



TECHNICAL BULLETIN 150

Physical Properties - Acrysteel® IMA

Aristech Surfaces Acrysteel® IMA is a continuous cast impact acrylic sheet with a matte finish on one side and solvent cementability. The following physical properties were determined using 0.125" (3.17 mm) thickness clear Aristech Surfaces Acrysteel® IMA acrylic sheet. Properties may vary somewhat on other thicknesses and/or colors (translucent or opaque).

PROPERTY	TYPICAL VALUES	UNITS	TEST METHOD
General:			
Thickness	0.125 (3.17)	Inch (mm)	—
Specific Gravity	1.17	—	ASTMD-792
Optical:			
Refractive Index	1.49	—	ASTMD-542
Light Transmission	91.0	%	ASTMD-1003
Yellowness Index	1.80 (0.125"/3.17mm)	YI	ASTME-313
	2.00 (0.187"/4.75mm)	YI	
	2.20 (0.220"/5.58mm)	YI	
Mechanical:			
Tensile Strength	7,400 (51)	psi (MPa)	ASTMD-638
Tensile Modulus	364,000 (2,509)	psi (MPa)	ASTMD-638
Tensile Elongation	10	%	ASTMD-638
Flexural Strength	13,500 (93)	psi (MPa)	ASTMD-790
Flexural Modulus	380,000 (2,620)	psi (MPa)	ASTMD-790
Notched Izod Impact	0.8 (4.2)	ft-lb/in. of notch (kJ/m ²)	ASTMD-256 (Method A)
Charpy Impact (Un-notched)	11 (57.8)	ft.-lb./in. (kJ/m ²)	ASTMD-6110
Falling Dart Impact	16 (0.187")	ft.-lbs.	FTMS 406-M-1074
	21.7 (4.75mm)	(J)	
Rockwell Hardness (M)	80	—	ASTMD-785
Barcol Hardness	40	—	ASTMD-2583
Thermal:			
Hot Forming Temperature	340-380 (171-193)	°F (°C)	Aristech Method
DTUL @ 264 psi (1.82 MPa)	180 (82.2)	°F (°C)	ASTMD-648
Thermal Conductivity	1.4 (20.2)	Btu/(h-ft ² -°F/in) (W/(m ² -K/cm))	Cinco-Fitch
Coefficient of Linear Thermal Expansion	0.000042 (0.000076)	in./in./°F (cm/cm/°C)	ASTMD-696
Thermal Stability	No Effect	—	ASTMD-4802
30 min. @ 356°F (180°C)			
Flammability	94 HB	—	UL Test # 94

PROPERTY	TYPICAL VALUES	UNITS	TEST METHOD
Miscellaneous:			
Water Absorption	0.30	%	ASTMD-570
Odor	None	—	—
Taste	None	—	—

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.

