

# Starflam

## Starflam B28UL

**DESCRIPTION** Starflam B28UL is Unfilled Halogen Free and Red Phosphorous Free Flame Retardant Polyamide 6 Injection Molding Resin

PROPERTY (1)	UNIT	STANDARD	TYPICAL VALUE (1) Dry As Moulded
<b>PHYSICAL</b>			
Density	g/cm <sup>3</sup>	ISO 1183	1.13
Moisture Absorption (23°C / 50% RH)	%	ISO 62	2.6
Mold Shrinkage on Tensile Bar, flow	%	E2P Method	1.2 - 1.6
<b>MECHANICAL</b>			
Flexural Modulus, 2 mm/min	MPa	ISO 178	3000
Flexural Stress, yield, 2 mm/min	MPa	ISO 178	110
Hardness, Rockwell R	-	ISO 2039-2	122
Tensile Modulus, 1 mm/min	MPa	ISO 527	3200
Tensile Strain, break, 50 mm/min	%	ISO 527	4.5
Tensile Strain, yield, 50 mm/min	%	ISO 527	3.9
Tensile Stress, break, 50 mm/min	MPa	ISO 527	80
Tensile Stress, yield, 50 mm/min	MPa	ISO 527	80
<b>IMPACT</b>			
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	kJ/m <sup>2</sup>	ISO 179/1eU	70
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	kJ/m <sup>2</sup>	ISO 179/1eA	4
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	kJ/m <sup>2</sup>	ISO 179/1eU	50
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	kJ/m <sup>2</sup>	ISO 179/1eA	4
Izod Impact, notched 80*10*4 +23°C	kJ/m <sup>2</sup>	ISO 180/1A	4
Izod Impact, notched 80*10*4 -20°C	kJ/m <sup>2</sup>	ISO 180/1A	4
Izod Impact, notched 80*10*4 -30°C	kJ/m <sup>2</sup>	ISO 180/1A	4
Izod Impact, notched 80*10*4 -40°C	kJ/m <sup>2</sup>	ISO 180/1A	3
<b>THERMAL</b>			
Ball Pressure Test, 125°C +/- 2°C	-	IEC 60695-10-2	PASSES
CTE, 23°C to 60°C, flow	1/°C	ISO 11359-2	6.00E-05
CTE, 23°C to 60°C, xflow	1/°C	ISO 11359-2	7.80E-05
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	°C	ISO 75/Ae	68
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	°C	ISO 75/Be	180
Relative Temp Index, Elec	°C	UL 746B	130

Source RJF, last update 01-07-2010

(1) Typical values for natural color unless specified otherwise. Do not constitute a specification. Significant variations are possible for colors

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PROPERTY (1)	UNIT	STANDARD	TYPICAL VALUE (1) Dry As Moulded
Relative Temp Index, Mech w/impact	°C	UL 746B	90
Relative Temp Index, Mech w/o impact	°C	UL 746B	100
Thermal Conductivity	W/m-°C	ISO 8302	0.29
Vicat Softening Temp, Rate B/120	°C	ISO 306	200
Vicat Softening Temp, Rate B/50	°C	ISO 306	202
<b>FLAME CHARACTERISTICS</b>			
Glow Wire Flammability Index 960°C, passes at	mm	IEC 60695-2-12	2
Oxygen Index (LOI)	%	ISO 4589	25
UL Recognized, 94V-2 Flame Class Rating	mm	UL 94	0.75
<b>ELECTRICAL</b>			
Comparative Tracking Index	V	IEC 60112	600
Comparative Tracking Index, M	V	IEC 60112	600
Dielectric Strength, in oil, 3.2 mm	kV/mm	IEC 60243-1	16
Dissipation Factor, 1 MHz	-	IEC 60250	0.0182
Dissipation Factor, 50/60 Hz	-	IEC 60250	0.0087
Relative Permittivity, 1 MHz	-	IEC 60250	3
Relative Permittivity, 50/60 Hz	-	IEC 60250	3.1
Surface Resistivity, ROA	Ohm	IEC 60093	>1.E+15
Volume Resistivity	Ohm-cm	IEC 60093	>1.E+16

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PARAMETER	Setting	Unit
Drying Temperature	75 - 85	°C
Drying Time	4 - 6	hrs
Maximum Moisture Content	0.2	%
Mold Temperature	60 - 80	°C
Rear - Zone 1 Temperature	230 - 240	°C
Middle - Zone 2 Temperature	240 - 250	°C
Front - Zone 3 Temperature	250 - 260	°C
Melt Temperature	250 - 260	°C

PROCESSING PARAMETERS : see above typical molding conditions.

DRYING : is not essential when material is delivered in sealed bags with moisture content below 0.2 %.

BARRELS, SCREWS, MOULDS : use wear resisting steel or alloy such as bimetallic cylinders, nitrided screws.

USE OF REGRIND : the properties of the component should be checked in order to ascertain the maximum acceptable level of regrind.

SAFETY : please refer to Material Safety Datasheet.

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