



TECHNICAL BULLETIN 180

Physical Properties - Altair Plus®

Aristech Surfaces Altair Plus® is a composite engineered material which has the exceptional surface properties, weathering characteristics and aesthetics of Aristech Surfaces Opaque Continuous Cast Acrylic and a substrate that imparts outstanding impact resistance and thermoformability.

PROPERTY	TYPICAL VALUE	UNITS	TEST METHOD
General:			
Thickness	0.275 (6.99)	Inch (mm)	—
Specific Gravity	1.10	—	ASTMD-792
Mechanical:			
Tensile Strength	6,500 (44.8)	psi (MPa)	ASTMD-638
Tensile Modulus	380,000 (2,620)	psi (MPa)	ASTMD-638
Tensile Elongation	5.0	%	ASTMD-638
Flexural Strength (Acrylic in Compression)	10,000 (68.9)	psi (MPa)	ASTMD-790
Flexural Modulus (Acrylic in Compression)	310,000 (2,137)	psi (MPa)	ASTMD-790
Flexural Strength (Acrylic in Tension)	10,800 (74.5)	psi (MPa)	ASTMD-790
Flexural Modulus (Acrylic in Tension)	314,000 (2,165)	psi (MPa)	ASTMD-790
Notched Izod Impact	2.4 (12.6)	Ft.lbs./in.of notch (kJ/m ²)	ASTMD-256(Method A)
Falling Dart Impact	>30 (40.7)*	Ft.lbs. (J)	FTMS 406 M-1074
Barcol Hardness	52	—	ASTMD-2583
Rockwell Hardness (M)	97	—	ASTMD-785
Thermal:			
Hot Forming Temperature			
(Acrylic Side)	350-380 (177-193)	°F (°C)	Aristech Method
(ABS Side)	300-340 (149-171)	°F (°C)	Aristech Method
Coefficient of Thermal Expansion	0.000044 (.000079)	in./in./°F (cm/cm/°C)	ASTMD-696
DTUL @ 264 psi (1.82 MPa)	193.0 (89.4)	°F (°C)	ASTMD-648
Flammability	94HB	—	UL Test #94
Miscellaneous:			
Water Absorption	0.19	%	ASTMD-570
Odor	None	—	—
Taste	None	—	—
50 Cycles Freeze-Thaw -20°F (-29°C) to 180°F (82.2°C)	No Effect	—	Aristech Method

* Actual value higher — This is the limit of the test apparatus.

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.



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