



# PERMOLD Quick Design Guide

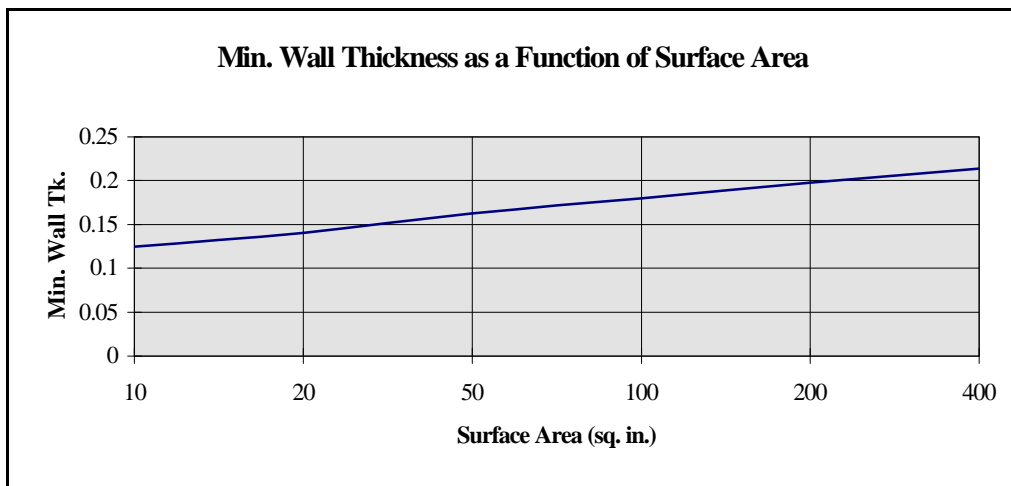
## DESIGNING FOR PERMANENT MOLD:

Designing for the Permold process is intuitive. As in most casting processes, draft, radius, and wall thickness are the main design elements critical to good castability. Our engineering staff is available around the clock to help you get the most out of your investment. Gupta Permold meets and/or exceeds the Aluminum Association Standards for Permanent Mold Castings.

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	Range (in.)		Normal Standard	
	From	To	Base	Each Add'l in.
<b>Linear Tolerance</b>				
One Side of Parting Line (Basic):	0	1	+/- .015	+/- .002
Across Parting Line (Add'l):	Tolerance is added as a function of projected parting face surface area. Consult foundry for details.			
	0 in <sup>2</sup>	10 in <sup>2</sup>	+/- .010	
	10 in <sup>2</sup>	50 in <sup>2</sup>	+/- .015	
	50 in <sup>2</sup>	100 in <sup>2</sup>	+/- .020	
<b>Flatness</b>				
	0	6	+/- .020	+/- .002
<b>Concentricity</b>				
Same Plane:	0	5	+/- .025	+/- .003
Across Parting Line:	0	10	+/- .040	+/- .003
<b>Machine Stock Allowance</b>				
	0	12	1/16	
	12	18	3/32	
	18	24	1/8	
<b>Wall Thickness</b>				
Minimum:			0.125	
<i>*note: Minimum wall thickness increases logarithmically with surface area</i>				
<b>Draft</b>				
3 Deg. min. on all Surfaces Perpendicular to Parting Line				
3 Deg. min. on Cored Pockets & Holes (Draft Decreases Inversely with Length of Draw)				
<i>*note: Add'l draft extends mold life and makes better, cleaner castings</i>				
<b>Radius</b>				
Razor Sharp Corners not Possible (in all foundry)				
Recommended Blending Radius of $t$ between 2 Walls of Thickness $t$				
For Radii Between 2 Non-Uniform Walls, Use the Average Wall Thickness				



*NOTE: Wall thickness values are minimums for castings of minimal complexity. Thickness values need to be increased as part complexity rises. Please consult Gupta Permold Engineering for specific job analysis.*



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