

Valox* Resin V4860HR

Americas: COMMERCIAL

30% glass reinforced PBT, UL94 V-0 rated, Hydrolytically stable, Impact Modified.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	116	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	114	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.3	%	ASTM D 638
Tensile Modulus, 5 mm/min	9750	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	174	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	2	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	6740	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	111	MPa	ISO 527
Tensile Stress, break, 5 mm/min	110	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.1	%	ISO 527
Tensile Strain, break, 5 mm/min	2.1	%	ISO 527
Tensile Modulus, 1 mm/min	9440	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	183	MPa	ISO 178
Flexural Stress, break, 2 mm/min	182	MPa	ISO 178
Flexural Strain, break, 2 mm/min	2.9	%	ISO 178
Flexural Modulus, 2 mm/min	7870	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	90	J/m	ASTM D 256
Izod Impact, notched, -30°C	74	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	13	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	10	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	176	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	197	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	221	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	205	°C	ASTM D 648
CTE, -40°C to 95°C, flow	2.35E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, xflow	1.14E-04	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	2.28E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	1.19E-04	1/°C	ISO 11359-2
Ball Pressure Test, approximate maximum	75	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	176	°C	ISO 306
Vicat Softening Temp, Rate B/120	175	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	188	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.64	-	ASTM D 792

Mold Shrinkage, flow, 3.2 mm	0.18 - 0.21	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.75 - 0.94	%	SABIC Method
Melt Flow Rate, 250°C/5.0 kgf	17.8	g/10 min	ASTM D 1238
Density	1.64	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.19	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	12	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS		Value	Unit
UL Compliant, 94V-0 Flame Class Rating (3)(4)	0.8	mm	UL 94 by GE

Source GMD, last updated:02/02/2005

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	230 - 260	°C
Nozzle Temperature	240 - 260	°C
Front - Zone 3 Temperature	240 - 260	°C
Middle - Zone 2 Temperature	230 - 250	°C
Rear - Zone 1 Temperature	220 - 240	°C
Mold Temperature	60 - 120	°C
Back Pressure	5 - 10	MPa
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 70	%
Vent Depth	0.025 - 0.038	mm

Source GMD, last updated:02/02/2005

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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