickness 0.8mm)
Above 1.5mm	+/- 0.5mm
Typical Tool Yield (Subject to geometry)	
ABS-HT, TF-PP, PP	25 off
ABS,	20 off
GFN, Clear, FR	15 off
UHT	10 off
Please Note: Particularly complex / difficult geometries may affect tool life	