



TECHNICAL BULLETIN 156

## General Properties - Altair Plus®

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### INTRODUCTION

Altair Plus® is a revolutionary composite engineered material that has a continuous cast acrylic surface combined with a high-impact substrate material for added strength. The acrylic surface is Aristech Surfaces I-300 continuous cast opaque sheet with its proven weathering characteristic and general aesthetics. The substrate is a high impact grade ABS that imparts outstanding impact resistance and thermoformability to the total composite.

Many thermoforming applications like spas, recreational vehicles, pool steps and marine components demand outstanding weathering characteristics, toughness, and impact resistance. Aristech Surfaces Altair Plus® is truly without peer as a weatherable, thermoformable thermoplastic composite sheet. Additionally, Altair Plus® offers customers environmental and production advantages over alternative materials and methods of production.

Altair Plus® is offered in a variety of opaque marbled patterns and solid colors. It is available in various sizes and calipers depending on the application.

### WEATHER RESISTANCE

The Altair Plus® acrylic surface is virtually unaffected by weathering even after many years exposure in areas such as Florida and Arizona. Altair Plus® has the same continuous cast acrylic surface as other well-known Aristech Surfaces products that have performed exceptionally well in outdoor applications for twenty or more years

### IMPACT RESISTANCE

Altair Plus® has impact resistance far greater than regular acrylic. The cast acrylic/ABS composite actually takes on the impact properties of the high impact grade ABS substrate which has been engineered for this purpose. Unlike other thermoplastics and composites, this outstanding impact resistance is retained as the sheet weathers.

### THERMOFORMABILITY

Altair Plus® can be thermoformed on either dual or single side thermoforming equipment with heating cycles ranging from 10 to 25 minutes. In all forming situations, the acrylic side should be heated to 350 - 380°F (177 - 193°C) while the ABS side is to be maintained at 300 - 340°F (149 - 171°C).

### FABRICATION

Altair Plus® can be cut, drilled and machined similar to Aristech Surfaces other cast acrylic sheet products. In addition, shearing and punching techniques under controlled conditions may be used since Altair Plus® has many of the attributes of its high impact ABS substrate.

## REINFORCEMENT OR SUPPORT

Through the implementation of the Clean Air Act of 1990, the government is putting pressure on industry to reduce styrene emissions from polyester/fiberglass spray-up operations. Altair Plus® helps customers reduce emissions by potentially eliminating the need for fiberglass reinforcement. Depending on the shape and depth of draw, Altair Plus® may or may not require any post-support or reinforcement.

In summary, Altair Plus® offers the best of both cast acrylic and ABS, giving it performance properties unequaled by any other known thermoplastic. For more information on Altair Plus®, contact Aristech Surfaces Technical Service toll free at (800) 354-9858.

*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.

