COMP castings and moulding innovation tech

White paper on design rule for Rheocasting

Things to think about:

1. Is the component of suitable size for casting using the standard RheoMetal Process?
2. Looking at the geometry of the casting, what areas of the casting are difficult to make and that will drive rejection and cost based on the part design?
   a. Consider overall shape
   b. Aesthetic requirements on part and part surface
   c. Consider fillet radius on features
   d. Consider thick and thin sections
   e. Is there an obvious side of the part that belongs to the moving side of the casting machine?

Element of design	**Design rules**
Draft	Common 0,5 to 3,0 degrees Normal is 1,0 degrees 0 degrees are possible if ejector force is high enough (and potential drag marks can be accepted) Note: Remember that slight lower draft angles on the moving side will support part removal
Design or Pattern Shrink	Used in the diecasting design Shrinkage is normally isotropic Add +0,5% and optimize based on experience
Ribs	Use ribs for strengthening and stiffening sections Ribs should be 0,5 up to 1,0 times the adjoining wall thickness
Fillet and Radius	T-junction: R=1,0xWall Thickness X-junction: 45° angle R-inside=0,7xWall Thickness R-onside=1,5xWall Thickness 30° angle R-inside=0,5xWall Thickness R-onside=2,5xWall Thickness L-junction R-inside=1,0xWall Thickness R-onside=2,0xWall Thickness Note: Too large radius will drive porosity
Cross sections	Strive for same thickness everywhere Avoid rapid changes
Ejector Pin marks	Always discuss ejector pins location with part owner. Think about that ejector pins clearance may support venting