ROYALITE®
PRODUCT BULLETIN

SPARTECH®

Royalite® Laminates Design Guide

Because of the inherent hot and cold tensile characteristics of plastic foam materials, it is necessary to impose some design limitations on the Royalite® R104 and R105 laminates. Following some suggested guidelines.

DRAWING RATIOS

Draw ratios should be limited to a maximum of 2.5 to 1. This means that if the substrate started at 0.125", it should not be thinned to less than 0.050". A reasonably safe draw ratio is 2.25 to 1 or less.

PART DEPTH AND CONFIGURATION

Part depth and configuration will affect the success of Royalite laminates. If the part is quite tall, care should be taken not to have angle areas that have more than a four inch step-off, unless the concave radii in these right angle areas are generous. For 4" high steps, the minimum should be 1" (see Figure 1); and for 6" high steps, the minimum radius should be 2". If the design involves a double right angle corner (see Figure 2), the radii should be increased by a factor of 1.5 times. Other step-off heights can be interpolated from the above guidelines.

RADIUS CORNERS

Inside radii should never be less than 0.25" and should increase proportional to the draw ratio, as discussed above. There are no restrictions on outside radii other than those concerned with good structural design parameters for plastic. Right angle radii have a great tendency to become fracture points.

MOLD MOUNTINGS

Whenever possible, the mold should be mounted to the top platen of the machine. This allows the laminate to be heated with the substrate side up, taking advantage of the natural drape of the heated material.

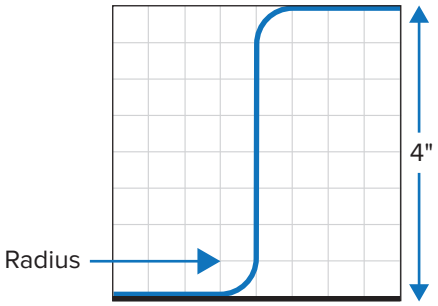

Figure 1

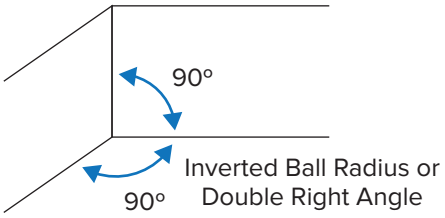

Figure 2

11650 Lakeside Crossing Ct., Maryland Heights, MO, 63146 • 800-677-4338 • **www.spartech.com**