

## Valox\* Resin HX215HP

Americas: COMMERCIAL

High Flow, Unreinforced, Polybutylene Terephthalate (PBT). For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant. Available in limited colors.

### Property

TYPICAL PROPERTIES <sup>(1)</sup>			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	60	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	26	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	10	%	ASTM D 638
Tensile Modulus, 5 mm/min	2700	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	89	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	49	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3.2	%	ISO 527
Tensile Strain, break, 50 mm/min	10	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2260	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	30	J/m	ASTM D 256
Izod Impact, notched, -30°C	30	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	20	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	2	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	2	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m <sup>2</sup>	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	180	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	150	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	54	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.6E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.8E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.6E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.8E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	183	°C	ISO 306
Vicat Softening Temp, Rate B/120	180	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	49	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.31	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	1.5 - 2	%	SABIC Method
Melt Flow Rate, 250°C/2.16 kgf	80	g/10 min	ASTM D 1238
Density	1.31	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.34	%	ISO 62

Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 250°C/2.16 kg	70	cm <sup>3</sup> /10 min	ISO 1133

Source GMD, last updated:03/20/2007

## Processing

Parameter	Value	Unit
<b>Injection Molding</b>		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	245 - 260	°C
Nozzle Temperature	240 - 255	°C
Front - Zone 3 Temperature	245 - 260	°C
Middle - Zone 2 Temperature	240 - 255	°C
Rear - Zone 1 Temperature	230 - 250	°C
Mold Temperature	50 - 75	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	50 - 100	rpm
Shot to Cylinder Size	40 - 80	%
Vent Depth	0.013 - 0.025	mm
<b>Compounding Extrusion</b>		
Drying Temperature	110 - 120	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0	%
Melt Temperature	245 - 260	°C
Barrel - Zone 1 Temperature	200 - 230	°C
Barrel - Zone 2 Temperature	240 - 255	°C
Barrel - Zone 3 Temperature	240 - 275	°C
Barrel - Zone 4 Temperature	240 - 275	°C
Adapter Temperature	240 - 275	°C
Die Temperature	240 - 275	°C
Waterbath Temperature	25 - 35	°C

Source GMD, last updated:03/20/2007

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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