

# Edistir® R 321P

Medium Impact Polystyrene

Versalis S.p.A.

PROSPECTOR®

www.ulprospector.com

## Technical Data

### Product Description

Medium impact polystyrene combining easy flow and high stiffness  
Designation: Thermoplastics ISO 2897-PS-I,M,083-12-04-30

Applications:

Typical uses are toys, stationery, small containers for packaging, refrigerator components, point of sales, household wares, disposable razors, technical items.

R 321P is certified UL94 HB "all colors" at 1.5mm (UL file E 83071).

This product in the natural version complies by composition with the requirements of the main Regulations for plastic materials intended to come into contact with food, including Regulation (EU) No 10/2011 and following amendments.

### General

Material Status	• Commercial: Active
Literature <sup>1</sup>	• <a href="#">Technical Datasheet (English)</a>
UL Yellow Card <sup>2</sup>	• <a href="#">E83071-251066</a>
Search for UL Yellow Card	• <a href="#">Versalis S.p.A.</a> • <a href="#">Edistir®</a>
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• Food Contact Acceptable • Good Flow • High Rigidity • High Stiffness • Medium Impact Resistance
Uses	• Consumer Applications • Containers • Electrical/Electronic Applications • Household Goods • Low Temperature Applications • Packaging • Stationary Supplies • Toys
Agency Ratings	• EU No 10/2011
UL File Number	• E83071
Forms	• Pellets
Processing Method	• Injection Molding
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2) • Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value Unit	Test Method
Density	1.04 g/cm <sup>3</sup>	ISO 1183
Apparent (Bulk) Density	0.65 g/cm <sup>3</sup>	ISO 60
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	15 g/10 min	ISO 1133
Molding Shrinkage	0.40 to 0.70 %	ISO 294-4
Water Absorption (24 hr, 23°C)	< 0.10 %	ISO 62

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	2400 MPa	ISO 527-1/1
Tensile Stress		ISO 527-2/50
Yield	24.0 MPa	
Break	19.0 MPa	
Tensile Strain (Break)	40 %	ISO 527-2/50
Flexural Stress <sup>4</sup>	45.0 MPa	ISO 178

Impact	Nominal Value Unit	Test Method
Notched Izod Impact		
23°C, 3.20 mm	68 J/m	ISO 180/4A
-30°C <sup>5</sup>	3.5 kJ/m <sup>2</sup>	ISO 180/1A
23°C <sup>5</sup>	5.0 kJ/m <sup>2</sup>	ISO 180/1A



Hardness	Nominal Value Unit	Test Method
Rockwell Hardness (L-Scale)	83	ISO 2039-2
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load <sup>6</sup> 1.8 MPa, Annealed	80.0 °C	ASTM D648
Vicat Softening Temperature		
--	85.0 °C	ISO 306/B50
--	94.0 °C	ISO 306/A50
CLTE - Flow	9.0E-5 cm/cm/°C	ASTM D696
Thermal Conductivity	0.17 W/m/K	ISO 8302
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	> 1.5E+15 ohms	IEC 60093
Volume Resistivity	> 7.0E+15 ohms·cm	IEC 60093
Electric Strength	65 kV/mm	IEC 60243-1
Dielectric Constant (50 Hz)	2.50	IEC 60250
Dissipation Factor (50 Hz)	3.0E-4	IEC 60250
Comparative Tracking Index (Solution A)	375 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flame Rating (1.5 mm)	HB	UL 94
Glow Wire Ignition Temperature (1.6 mm)	650 °C	IEC 60695-2-13
Additional Information	Nominal Value Unit	
Designation	Thermoplastics ISO 2897-PS-I,M,083-12-04-30	
Injection	Nominal Value Unit	
Processing (Melt) Temp	200 to 250 °C	
Mold Temperature	20 to 60 °C	

**Notes**

- <sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.
- <sup>2</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.
- <sup>3</sup> Typical properties: these are not to be construed as specifications.
- <sup>4</sup> 2.0 mm/min
- <sup>5</sup> 4mm
- <sup>6</sup> 120°C/h



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## Where to Buy

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### Supplier

**Versalis S.p.A.**  
Milan, Milan Italy  
**Telephone:** +39-2-520-1  
**Web:** <http://www.eni.com/>

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### Distributor

**SNETOR Distribution**  
*SNETOR Distribution is a Pan European distribution company. Contact SNETOR for availability of individual products by country.*  
**Telephone:** +33-1-4904-8888  
**Web:** <http://www.snetor.com/>  
**Availability:** France

