

## **ANNEALING OF RADEL**

### **Why Anneal Plastics?**

If, during the machining process, significant material is removed, annealing is recommended to relieve machined-in-stress and minimize possibility of premature part failure.

All extruded stock shape plastics are compressed through a profile die when extruded. The compression that occurs in the material is not relieved because the plastic “sets up” as soon as it comes out of the die and it remains in this compressed or highly stressed state. This high state stress will cause four problems if not addressed:

1. Materials will tend to warp and distort
2. Physical properties will be different than published data (usually lower)
3. Material may crack
4. Finished part dimension may change.

In order to eliminate these problems extruded products are annealed. Annealing is a stress relief process, which occurs when the material is exposed to heat (air or fluid) above its glass transition point, which allows the material to “decompress” back to a relaxed state. Annealing is important if you want a quality, finished part out of your stock shape.

### **ANNEALING/STRESS RELIEVING PROCEDURES FOR RADEL**

1. PLACE PARTS IN AIR CIRCULATING OVEN CAPABLE OF HEATING TO 400°F SUCH THAT AIR CAN CIRCULATE AROUND THEM.
2. HEAT OVEN TO 300°F OVER 10 HOURS.
3. HOLD OVEN TEMP AT 300°F FOR 4 HOURS.
4. RAMP OVEN TEMP TO 350°F FOR 4 HOURS AND LET PARTS SOAK AT 350°F FOR 6 HOURS.
5. RAMP OVEN DOWN TO 212°F OVER 18 HOURS.
6. TURN OVEN OFF AND LET PARTS COOL TO ROOM TEMP.

THIS INFORMATION IS ONLY TO ASSIST AND ADVISE YOU ON CURRENT TECHNOLOGY KNOWLEDGE AND IS GIVEN WITHOUT OBLIGATION OR LIABILITY.