

ZYLAR® 650

Methyl Methacrylate Butadiene Styrene

INEOS Styrolution Group GmbH

Message:

Zylar® 650 is an impact modified styrene acrylic copolymer that provides a balance of clarity and toughness, with outstanding strength and rigidity. Zylar 650 also has superior processing characteristics for demanding injection molded applications.

General Information			
Additive	Impact Modifier		
Features	Copolymer		
	Ethylene Oxide Sterilizable		
	Good Processability		
	Good Toughness		
	High Rigidity		
	High Strength		
	Impact Modified		
	Low Density		
	Radiation Sterilizable		
Uses	Appliances		
	Consumer Applications		
	Housings		
	Industrial Applications		
	Medical/Healthcare Applications		
	Toys		
Agency Ratings	USP XXIII, Class VI		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	4.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	4.00	cm³/10min	ISO 1133
Molding Shrinkage - Flow	0.20 to 0.60	%	ASTM D955
Water Absorption			
Saturation, 23°C	0.10	%	ASTM D570, ISO 62
Equilibrium, 23°C, 50% RH	0.050	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	84		ASTM D785, ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus			
--	2140	MPa	ASTM D638
--	2100	MPa	ISO 527-2
Tensile Strength (Yield, 23°C)	26.2	MPa	ASTM D638, ISO 527-2
Tensile Elongation (Break)	40	%	ASTM D638
Flexural Modulus	1930	MPa	ASTM D790, ISO 178
Flexural Strength			
--	48.3	MPa	ASTM D790
--	48.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	160	J/m	ASTM D256
Gardner Impact	16.9	J	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Annealed)	91.7	°C	
Vicat Softening Temperature	98.9	°C	ASTM D1525 ¹
Maximum Service Temperature	250	°C	
Optical	Nominal Value	Unit	Test Method
Refractive Index ²	1.570		ASTM D542
Transmittance (550 nm)	90.0	%	ASTM D1003
Haze	2.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	65.0	°C	
Drying Time	2.0	hr	
Rear Temperature	180 to 210	°C	
Middle Temperature	185 to 220	°C	
Front Temperature	190 to 225	°C	
Processing (Melt) Temp	200 to 240	°C	
Mold Temperature	30.0 to 55.0	°C	
Injection Rate	Moderate-Fast		
NOTE			
1.	Rate B (120°C/h), Loading 1 (10 N)		
2.	Sodium D Line		

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

