



Comparison Between Technyl Protect & Durethan BKV30Fn04 Natural

Property	TECHNYL Protect	Durethan Durethan_BKV30FN04_000000
Density	1.42 g/cm ³	1.423 (kg/m ³)
Molding shrinkage, parallel	0.2-0.4 %	0.2
Molding shrinkage, transverse/normal	0.6-0.8 %	0.7
Post-shrinkage, parallel	0.1	0.1
Post-shrinkage, transverse	0.1	0.1
Melt volume-flow rate	17 cm ³ /10min	17
Viscosity number	145 cm ³ /g	-
Tensile modulus	11000 / 7000 MPa	10300 / 6700
Tensile stress at break	140 / 95 MPa	130 / 90
Tensile strain at break	2.5 / 3.5 %	3 / 6
Flexural modulus	10000 / 6500 MPa	10200 / 6600
Flexural strength	210 / 140 MPa	230 / 158
Flexural strain at strength	-	3.1 / 5.2
Flexural stress at 3.5% strain	-	140 MPa
Charpy impact strength	55 / 55 kJ/m ²	60 / 68
Charpy impact strength	45 / 45 kJ/m ²	55 / 50 kJ/m ²
Charpy notched impact	8 / 11 kJ/m ²	10 / 13 kJ/m ²
Charpy notched impact	7 / 8 kJ/m ²	10 kJ/m ²
Izod impact strength	45 / 50 kJ/m ²	55 / 65 kJ/m ²
Izod notched impact	8 / 10 kJ/m ²	10 / 13 kJ/m ²

Ball indentation hardness	-	205 / 110
Melting temperature	221 °C	220 °C
Deflection temp. 0.45 MPa	215 °C	219 °C
Deflection temp. 1.80 MPa	205 °C	205 °C
Vicat softening temp.	210 °C	212 °C
Volume resistivity	1E16 Ω·m	3.0E13 / 2.1E11
Electric strength	31 kV/mm	40 / 37 kV/mm
Comparative tracking index	600 V	600 V
UL 94 flammability	VO	V-0
UL 94 flammability	VO	V-0
UL 94 flammability	VO	-
GWFI	960 °C	960 °C
GWIT	775 °C	775 (0.4-1.5 mm), 800 (3 mm)
Water absorption (saturation)	-	4.6 %
Water absorption (equil. 50% RH)	-	1.5 %

Key Similarities -

- Mechanical: Nearly identical stiffness (10-11 GPa dry tensile modulus), strength (~130-140 MPa tensile stress dry), and impact resistance (Charpy unnotched ~50-60 kJ/m² at 23°C).
- Thermal: Matching heat deflection (205°C at 1.8 MPa), Vicat (~210-212°C), melting point (~220-221°C), and GWFI/GWIT (960/775°C).
- Physical: Similar density (~1.42 g/cm³), shrinkage (0.2% parallel, 0.6-0.7% transverse), and processing (dry 80°C/2-4h, melt 250-280°C).
- Electrical/Flammability: Equivalent CTI (600V), high resistivity, VO at 0.75-1.5mm.