



TECHNICAL BULLETIN 151

Physical Properties - Acrysteel® M

Aristech Surfaces Acrysteel® M is a continuous cast partially cross-linked impact acrylic sheet designed specifically for marine applications. The following physical properties were determined using 0.150" (3.81 mm) thickness Aristech Surfaces Acrysteel® M acrylic sheet. Properties may vary somewhat for other thicknesses and/or between opaque colors.

PROPERTY	TYPICAL VALUES	UNITS	TEST METHOD
General:			
Thickness	0.150 (3.81)	Inch (mm)	—
Specific Gravity	1.18	—	ASTMD-792
Mechanical:			
Tensile Strength	8,260 (56.9)	psi (MPa)	ASTMD-638
Tensile Modulus	416,900 (2,874)	psi (MPa)	ASTMD-638
Tensile Elongation	13.6	%	ASTMD-638
Flexural Strength	13,700 (94.4)	psi (MPa)	ASTMD-790
Flexural Modulus	395,300 (2,725)	psi (MPa)	ASTMD-790
Notched Izod Impact	1.10 (5.8)	ft.-lb./in. of notch (kJ/m ²)	ASTMD-256 (Method A)
Charpy Impact (Un-notched)	10.2 (53.6)	ft.-lb./in. (kJ/m ²)	ASTMD-6110
Rockwell Hardness (M)	88	—	ASTMD-785
Barcol Hardness	40	—	ASTMD-2583
Thermal:			
Hot Forming Temperature ¹	320-360 (160-182)	°F (°C)	Aristech Method
DTUL [®] 264 psi (1.82 MPa)	176 (80)	°F (°C)	ASTMD-648
Coefficient of Linear Thermal Expansion	0.000040 (0.000072)	in./in./°F (cm/cm/°C)	ASTMD-696
Thermal Stability	No Effect	—	ASTMD-4802
30 min. @ 356°F (180°C)			
Thermal Shrinkage			
(Casting Direction)	2.2	%	ASTMD-4802
(Transverse Direction)	1.9	%	ASTMD-4802
Miscellaneous:			
Water Absorption	0.30	—	ASTMD-570

¹ Above 360°F (182°C) a loss of gloss may develop on the surface of the Acrysteel® M and its intensity will depend on the temperature and time used in the heating cycle. The color may also begin to change for the same reason. The forming temperature for Acrysteel® M should be lower (360°F max.) than the one used for Altair® I-300 and Quarite®.

For cautions and other information relating to handling of an exposure to this product, please see the applicable material safety data sheet published by Aristech Surfaces.

These instructions are based upon experience with Aristech Surfaces products only. Experience with products of other manufacturers is specifically disclaimed. For most uses, check for local code approval and test for application suitability. These procedures, techniques and suggested materials should only be used by personnel who are properly trained in the safe handling of the chemicals and the equipment with which they are working. Avoid aromatic solvents, clean with mild soap and water, avoid abrasives. These suggestions are based on information believed to be reliable, however, Aristech Surfaces makes no warranty, guarantee, or representation and assumes no obligations or liability as to the absolute correctness or sufficiency of any of the foregoing, or that additional or other measures may not be required under particular conditions or circumstances.

