TOTAL

MATERIAL DATASHEET

TOTAL Polystyrene 1540

High Flow Polystyrene

UL File Number: E314268

Polystyrene Crystal 1540 is a high flow polystyrene for injection molding application.
It offers low viscosity at high shear rate, that allows a good injectability, and a relatively high softening point.

Applications:
- Cutlery
- Jewel Box
- Toy

Properties	Test Method		S.I.		Metric		English	
	ISO	ASTM	Value	Units	Value	Units	Value	Units
RHEOLOGICAL								
Melt Flow Index (200 °C - 5 kg)	1133	D-1238	0.012	kg/ 10 min	12.00	g/ 10 min	2.65E-02	lb/ 10 min
Spiral Flow (220 °C)	-	D-3123	0.57	m	57	cm	22.44	in
THERMAL								
Vicat Softening Point 10N (T increase = 50 °C/h)	306	D-1525	364	K	91	°C	196	°F
Heat Distortion Temperature	75	D-648	348	K	75	°C	167	°F
Coefficient of Linear Thermal Expansion (10^{-5})	-	D-696	2.59E-05	m/K	7.10	mm/°C	8.27E-03	in/°F
MECHANICAL								
Unnotched Izod Impact Strength	180	D-256	7.50	kJ/m^2	6.90	kg-cm/cm	1.27	ft-lb/in
Tensile Strength at Yield	527	D-638	45	MPa	450.0	kg/cm^2	6528	psi
Elongation at Break	527	D-638	2	%	2	%	2	%
Flexural Modulus	178	D-790	3300	MPa	33000	kg/cm^2	478756	psi
Rockwell Hardness	2039	D-785	L-70	-	L-70	-	L-70	-
ELECTRICAL								
Dielectric Strength	-	D-149	135000	kV/m	135	kV/mm	3429	kV/in
Surface resistivity	IEC 93	-	>10e+13	$Ohms^{-1}$	>10e+13	$Ohms^{-1}$	>10e+13	$Ohms^{-1}$
MISCELLANEOUS								
Density	-	D-792	1040	kg/m^3	1.04	g/cm^3	64.91	lb/ft^3
Mold Shrinkage	-	D-955	0.4 - 0.7	%	0.4 - 0.7	%	0.4 - 0.7	%
Water absorption	62	D-570	<0.1	%	<0.1	%	<0.1	%

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+852-6957-5415 (HongKong)

RECOMMENDED INJECTION MOLDING PARAMETERS

Barrel Temperature	Value	Units
Zone 1	170 - 180	°C
Zone 2	180 - 220	°C
Zone 3	210 - 240	°C
Zone 4	210 - 240	°C
Nozzle	210 - 240	°C

General Information :

Standard Properties: All tests are carried out at 23 °C unless otherwise stated. Mechanical properties are measured on injection moulded test specimens.
Bulk Density: Bulk Density of all Natural grades is approximately 0.6 g/cm^3.
TOTAL Polystyrene 1540 should be kept in a cool and dry place. Avoid direct exposure to sunlight.