SABIC Innovative Plastics™

Valox* Resin 553

Europe-Africa-Middle East: COMMERCIAL

VALOX 553 is a 30% glass fibre reinforced, flame retardant PBT+PC blend with good warpage characteristics. Applications: appliance handles, spotlights, electric motors, pumphousings.

TYPICAL PROPERTIES [1]	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, break, 5 mm/min	140	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	10000	MPa	ISO 527
Flexural Stress, break, 2 mm/min	210	MPa	ISO 178
Flexural Modulus, 2 mm/min	8000	MPa	ISO 178
Hardness, H358/30	132	MPa	ISO 2039-1
Hardness, Rockwell R	118	-	ISO 2039-2
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	60	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	60	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Izod Reverse Impact, notched 80*10*4,23°C	45	kJ/m²	ISO 180/1C
THERMAL			
CTE, 23°C to 80°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	210	°C	ISO 306
Vicat Softening Temp, Rate B/50	170	°C	ISO 306

1) Typical values only. Variations within normal tolerances are possible for variose colours.All values are measured at least after 48 hours storage at 230C/50% relative humidity.
All properties, expect the melt volume rate are measured on injection moulded samples.
All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose.Not to be used for part or tool design.
3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
4) Own measurement according to UL.

Source, GMD, Last Update:05/17/2001

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TYPICAL PROPERTIES [1]	TYPICAL VALUE	UNIT	STANDARD
THERMAL			
Vicat Softening Temp, Rate B/120	170	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	205	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	135	°C	ISO 75/Ae
Relative Temp Index, Elec	125	°C	UL 746B
Relative Temp Index, Mech w/impact	110	°C	UL 746B
Relative Temp Index, Mech w/o impact	125	°C	UL 746B
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow (2)	0.4 - 0.6	%	SABIC Method
Mold Shrinkage on Tensile Bar, xflow (2)	0.5 - 0.9	%	SABIC Method
Density	1.58	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.26	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 250°C/2.16 kg	7	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	28	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	24	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	15	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	3.4	-	IEC 60250
Relative Permittivity, 1 MHz	3.3	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.007	-	IEC 60250
Dissipation Factor, 2450 MHz	0.02	-	IEC 60250
Comparative Tracking Index	225	V	IEC 60112

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TYPICAL PROPERTIES [1]	TYPICAL VALUE	UNIT	STANDARD
ELECTRICAL			
Comparative Tracking Index, M	125	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.86	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.3	mm	UL 94
Needle Flame Test, 10 s , passes at	1.5	mm	IEC 60695-2-2
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	34	%	ISO 4589

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	110 - 120	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	250 - 270	°C
Nozzle Temperature	240 - 260	°C
Front - Zone 3 Temperature	245 - 265	°C
Middle - Zone 2 Temperature	240 - 255	°C
Rear - Zone 1 Temperature	230 - 245	°C
Hopper Temperature	40 - 60	°C
Mold Temperature	40 - 100	°C

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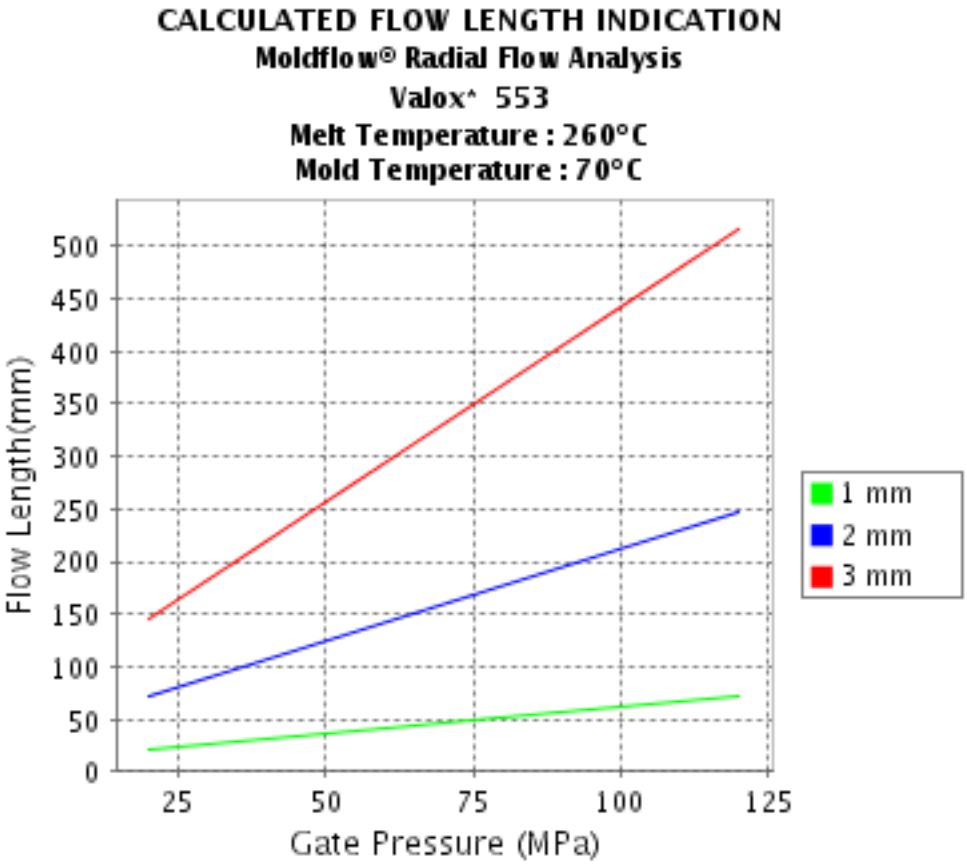
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Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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