TECHNICAL BULLETIN 181

Thermoforming of Acrysteel® M

Acrysteel® M is a continuous cast, impact modified acrylic sheet that is designed to provide the additional impact resistance required for demanding thermoforming applications.

Acrysteel® M (IGM) possesses excellent thermoforming characteristics which are very similar to Aristech Acrylics LLC's Altair® I-300 crosslinked acrylic sheet which is used extensively in plumbingware and spa applications. However, due to the presence of the impact modifier, Acrysteel® M is subject to potential loss of gloss and color change should thermoforming temperatures exceed 360°F (182°C).

To achieve a higher impact resistant crosslinked acrylic sheet, Aristech Surfaces has incorporated in the polymer mixture of Acrysteel® M a proprietary formulation of impact modifier. Impact modifiers used in thermoplastics are made of materials that are designed to absorb and diffuse stresses caused by an impacting object or force. Unlike the acrylic polymer, these rubber-like modifiers are subject to change when exposed to very high temperatures for prolonged periods of time.

The recommended thermoforming temperature range for Acrysteel® M is 320 to 360°F (160 to 182°C). Temperatures above 360°F (182°C) will result in color and gloss changes. Temperatures below 320°F (160°C) could result in cold forming problems including stress cracking or crazing.

All Acrysteel® M customers are advised to evaluate the effect of temperature induced changes relative to their specific finished part requirements. This evaluation should be performed particularly if deeper forming draws are involved.

The use of "heat sensitive stickers" can assist you in establishing and verifying the correct thermoforming cycle for your Acrysteel® M parts.

For additional information regarding Acrysteel® M, please contact Aristech Acrylics LLC's Acrylic Technology Department at 1-800-354-9858.

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.

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