

Performance Requirements Of Polyamide Profiles

NO.	Item	Unit	GB/T 23615.1-2017	TEDA Technical specification	
1	Density	g/cm ³	1.30±0.05	1.30±0.05	
2	DSC melting peak temperature	°C	≥255	≥260	
3	Testing for tensile cracks	—	No cracks	No cracks	
4	Shore hardness	—	80±5	80±5	
5	Impact Strength (unnotched in low temperature)	kJ/m ²	≥50	≥60	
6	Tensile Strength (longitudinal)	MPa	≥90	≥100	
7	Elongation at break(longitudinal)	—	≥3%	≥3%	
8	Elasticity modulus	MPa	≥4 500	≥5 000	
9	Tensile strength (transverse)	Type I (Section height < 20mm)	MPa	≥90	≥100
		Type I (Section height≥20mm)	MPa	≥80	≥90
		Non-type I	MPa	≥25	≥30
10	High temperature tensile strength	Type I (Section height < 20mm)	MPa	≥55	≥60
		Type I (Section height≥20mm)	MPa	≥45	≥50
		Non-type I	MPa	≥20	≥25
11	Low temperature tensile strength (transverse)	Type I (Section height < 20mm)	MPa	≥90	≥100
		Type I (Section height≥20mm)	MPa	≥80	≥90
		Non-type I	MPa	≥25	≥30
12	Water resistance tensile strength	Type I (Section height < 20mm)	MPa	≥85	≥95
		Type I (Section height≥20mm)	MPa	≥75	≥85
		Non-type I	MPa	≥22	≥25
13	Aging resistance tensile strength (transverse)	Type I (Section height < 20mm)	MPa	≥60	≥65
		Type I (Section height≥20mm)	MPa	≥55	≥60
		Non-type I	MPa	≥20	≥25
14	Typical thermal conductivity	Heat flow meter method	W/(m·K)	0.3	0.3
15	Linear expansion coefficient typical value	-1 K	2.3×10 ⁻⁵ ~ 3.5×10 ⁻⁵	2.3×10 ⁻⁵ ~ 3.5×10 ⁻⁵	
16	When selecting non-Type I polyamide profiles, engineering design verification should be carried out.				

1. Sample water content less than 0.2% by weight.
2. Norm laboratory condition:(23±2)°C and (50±10)% relative humidity.