ZYLAR® 670

INEOS Styrolution - Methyl Methacrylate Butadiene Styrene

Monday, November 4, 2019

General Information

Product Description

Zylar® 670 is an impact modified styrene acrylic copolymer that provides practical toughness, excellent clarity and superior processing characteristics for demanding injection molded applications.

FEATURES

- Excellent clarity
- Exceptional performance in drop tests
- Low density
- Ease of processing
- Low moisture absorption
- Gamma & ETO sterilizable

APPLICATIONS

- Appliances and consumer goods
- Medical devices
- Toys
- Office accessories
- Industrial housings and covers
- Reusable drinkware

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Impact Modifier		
Features	• Copolymer • Good Processability • Good Sterilizability	• Good Toughness • High Clarity • Impact Modified	• Low Density • Low Moisture Absorption
Uses	• Appliances • Consumer Applications	• Housings • Industrial Applications	• Medical Devices • Toys
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.05		ASTM D792
Density	1.05	g/cm³	ISO 1183
Melt Mass-Flow Rate (200°C/5.0 kg)	6.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR)			ISO 1133
200°C/5.0 kg	6.00	cm³/10min	
220°C/10.0 kg	55	cm³/10min	
Molding Shrinkage - Flow	2.0E-3 to 6.0E-3	in/in	ASTM D955
Molding Shrinkage	0.20 to 0.60	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.10	%	ASTM D570
Water Absorption (Saturation, 73°F)	0.10	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.050	%	ISO 62

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Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	265000	psi	ASTM D638
Tensile Modulus	261000	psi	ISO 527-2
Tensile Strength (Yield, 73°F)	4000	psi	ASTM D638
Tensile Stress (Yield, 73°F)	4060	psi	ISO 527-2
Tensile Elongation (Break)	42	%	ASTM D638
Tensile Strain (Break, 73°F)	42	%	ISO 527-2
Flexural Modulus (73°F)	265000	psi	ASTM D790
Flexural Modulus (73°F)	261000	psi	ISO 178
Flexural Strength (73°F)	6000	psi	ASTM D790
Flexural Stress (73°F)	5950	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	1.9	ft·lb/in²	ISO 179/1eA
Charpy Unnotched Impact Strength (73°F)	62	ft·lb/in²	ISO 179/1eU
Notched Izod Impact (73°F)	2.0	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	2.9	ft·lb/in²	ISO 180/A
Unnotched Izod Impact Strength	67	ft·lb/in²	ISO 180
Gardner Impact	70.0	in·lb	ASTM D5420
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	70		ASTM D785
Rockwell Hardness (M-Scale)	70		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	208	°F	ASTM D1525 [2]
Vicat Softening Temperature			
--	212	°F	ISO 306/A120
--	162	°F	ISO 306/B50
Maximum Service Temperature	482	°F	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+14	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Constant (100 Hz)	2.50		IEC 60250
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index [3]	1.560		ASTM D542
Refractive Index	1.560		ISO 489
Transmittance (550 nm)	91.0	%	ASTM D1003
Haze	2.00	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	149	°F
Drying Time	2.0	hr
Rear Temperature	356 to 410	°F
Middle Temperature	365 to 428	°F
Front Temperature	374 to 437	°F
Processing (Melt) Temp	392 to 464	°F
Mold Temperature	86 to 131	°F
Injection Rate	Moderate-Fast	

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Notes

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

[2] Rate B (120°C/h), Loading 1 (10 N)

[3] Sodium D Line