

POSS® Flow Aids - Case Study

Helicopter Vortex Tubes - Nanoreinforced® COC replaces glass reinforced PP

Problem:

Customer needed to mold a highly complex, thin walled part. Available resin systems presented these problems:

- flow problems either with highly filled polyolefins or high temperature polymers (e.g. COC, PEEK...)
- mold abrasion with highly filled polyolefins (e.g. PP)
- material degradation at high processing temperature

POSS® Flow Aids can solve these problems, and provide additional improvements

The graph in the sidebar to the right shows that, depending on the type of POSS® Flow Aids used, the melt flow can be increased by as much as 65% to 148% with only a 5 wt% incorporation of POSS® Flow Aids into Cyclic Olefin Copolymer (COC). This can lead to reductions in cycle time and higher throughput.

In addition, POSS® Flow Aids act as a mold release agent in COC. When combined with the other properties, this allows for the rapid injecting of very thin walled parts without having to sacrifice in strength or aesthetics. End-parts perform better, are of lower weight, and have a better surface finish.

And unlike other flow aids, POSS® Flow Aids are themally stable up to 400° and will not degrade during the processing of high temperature polymers.

