

Technical Information


TRINSEO

ALTUGLAS™ HCR 3

Overview

OVERVIEW : ALTUGLAS™ chemical resistant resins offer that unique set of properties: all the exceptional advantages of PMMA combined with greater chemical resistance against various damaging agents to increase its lifespan. Our acrylic resins are available in glossy and textured versions providing also good impact resistance. They are able to meet typical standards such as EN13559 for the sanitary ware market. These products can be adapted to injection molding and extrusion processes.

ALTUGLAS™ HCR 3 : This grade offers outstanding performance with high transparency, excellent scratch resistance and superior chemical resistance, while continuing to meet your need for durability and aesthetics.

MARKETS / APPLICATIONS :

Automotive & Transportation
Health, Hygiene & Beauty
Building & Construction

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.19 g/cm ³	1.19 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	0.60 g/10 min	0.60 g/10 min	ISO 1133
Molding Shrinkage - Flow	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	ASTM D955
Water Absorption			ISO 62
Equilibrium, 73°F (23°C), 50% RH	0.30 %	0.30 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress (Break, 73°F (23°C))	10300 psi	71.0 MPa	ISO 527-2/5
Tensile Strain (Break, 73°F (23°C))	10 %	10 %	ISO 527-2/5
Flexural Modulus (73°F (23°C))	479000 psi	3300 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	0.95 ft·lb/in ²	2.0 kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength 73°F (23°C)	9.5 ft·lb/in ²	20 kJ/m ²	ISO 179/1eU
Notched Izod Impact Strength (73°F (23°C))	0.86 ft·lb/in ²	1.8 kJ/m ²	ISO 180/1A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	99	99	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load 264 psi (1.8 MPa), Annealed	208 °F	98.0 °C	ISO 75-2/A
Vicat Softening Temperature	> 223 °F	> 106 °C	ISO 306/B50
CLTE - Flow (-22 to 73°F (-30 to 23°C))	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	ASTM D696
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating	HB	HB	UL 94
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index			
--	1.490	1.490	ASTM D542
-- 1	1.490	1.490	ISO 489
Light Transmittance	92.0 %	92.0 %	ASTM D1003
Haze	0.800 %	0.800 %	ASTM D1003

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	194 °F	90 °C
Drying Time	4.0 to 6.0 hr	4.0 to 6.0 hr
Rear Temperature	428 to 464 °F	220 to 240 °C
Middle Temperature	446 to 482 °F	230 to 250 °C
Front Temperature	464 to 500 °F	240 to 260 °C
Nozzle Temperature	464 to 500 °F	240 to 260 °C
Processing (Melt) Temp	464 to 500 °F	240 to 260 °C
Mold Temperature	176 to 194 °F	80 to 90 °C

Notes

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

¹ Method B

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