



STYRON™ 666D

Americas Styrenics LLC - General Purpose Polystyrene

Thursday, February 29, 2024

General Information

Product Description

Product Description

- Medium heat resistance
- Medium flow
- Food Contact Compliant
- UL Classification 94 HB
- USP Class VI

Typical Applications

- Medical
- Packaging/disposables

General

Material Status	• Commercial: Active
Regional Availability	• North America
Features	<ul style="list-style-type: none"> • Crystal • Food Contact Acceptable • Medium Flow • Medium Heat Resistance
Uses	• Medical/Healthcare Applications • Packaging
Agency Ratings	• FDA 21 CFR 177.1640 • USP Class VI
UL File Number	• E326906
Processing Method	• Extrusion • Injection Molding

ASTM & ISO Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.04	1.04	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	8.0 g/10 min	8.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3 in/in	0.40 to 0.70 %	ASTM D955
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus (Injection Molded)	460000 psi	3170 MPa	ASTM D638
Tensile Strength			ASTM D638
Break, Injection Molded	6240 psi	43.0 MPa	
Injection Molded	6240 psi	43.0 MPa	
Tensile Elongation (Break, Injection Molded)	3.0 %	3.0 %	ASTM D638
Flexural Modulus (Injection Molded)	504000 psi	3480 MPa	ASTM D790
Flexural Strength (Injection Molded)	8850 psi	61.0 MPa	ASTM D790
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), Injection Molded	0.39 ft-lb/in	21 J/m	

Copyright ©, 2024 , Formerra, LLC. All the information in this literature is for general information purpose only. Formerra makes no representations, guarantees, or warranties of any kind with respect to the information contained in this literature, including its accuracy, completeness, reliability, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for pricing, property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Formerra makes no warranties or guarantees respecting suitability of either Formerra's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. FORMERRA MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature or any other provided literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner. Any action you take upon the information you find in this literature is strictly at your own risk. Formerra will not be liable for any losses and/or damages in connection with the use of this literature. By using this literature, you hereby consent to this disclaimer and agree to its terms.

STYRON™ 666D

Americas Styrenics LLC - General Purpose Polystyrene

Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Rockwell Hardness (L-Scale)	107	107	ASTM D785
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	192 °F	89.0 °C	
264 psi (1.8 MPa), Unannealed	180 °F	82.0 °C	
Vicat Softening Temperature	210 °F	99.0 °C	ASTM D1525
CLTE - Flow	5.0E-5 in/in/°F	9.0E-5 cm/cm/°C	ASTM D696
Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Flame Rating	HB	HB	UL 94

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Rear Temperature	424 to 480 °F	218 to 249 °C
Middle Temperature	424 to 480 °F	218 to 249 °C
Front Temperature	390 to 415 °F	199 to 213 °C
Nozzle Temperature	415 to 469 °F	213 to 243 °C
Mold Temperature	60 to 150 °F	16 to 66 °C
Injection Rate	Fast	Fast
Back Pressure	29.0 to 174 psi	0.200 to 1.20 MPa
Cushion	0.250 in	6.35 mm
Extrusion	Typical Value (English)	Typical Value (SI)
Cylinder Zone 1 Temp.	351 to 379 °F	177 to 193 °C
Cylinder Zone 2 Temp.	360 to 399 °F	182 to 204 °C
Cylinder Zone 3 Temp.	370 to 410 °F	188 to 210 °C
Cylinder Zone 4 Temp.	390 to 421 °F	199 to 216 °C
Cylinder Zone 5 Temp.	399 to 430 °F	204 to 221 °C
Adapter Temperature	379 to 450 °F	193 to 232 °C
Melt Temperature	379 to 450 °F	193 to 232 °C
Die Temperature	390 to 450 °F	199 to 232 °C

Extrusion Notes

Zone 6 Temperature: 204 to 221°C
Melt Pump, Pipes, Screen Changer Temperature: 193 to 232°C
Polish Rolls Temperature: 66 to 104°C
Head Pressure: 10 to 21 MPa

Notes

¹ Typical properties: these are not to be construed as specifications.

Copyright ©, 2024, Formerra, LLC. All the information in this literature is for general information purpose only. Formerra makes no representations, guarantees, or warranties of any kind with respect to the information contained in this literature, including its accuracy, completeness, reliability, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for pricing, property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Formerra makes no warranties or guarantees respecting suitability of either Formerra's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. FORMERRA MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature or any other provided literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner. Any action you take upon the information you find in this literature is strictly at your own risk. Formerra will not be liable for any losses and/or damages in connection with the use of this literature. By using this literature, you hereby consent to this disclaimer and agree to its terms.