

Smooth

PROBLEMS FROM THE DEMO USING  
THE SPREADSHEET EXTRUDE.XLS

Recent work on extrusion and injection molding has shown that the magnitude of die swell (extrusion) or warpage (injection molding) is affected by the material of the die or mold. In particular, very smooth, polished surfaces tend to give less swell. List some possible reasons for this phenomenon.

Grading Criteria

Reasonable description of possible reasons for reduced die swell, with explanation.

I reckon rough surfaces latch onto polymers at the wall, leading to stretching. When the polymer exits the extruder, the stretched molecules retract, leading to die swell. In the smooth die less entanglement/stretching at surface  $\Rightarrow$  less retraction.

