

The Two Causes of Flash

By Shane Vandekerkhof, Consultant/Trainer

Let me start out with a little story. A few years back I was called into a customer who was dealing with a mold that he couldn't run without flashing. He said that he tried every solution possible and he wanted me to make sure that he wasn't doing anything to cause the issue.

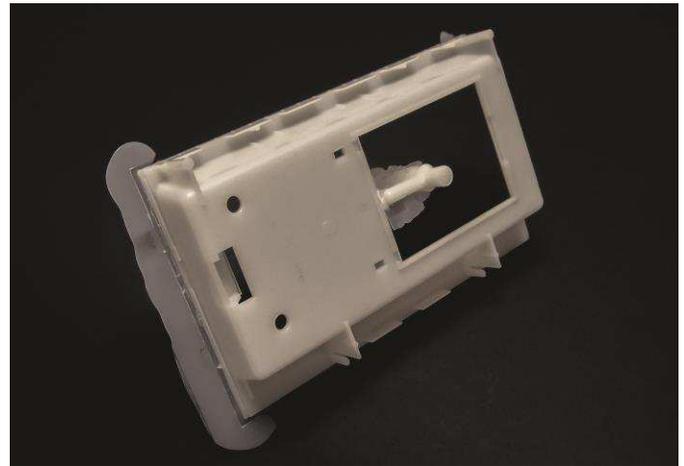
I arrived and saw a brand new 16-cavity mold and immediately figured that this was a processing problem, because, how could a brand new mold be flashing so badly? So we started it up, made a shot and sure enough, the mold flashed across the parting line into the other cavities. After doing everything we could do within the process to fix the issue, I asked the process engineer for some bluing compound. We sprayed down the stationary side of the mold and clamped it up. Lo and behold we only transferred about 50 percent of the compound. The mold was not shutting off. It was back to the toolmaker with this one.

This is an extreme example but it goes to show you can't rule anything out when dealing with a potential problem. Flash is quite simply caused by one of two issues.

First, the mold is damaged. Parting line damage can't be processed around so please stop trying. **Secondly, the pressure in the cavities exceeds the tonnage.**

There are several ways the second item can be accomplished. I often ask my participants how can you flash a mold? I get these common answers: shot size is too big, transfer position is too low, hold pressure is too high, tonnage is too low and so on.

When troubleshooting the issue where do we start? Let's start with the fill-only part. If you turn off second stage the part should come out to be 95%-98% full. If the part is too full then the likelihood of flashing increases. Adjust the shot size as necessary to get the fill only part back to where it needs to be.



Now that the fill only part is firmly established, let's look at the second stage pressure. I would simply put my settings back to the standard for the job and see what the results are. If the parts are free of flash, then job well done. Move on to the next one.

If the parts still exhibit flash then we need to look a little deeper. Make sure that the amount of tonnage is correct. Remember, when calculating tonnage you need to make sure there is enough tonnage to accommodate for that little issue we call viscosity shift. The tonnage may have been correct for a while (perhaps until the material lot was changed), and then viscosity dropped causing an increase in cavity pressure resulting in flash.

Just remember to refer back to those two causes of flash and then systematically walk through the steps to achieve a non flashed part.

Shane Vandekerkhof is an RJG Consultant/Trainer. Shane is a certified Master MolderSM that is qualified to teach Scientific and DECOUPLED MOLDINGSM methodologies and techniques. He also has extensive field experience networking RJG's eDART System and implementing cavity pressure sensor technology. In addition to being pretty darn smart, he loves sushi, long walks on the beach, and holds the Guinness World Record for the longest non-stop Macarena dance.

