

ForTii® Ace U53

PPA-I

Unreinforced, PA4T, Heat Stabilized, Impact Modified, Injection Molding

ForTii® Ace U53 has excellent ductility and toughness, while maintaining good chemical resistance. Up to 140°C dry as molded or up to 80°C conditioned this grade has good stiffness retention. The material is heat stabilized and not suitable for E-friendly E&E applications. Long term use above 140°C is not recommended.

Properties	Typical Data	Unit	Test Method
Rheological properties			
	dry / cond		
Molding shrinkage (parallel)	1.9 / *	%	ISO 294-4
Molding shrinkage (normal)	1.9 / *	%	ISO 294-4
Mechanical properties			
	dry / cond		
Tensile modulus	2100 / 2300	MPa	ISO 527-1/-2
Tensile modulus (100°C)	1700 / -	MPa	ISO 527-1/-2
Tensile modulus (120°C)	1600 / -	MPa	ISO 527-1/-2
Tensile modulus (140°C)	900	MPa	ISO 527-1/-2
Tensile modulus (160°C)	300	MPa	ISO 527-1/-2
Tensile modulus (200°C)	270	MPa	ISO 527-1/-2
Yield stress	64 / 54	MPa	ISO 527-1/-2
Yield stress (120°C)	32	MPa	ISO 527-1/-2
Stress at break	60 / 50	MPa	ISO 527-1/-2
Stress at break (100°C)	36 / -	MPa	ISO 527-1/-2
Stress at break (120°C)	32 / -	MPa	ISO 527-1/-2
Stress at break (140°C)	24	MPa	ISO 527-1/-2
Stress at break (160°C)	21	MPa	ISO 527-1/-2
Stress at break (200°C)	14	MPa	ISO 527-1/-2
Strain at break	20 / 28	%	ISO 527-1/-2
Strain at break (100°C)	20 / -	%	ISO 527-1/-2



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Properties	Typical Data	Unit	Test Method
Strain at break (120°C)	20 / -	%	ISO 527-1/-2
Strain at break (140°C)	38	%	ISO 527-1/-2
Strain at break (160°C)	84	%	ISO 527-1/-2
Strain at break (200°C)	92	%	ISO 527-1/-2
Flexural modulus	2000 / 2200	MPa	ISO 178
Flexural strength	90 / 90	MPa	ISO 178
Charpy impact strength (+23°C)	N / -	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	N / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	40 / -	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	30 / -	kJ/m ²	ISO 179/1eA

Thermal properties

dry / cond

Melting temperature (10°C/min)	335 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	135 / *	°C	ISO 75-1/-2

Other properties

dry / cond

Humidity absorption	3.2 / *	%	Sim. to ISO 62
Density	1110 / -	kg/m ³	ISO 1183

