



MeltFlipper MAX and Mold Simulation Analysis used to solve cosmetic and mold filling issues

Dynamic Group, a precision molding company that specializes in injection molded plastic components and assembly, primarily serves the medical, electronic, and technology industries.



During a routine molding process using a traditional runner system, it was noticed the filling progression near the end of the fill was causing issues, resulting in a cosmetic blemish. The flow front was traveling faster around the perimeter of the part, trapping gas in a non-vented region, thus resulting in a burn mark. The burn mark was caused by a combination of the filling progression front pattern as well as the part design.

Beaumont wanted to use their patented MeltFlipper® technology to potentially overcome the flow length differences within the part geometry, but understanding that MeltFlipper® technology may not fully overcome

deviations from standard part design practices, it was imperative to keep options open in regards to further optimizing the part design.

Dynamic Group worked with Beaumont to design and install MeltFlipper® MAX into the runner system and immediate improvements were noticed. The area of trapped air causing the blemish was shifted closer to the parting line, but unfortunately it wasn't enough to adequately vent the area of concern. Understanding the part design was causing a surface blemish, Beaumont conducted a mold filling simulation to determine a solution. By using mold filling simulation, it was determined that increasing the part nominal wall thickness could further move the trapped air to a vented surface, thus eliminating the cosmetic defect.

Upon completion of testing, Beaumont determined that flow front would travel up and over the part, instead of filling around the sides. As a result, the trapped air was vented to the parting line, thus eliminating the burn mark and filling the part completely.

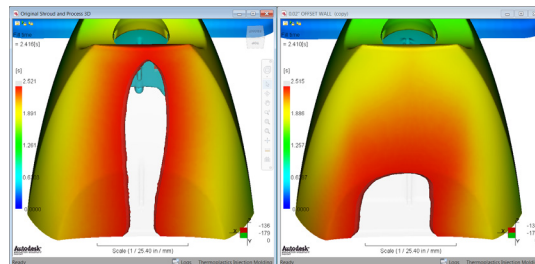
PROBLEM:

- Cosmetic blemish caused by trapped air
- Part not filling as predicted

SOLUTION:

- Install MeltFlipper® MAX into runner system
- Increase part nominal wall thickness to move trapped air to vented surface

Before



After

