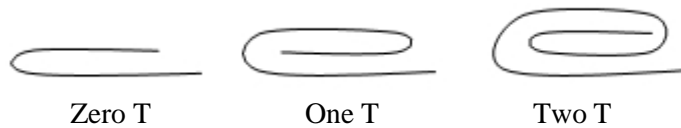


**TECHNICAL BULLETIN**  
**Mitsubishi Plastics Composites America**  
**11/1/2013**

**Bending ALPOLIC Panels**

Maintaining the correct minimum radius when bending ALPOLIC material has a significant impact on the longevity of the panels paint finish. If the radius is too small it can lead to the paint film cracking and paint peeling failures along the edge.

Paint manufacturers rate a paint's flexibility (The ability to bend) using a test called the T bend test (ASTM D4145). Using a piece of the painted metal, a bend is made so the metal is turned back on itself, this is a zero T (thickness) bend. The edge is observed for cracking. The metal is bent again so that now there are the two outside strips with one thickness of the metal in between (one T). If this is repeated so there are two thicknesses of metal between, it is referred to a two T.



**Mitsubishi Plastics Composites America recommends a minimum radius of 2mm to prevent paint film cracking.**

*This radius is easily measured with a radius gauge similar to the gauge shown below*



Setting the maximum routing depth is one method of controlling the bend radius. The more core material left behind, the larger the radius once the panel is bent. Leaving 0.3 mm (0.012 in) of core material on top of the skin typically produces a Two T radius. To ensure uniform routing depth it is important to maintain the *sacrifice board on the router surface* in a level, flat and without voids condition by regular resurfacing .

**If the radius does not meet the two T requirement (typically caused by over routing), the paint warranty is voided.**

