



Beaumont

Revolutionizing Injection Molding



MeltFlipper® cited as “better solution” for Wilco, General Polymers

“We now have 100% good parts and a much wider process window.”

-Kim Williams, General Manager, Wilco Molding, Inc.



Wilco Molding, Inc. experienced difficulty molding a timing ring for an automatic fire suppression sprinkler flow switch assembly. The part was being manufactured for Missouri-based Potter Electric Signal Company. The 1 1/2” diameter timing ring was molded from LNP DF1006 30% glass-filled polycarbonate in a 4-cavity mold with 3 gates per part (see Figure 1).

During molding, the area of the parts closest to the sprue would fill out first due to non-uniform shear flow (Figure 1). When Wilco would fill the remaining portions of the cavities, the first to fill would over-pack, causing the part to warp. The rings then would not lay flat in the mating seal component, thus creating a high scrap rate and making the assembly useless.

Mike Van Duine, a General Polymers technical service representative for Wilco, suggested that Wilco investigate the use of MeltFlipper® technology to create even filling within the mold.

“General Polymers partnered with Beaumont around this technology,” said Van Duine. “Our goal is to present MeltFlipper® to our customer base when shear-induced imbalance is creating problems for them. Most of the industry will try to balance with gate and runner sizing. This method is difficult and would only work at one shear rate/injection speed and does not take into account melt flow variation within raw materials; therefore, MeltFlipper® is a better solution.”



Figure 1



Figure 2



PROJECT DESCRIPTION: PROBLEMS:

- 4-cavity mold with 3 gates per part
- Timing ring for fire suppression system
- Warpage due to filling imbalance
- Parts would not mate properly in assembly
- 30% scrap rate

SOLUTION:

- MeltFlipper® technology installed

BENEFITS/SAVINGS:

- Reduced scrap from 30% to 0%
- Wider process window