

Zylar® 650 is a blend from styrene, butadiene and methylmethacrylate copolymer (MBS). Zylar® 650 is highly transparent, tough and shows a good chemical resistance. Depending on the application, it can be a low density alternative for polycarbonate, PET-G or transparent ABS (MABS). It is suitable for medical applications, food contact statements are available upon request. Zylar® 650 provides a good balance between transparency and toughness and is also available with a UV package.

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Melt Flow Index	4	g/10min	ASTM D 1238
Temperature	200	°C	-
Load	5	kg	-
Mold Shrinkage, MD	0.004	mm/mm	ASTM D 955
Density, 73°F	1040	kg/m³	ASTM D 792
Water Absorption, Equilibrium	0.1	%	ASTM D 570

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	45	cm³/10min	ISO 1133
Temperature	220	°C	-
Load	10	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2100	MPa	ISO 527
Impact Strength (Charpy), +23°C	25	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	2	kJ/m²	ISO 179/1eA
Flexural Modulus (23°C)	1930	MPa	ISO 178
Rockwell Hardness	R 84	-	ISO 2039-2
ASTM Data			
Tensile Modulus	2137	MPa	ASTM D 638
Tensile Strength at Yield	26.2	MPa	ASTM D 638
Elongation at Break	40	%	ASTM D 638
Flexural Modulus	1931	MPa	ASTM D 790
Flexural Strength	48.3	MPa	ASTM D 790
Rockwell Hardness	R 84	-	ASTM D 785
Gardner Impact	16.9	J	ASTM D 2794, 4226, 5420
Notched Impact Strength (Izod), 1/8 in	160	J/m	ASTM D 256

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	71	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	81	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	76	°C	ISO 306
ASTM Data			
Vicat Temperature	98.9	°C	ASTM D 1525

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.1	%	Sim. to ISO 62
Humidity absorption	0.05	%	Sim. to ISO 62
Density	1050	kg/m³	ISO 1183

Optical Properties	Value	Unit	Test Standard
ASTM Data			
Haze	2	%	ASTM D 1003
Light Transmittance	90	%	ASTM D 1003
Index of Refraction	1.57	-	ASTM D 542

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	65	°C	-
Pre-drying - Time	2	h	-

Melt temperature	200 - 240	°C	-
Mold temperature	30 - 55	°C	-

Characteristics

Processing

Injection Molding

Delivery form

Pellets

Special Characteristics

Impact modified, Transparent, Sterilizable, Ethylene Oxide (EtO)
Sterilization, Gamma irradiation sterilization

Features

Copolymer

Chemical Resistance

General Chemical Resistance, Radiation Resistance

Certifications

Medical, Biocompatibility ISO 10993, US Pharmacopeia Class VI
Approved, Drug Master File, Long term supply assurance, Food
approval, Food approval 10/2011, Food Contact (FDA)

Applications

Medical

Injection Molding

PREPROCESSING

Pre-drying, Temperature: 65°C

Pre-drying, Time: 2h

PROCESSING

Melt temperature, range: 200 - 240°C

Mold temperature, range: 30 - 55°C

Disclaimer

Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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- risk class III applications according to EU directive 93/42/EEC
- any bodily implant application for greater than 30 days
- any critical component in any medical device that supports or sustains human life.

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