SABIC Innovative Plastics™

Valox* Resin 735

Europe-Africa-Middle East: COMMERCIAL

VALOX 735 is 40% glass/mineral filled PBT injection moulding resin with excellent thermal performance and low shrinkage. Applications: motorized heating appliances, adapter rings, oven grills.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	960	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	960	kgf/cm²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Modulus, 5 mm/min	106000	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1220	kgf/cm²	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	1220	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	84600	kgf/cm²	ASTM D 790
Taber Abrasion, CS-17, 1 kg	64	mg/1000cy	SABIC Method
Tensile Stress, yield, 5 mm/min	90	MPa	ISO 527
Tensile Stress, break, 5 mm/min	90	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	10000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	130	MPa	ISO 178
Flexural Stress, break, 2 mm/min	130	MPa	ISO 178
Flexural Strain, break, 2 mm/min	2	%	ISO 178
Flexural Modulus, 2 mm/min	8300	MPa	ISO 178
Hardness, H358/30	144	MPa	ISO 2039-1
Hardness, Rockwell R	124	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	40	kJ/m²	ISO 179/2C

(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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source GMD, last updated:

SABIC Innovative Plastics™

سابك sabic

Valox* Resin 735

Europe-Africa-Middle East: COMMERCIAL

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
IMPACT			
Charpy Impact, unnotched, -30°C	30	kJ/m²	ISO 179/2C
Izod Impact, unnotched, 23°C	57	cm-kgf/cm	ASTM D 4812
Izod Impact, unnotched, -30°C	53	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	6	cm-kgf/cm	ASTM D 256
Izod Impact, notched, 0°C	5	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	5	cm-kgf/cm	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	35	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	25	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
Charpy Impact, notched, 23°C	7	kJ/m²	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
Charpy Impact, notched, -30°C	7	kJ/m²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	35	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	185	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	215	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	190	°C	ASTM D 648
Thermal Conductivity	0.36	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	2.28E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.53E-05	1/°C	ISO 11359-2

(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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source GMD, last updated:

SABIC Innovative Plastics™

Valox* Resin 735

Europe-Africa-Middle East: COMMERCIAL

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
THERMAL			
CTE, 23°C to 80°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, flow	2.18E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	1.4E-04	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	180	°C	ISO 306
Vicat Softening Temp, Rate B/120	180	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	215	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	190	°C	ISO 75/Ae
Relative Temp Index, Elec	140	°C	UL 746B
Relative Temp Index, Mech w/impact	140	°C	UL 746B
Relative Temp Index, Mech w/o impact	140	°C	UL 746B
PHYSICAL			
Specific Gravity	1.62	-	ASTM D 792
Filler Content	40	%	ASTM D 229
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.3 - 0.6	%	SABIC Method
Mold Shrinkage on Tensile Bar, xflow (2) (5)	0.5 - 0.8	%	SABIC Method
Melt Flow Rate, 266°C/5.0 kgf	20	g/10 min	ASTM D 1238
Density	1.62	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.96	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	1	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/1.2 kg	3	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	15	cm³/10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	160	Pa-s	ISO 11443
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	ASTM D 257

(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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source GMD, last updated:

SABIC Innovative Plastics™

سابك sabic

Valox* Resin 735

Europe-Africa-Middle East: COMMERCIAL

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
ELECTRICAL			
Dielectric Strength, in oil, 0.8 mm	45	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	22	kV/mm	ASTM D 149
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	ASTM D 149
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC)	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	1	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	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	45	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	22	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3.3	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.008	-	IEC 60250
Dissipation Factor, 1 MHz	0.017	-	IEC 60250
Relative Permittivity, 50/60 Hz	3.5	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	0.81	mm	UL 94
UL Recognized, 94HB Flame Class Rating 2nd value (3)	3	mm	UL 94
Glow Wire Flammability Index 750°C, passes at	1	mm	IEC 60695-2-12

(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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source GMD, last updated:

SABIC Innovative Plastics™

Valox* Resin 735

Europe-Africa-Middle East: COMMERCIAL

PROCESSING PARAMETERS	TYPICAL VALUE	Unit
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

(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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

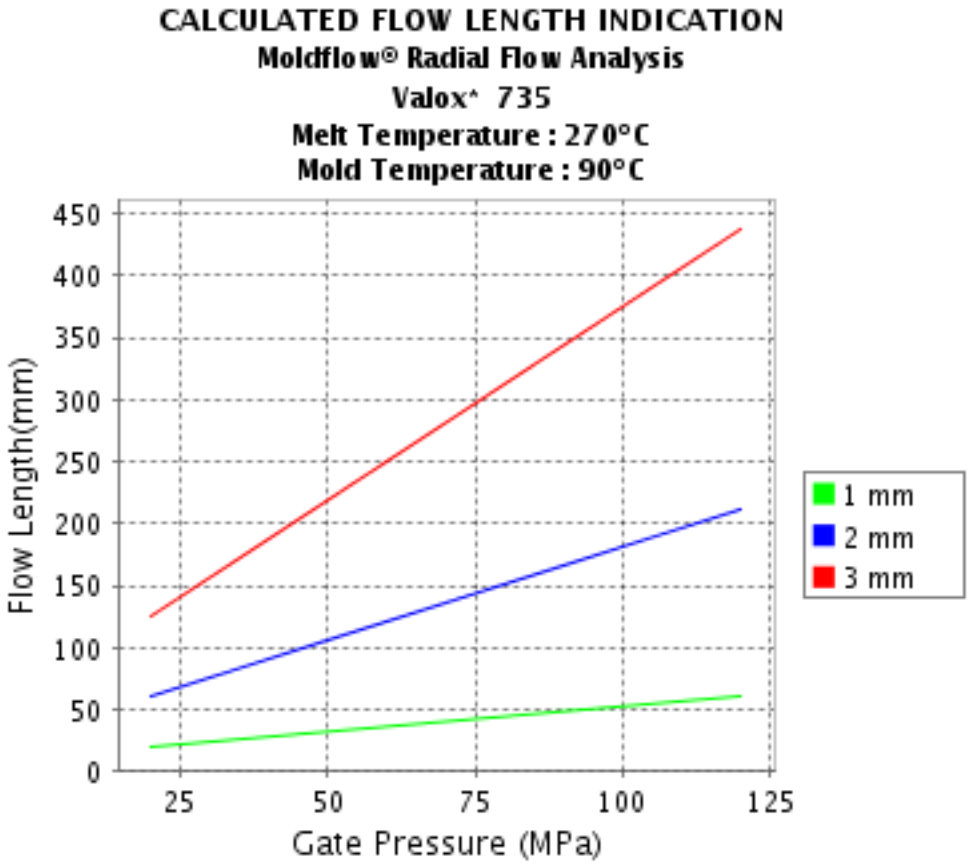
Source GMD, last updated:

SABIC Innovative Plastics™

سابك sabic

Valox* Resin 735

Europe-Africa-Middle East: COMMERCIAL



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

® Moldflow is a registered trademark of the Moldflow Corporation.

(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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source GMD, last updated: