

Valox* Resin K4560

Americas: COMMERCIAL

30% glass reinforced PBT. Impact modified, high flow, hydrolytically stable.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	106	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	106	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Modulus, 5 mm/min	4480	MPa	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	173	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	7200	MPa	ASTM D 790
IMPACT			
Izod Impact, unnotched, 23°C	817	J/m	ASTM D 4812
Izod Impact, notched, 23°C	96	J/m	ASTM D 256
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	220	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	200	°C	ASTM D 648
PHYSICAL			
Specific Gravity	1.5	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 - 0.8	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	1 - 1.2	%	SABIC Method
AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS III			
Tensile Stress, brk, Type I, 50 mm/min	96	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	102	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.2	%	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	7400	MPa	ASTM D 790
Flexural Strain, 1.3 mm/min, 50 mm span	4.5	%	ASTM D 790
Instrumented Impact, Total Energy, 23°C	8	J	ASTM D 3763
PROPERTIES AFTER 1008 HOURS AT 125°C			
Tensile Stress, brk, Type I, 5 mm/min	115	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	7100	MPa	ASTM D 790
Flexural Strain, 1.3 mm/min, 50 mm span	4.2	%	ASTM D 790
Instrumented Impact, Total Energy, 23°C	7	J	ASTM D 3763
AFTER 40 CYCLES, SIMILAR TO USCAR-2, CLASS IV			
Tensile Stress, brk, Type I, 5 mm/min	107	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	8000	MPa	ASTM D 790
Flexural Strain, 1.3 mm/min, 50 mm span	4	%	ASTM D 790
Instrumented Impact, Total Energy, 23°C	6	J	ASTM D 3763
PROPERTIES AFTER 1008 HOURS AT 155°C			
Tensile Stress, brk, Type I, 5 mm/min	110	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4	%	ASTM D 638

Flexural Modulus, 1.3 mm/min, 50 mm span	7500	MPa	ASTM D 790
Flexural Strain, 1.3 mm/min, 50 mm span	4.2	%	ASTM D 790

Source GMD, last updated:09/16/2008

Processing

- We cannot overemphasize -- **OVERDRYING SHOULD BE AVOIDED**. Use a dehumidifying desiccant bed dryer with -30°C (-20°F) dew point air (approximately 1 cfm/lb/hr air flow). Exceeding the temperature or time recommended can compromise the hydrolysis performance of the material or the drying equipment can be damaged.

Parameter	Value	Unit
Injection Molding		
Drying Temperature	60 - 75	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.05	%
Melt Temperature	250 - 265	°C
Nozzle Temperature	245 - 260	°C
Front - Zone 3 Temperature	250 - 265	°C
Middle - Zone 2 Temperature	245 - 260	°C
Rear - Zone 1 Temperature	240 - 255	°C
Mold Temperature	65 - 90	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	50 - 80	rpm
Shot to Cylinder Size	40 - 80	%
Vent Depth	0.025 - 0.038	mm

Source GMD, last updated:09/16/2008

- If material is stored in dryer for extended periods (overnight or more):
 - Lower dryer temperature to room temperature.
 - Recirculate cool dry air over material.

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. 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) Internal measurements according to UL standards.

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