

NORYL™ RESIN HF185

REGION EUROPE

DESCRIPTION

NORYL HF185 is an unfilled, halogen free (according VDE/DIN 472 part 815), flame retardant and easy flow NORYL grade.

TYPICAL PROPERTY VALUES

Revision 20180905

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	100	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	20	%	ISO 527
Tensile Modulus, 1 mm/min	2200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	2200	MPa	ISO 178
Hardness, H358/30	100	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched 80*10*4 +23°C	8	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m ²	ISO 179/1eA
THERMAL			
Thermal Conductivity	0.24	W/m.°C	ISO 8302
CTE, 23°C to 80°C, flow	9.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	110	°C	ISO 306
Vicat Softening Temp, Rate B/50	100	°C	ISO 306
Vicat Softening Temp, Rate B/120	100	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	85	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	70	°C	ISO 75/Ae
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	SABIC method
Density	1.13	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.37	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 280°C/2.16 kg	13	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+13	Ohm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	16	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dissipation Factor, 50/60 Hz	0.02	-	IEC 60250
Dissipation Factor, 1 MHz	0.006	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.9	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating	1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	2	mm	UL 94
UL Recognized, 94-5VA Rating	2.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	30	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	80 – 100	°C	
Drying Time	2 – 3	hrs	
Melt Temperature	260 – 280	°C	
Nozzle Temperature	240 – 260	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	240 – 260	°C	
Rear - Zone 1 Temperature	220 – 240	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 80	°C	

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