## **VEM Tooling Inc**

## **Shrinkage Policy**

Nov. 30, 2017

VEM tool quotes are based on material shrinkage supplied by Customer, Item #3 in the notes of the VEM quote. Shrinkage needs to be supplied to VEM before Mold design can be started.

It is VEM's responsibility to machine steel to dimensions established using supplied shrinkage. Steel should be within 25% of the tolerance on the 2D print. As understood in Injection Molding, shrinkage will vary based on Part design, wall thicknesses, process and gate location. VEM does FAIR (First Article Inspection Report) on all parts, included in the Mold quote. If dimension on the FAIR are out of tolerance VEM will verify dimensions in steel. If steel is out of Tolerance its VEM responsibility to correct steel at no cost to customer. If dimension is out of tolerance because of shrinkage issues it is customer responsibility and quote for cost and lead time to correct dimension will be issued.

Also, it should be noted that VEM performs Scientific Molding study on all Molds. Process is established based on the results of this study. If Customer wants to deviate from the process established to help the shrinkage variation VEM will follow Customers process adjustments and sample the mold at No Charge (material supplied by Customer).

VEM can also take responsibility for the mold shrinkage. Mold will need to be quoted with Moldflow Warpage and shrinkage analysis (separate line item on quote). Analysis will add 2-3 week in the design stage. This responsibility will add an addition 15%-20% on the tool price. Additional cost increase is based on Material to be used, size and complexity of the Part.

Note: Above policy is related to Shrinkage issues only. VEM takes responsibility to insure molds functions properly and run fully automatic, or per customers requirement as stated in the RFQ.

