SABIC Innovative Plastics™

Noryl* Resin SE0

Europe-Africa-Middle East: COMMERCIAL

NORYL SE0 is an unfilled, flame retardant material with a Vicat B/120 of 130°C according ISO 306. NORYL SE0 is V0 at 1.6 mm according UL94 and halogen free according VDE/DIN 472 part 815. NORYL SE0 is available in all colours.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	40	mg/1000cy	SABIC Method
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2200	MPa	ISO 178
Hardness, H358/30	97	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
THERMAL			
Thermal Conductivity	0.23	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	9.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	130	°C	ISO 306
Vicat Softening Temp, Rate B/50	120	°C	ISO 306
Vicat Softening Temp, Rate B/120	125	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	115	°C	ISO 75/Be

(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.

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
THERMAL			
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	100	°C	ISO 75/Ae
Relative Temp Index, Elec	95	°C	UL 746B
Relative Temp Index, Mech w/impact	80	°C	UL 746B
Relative Temp Index, Mech w/o impact	95	°C	UL 746B
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow (2)	0.5 - 0.7	%	SABIC Method
Density	1.1	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.37	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 280°C/3.8 kg	15	cm³/10 min	ISO 1133
ELECTRICAL			
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	33	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	26	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	16	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.6	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.008	-	IEC 60250
Dissipation Factor, 1 MHz	0.004	-	IEC 60250
Comparative Tracking Index	400	V	IEC 60112
Relative Permittivity, 50/60 Hz	2.7	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	775	°C	IEC 60695-2-13
Oxygen Index (LOI)	32	%	ISO 4589

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	100 - 120	°C
Drying Time	2 - 3	hrs
Melt Temperature	280 - 300	°C
Nozzle Temperature	260 - 280	°C
Front - Zone 3 Temperature	280 - 300	°C
Middle - Zone 2 Temperature	260 - 280	°C
Rear - Zone 1 Temperature	240 - 260	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	80 - 120	°C

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