PRODUCT INFORMATION

NILENE P K50VA S

Polypropylene homopolymer 50% glass fibres reinforced chemically coupled, heat stabilized, good mechanical properties, flame rating UL94 HB.

ISO short	ISO 1043: PP-GF50
Form	Pellets
UL file	E143048

Key Features

- Designed for injection moulding applications
- Improved heat resistance
- Glass fibres reinforced
- Good flowability

Availability

- YT: laser printable
- AT: antistatic
- L: UV stabilized
- D: detergent stabilized
- All colours

Compliance

- UL94 HB approved all colours at 0,75 mm. UL746 B approved.

Process

- INJECTION MOULDING

Application

- Power tools
- Household
- Furniture
- Electronic
- Electrical
- Consumer

Property	Method	Unit	Value	Condition	State
ELECTRICAL					
Tracking Resistance (CTI - Method A)	IEC 60112	Volt	600		
PHYSICAL					
Density (+23°C)	ISO 1183	g/cm^3	1,34		
Filler content	ISO 3451	%	50	600°C - 1 h	
Water Absorption (24h / +23°C)	ISO 62	%	0,1		
Mould Shrinkage (Parallel)	Internal method	%	0,2-0,35		
Mould Shrinkage (Normal)	Internal method	%	0,4-0,55		
Melt Flow Rate (MFR)	ISO 1133	g/10 min	4	230°C - 2,16 kg	

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MECHANICAL

Tensile Modulus	ISO 527-1,2	MPa	9000	Speed 1 mm/min
Elongation at Break	ISO 527-1,2	%	2,7	Speed 1 mm/min
Tensile Break Strength	ISO 527-1,2	MPa	110	Speed 50 mm/min
Flexural Modulus	ISO 178	MPa	7700	Speed 1 mm/min
Flexural Break Strength	ISO 178	MPa	138	Speed 1 mm/min
IZOD Notched Impact	ASTM D256	J/m	75	-20°C
IZOD Notched Impact	ASTM D256	J/m	130	+23°C

THERMAL

Softening Temperature - 1 kg (VST/A/50)	ISO 306	°C	156	
Softening Temperature - 5 kg (VST/B/50)	ISO 306	°C	144	
Deflection Temperature 1,80 MPa (HDT A)	ISO 75A	°C	150	
Ball Pressure Test	IEC 60695-10-2	°C	125	

FLAMMABILITY

Flame Behaviour (0,75 mm)	UL94	Class	HB	UL approved
Flame Behaviour (1,5 mm)	UL94	Class	HB	UL approved
Glow Wire Flammability Index-GWFI (1,6 mm)	IEC 60695-2-12	°C	650	
Glow Wire Ignition Temperature-GWIT (1,6 mm)	IEC 60695-2-13	°C	550	
Burning Rate (US-FMVSS 302)	ISO 3795	mm/min	<100	Thickness 2 mm
Oxigen index	ASTM D2863	%	21	

INJECTION MOULDING	Value
Drying Temperature (Desiccant Dryer)	80 - 100°C
Drying Time (Desiccant Dryer)	2 - 4 hours
Suggested Max Moisture	< 0,2%
Suggested Max Regrind	< 10%
Melt Temperature	220 - 250°C
Feed Temperature	50°C
Rear Temperature	200°C

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Middle Temperature	220°C
Front Temperature	230°C
Nozzle Temperature	240°C
Mould Temperature	40 - 60°C
Injection Rate	50 - 150 mm/sec
Injection Pressure	60 - 120 Mpa
Packing Pressure	30 - 80 Mpa
Back Pressure	As low as possible (<0,5 MPa)
Screw Revolving Speed	30 - 80 rpm
Cushion	5 - 8 mm
Vent Depth	0,05 mm

Notes It is normally not necessary to dry NILENE compounds, however should there be surface moisture (condensate) on the moulding compound as a result of incorrect storage, drying process is required. NILENE must be stored indoors at a temperature below 40°C avoiding humidity and direct sunlight as well. NILENE can be processed on a standard injection moulding unit. A general purpose metering screw is recommended with a zone distribution of 40% feed, 40% transition and 20% metering. When the heating cylinder is completely purged of NILENE material the machine may be shut down.