

# STYRON™ 685D

## General Purpose Polystyrene Resins

STYRON™ 685D is a high heat resistance, high tensile strength and high stiffness, general purpose polystyrene. It is recommended for applications where tensile and melt strength as well as heat resistance properties are important.

### Main Characteristics

- High heat
- Light Blue
- UL94 HB
- FDA compliance

\* U.S. FDA 21 CFR177.1640

\* Europe Regulation (EU) No 10/2011

\* CSA (Canada Standards Association)

### Applications

- Media enclosures
- Refrigerator accessories
- Oriented polystyrene sheets

Properties	Test Method	Unit	Typical Value
<b>Physical</b>			
Melt Flow Rate (200 deg C/5 kg)	ASTM D1238	g/10 min	1.6
Density	ASTM D792	g/cm <sup>3</sup>	1.04
Mold Shrinkage	ASTM D955	in/in	0.004-0.007
UL 94 Classification @ 1.5 mm			HB
<b>Injection Molded Properties</b>			
<b>Mechanical</b>			
Yield, Tensile Strength	ASTM D638	psi	8000
Ultimate, Tensile Strength	ASTM D638	psi	8000
Break Elongation	ASTM D638	%	4
Flexural Strength	ASTM D790	psi	15900
Flexural Modulus	ASTM D790	psi	470000
Notched Izod @ 23 deg C	ASTM D256	ft-lb/in	0.6
<b>Compression Molded Properties</b>			
<b>Mechanical</b>			
Yield Tensile Strength	ASTM D638	psi	6400
Ultimate Tensile Strength	ASTM D638	psi	6400
Break Elongation	ASTM D638	%	2
Flexural Strength	ASTM D790	psi	11600
Flexural Modulus	ASTM D790	psi	450000
Notched Izod @ 23 deg C	ASTM D256	ft-lb/in	0.2
<b>Thermal</b>			
Vicat Softening Point	ASTM D1525	deg C	108
Deflection Temperature Under Load @ 1.82 Mpa, unannealed	ASTM D648	deg C	82.8
Deflection Temperature Under Load @ 1.82 Mpa, annealed	ASTM D648	deg C	103
CLTE-Flow	ASTM D696	cm/cm/deg C	0.000076

### Notes

These are typical properties only and are not to be construed as specification. Users should confirm results by their own tests