



VALOX™ RESIN T1N830

ETP COMPOUND FROM TRUCIRCLE™ PORTFOLIO
REGION EUROPE

DESCRIPTION

VALOX™ RESIN T1N830 is a ETP compound, which is formulated with 15wt% post-industrial recycled plastics.

The grade is part of SABIC's TRUCIRCLE™ portfolio and services.

VALOX™ RESIN T1N830 is a 30% GR PBTP compound with excellent surface finish. Typical applications are hot air gun housing assemblies, industrial glue guns, appliance housings and handles.

TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	140	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	140	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 5 mm/min	10500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	205	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	205	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	7000	MPa	ASTM D790
Taber Abrasion, CS-17, 1 kg	30	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	140	MPa	ISO 527
Tensile Stress, break, 5 mm/min	140	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	10500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	215	MPa	ISO 178
Flexural Stress, break, 2 mm/min	200	MPa	ISO 178
Flexural Strain, break, 2 mm/min	3	%	ISO 178
Flexural Modulus, 2 mm/min	8800	MPa	ISO 178
Ball Indentation Hardness, H358/30	174	MPa	ISO 2039-1
Hardness, Rockwell R	123	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	60	kJ/m²	ISO 179/2C
Charpy Impact, unnotched, -30°C	55	kJ/m²	ISO 179/2C
Izod Impact, unnotched, 23°C	800	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	800	J/m	ASTM D4812
Izod Impact, notched, 23°C	85	J/m	ASTM D256
Izod Impact, notched, 0°C	90	J/m	ASTM D256
Izod Impact, notched, -30°C	90	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	3	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	50	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 0°C	9	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eA
Charpy Impact, notched, 23°C	10	kJ/m²	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eA
Charpy Impact, notched, -30°C	10	kJ/m²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	60	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	50	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate A/50	220	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	208	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	220	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	200	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	208	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.8E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	1.97E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.59E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.1E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, flow	1.51E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	1.42E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	220	°C	ISO 306
Vicat Softening Temp, Rate B/50	208	°C	ISO 306
Vicat Softening Temp, Rate B/120	208	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	220	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	202	°C	ISO 75/Ae
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	220	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	200	°C	ISO 75/Af
Relative Temp Index, Elec	120	°C	UL 746B
Relative Temp Index, Mech w/o impact	120	°C	UL 746B
PHYSICAL			
Specific Gravity	1.54	-	ASTM D792
Filler Content	30	%	ASTM D229
Mold Shrinkage on Tensile Bar, flow	0.4 – 0.8	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.2 – 1	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.6 – 1	%	SABIC method
Melt Flow Rate, 265°C/2.16kgf	16	g/10 min	ASTM D1238
Melt Flow Rate, 265°C/5.0 kgf	45	g/10 min	ASTM D1238
Density	1.55	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.15	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	23	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/2.16 kg	14	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	35	cm³/10 min	ISO 1133

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Viscosity, 260°C, 1500 sec-1	208	Pa-s	ISO 11443
ELECTRICAL			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Dielectric Strength, in oil, 0.8 mm	27	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	23	kV/mm	ASTM D149
Dielectric Strength, in oil, 3.2 mm	15	kV/mm	ASTM D149
Relative Permittivity, 1 MHz	3.2	-	ASTM D150
Dissipation Factor, 1 MHz	0.013	-	ASTM D150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 0.8 mm	27	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	23	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	15	kV/mm	IEC 60243-1
Relative Permittivity, 100 Hz	3.6	-	IEC 60250
Relative Permittivity, 1 MHz	3.5	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0008	-	IEC 60250
Dissipation Factor, 100 Hz	0.002	-	IEC 60250
Dissipation Factor, 1 MHz	0.013	-	IEC 60250
Comparative Tracking Index	325	V	IEC 60112
Comparative Tracking Index, M	150	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.3	-	IEC 60250
FLAME CHARACTERISTICS			
UL Compliant, 94HB Flame Class Rating	1.5	mm	UL 94 by SABIC-IP
UL Compliant, 94HB Flame Class Rating 2nd value	3	mm	UL 94 by SABIC-IP
Glow Wire Flammability Index 750°C, passes at	1	mm	IEC 60695-2-12
INJECTION MOLDING			
Drying Temperature	110 – 120	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 285	°C	
Nozzle Temperature	265 – 275	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	255 – 280	°C	
Rear - Zone 1 Temperature	240 – 260	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature	60 – 110	°C	