

VALOX™ FR RESINS V4860HR

REGION ASIA

DESCRIPTION

VALOX V4860HR is a 30% glass filled, impact modified, hydrolytically stable flame retardant Polybutylene Terephthalate (PBT) injection moldable grade. It has excellent chemical resistance and a UL94V0@0.80 flame rating. This is a good candidate for a variety of applications needing a hydrostable FR PBT solution.

TYPICAL PROPERTY VALUES

Revision 20250604

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	116	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	114	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.3	%	ASTM D638
Tensile Modulus, 5 mm/min	9750	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	174	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	6740	MPa	ASTM D790
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			
Izod Impact, notched, 23°C	90	J/m	ASTM D256
Izod Impact, notched, -30°C	74	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	13	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	176	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	197	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	221	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	205	°C	ASTM D648
CTE, -40°C to 95°C, flow	2.35E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	1.14E-04	1/°C	ASTM E831
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	125	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	176	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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			
Specific Gravity	1.64	-	ASTM D792
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 D1238
Density	1.64	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.19	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	12	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Yellow Card Link	E207780-228381	-	-
UL Compliant, 94V-0 Flame Class Rating	0.8	mm	UL 94 by SABIC-IP
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	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	
Vent Depth	0.025 – 0.038	mm	

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.