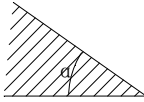
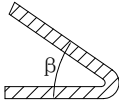
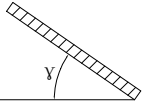


# DESIGN REFERENCES FOR INVESTMENT CASTING PROCESS (LOST-WAX PROCESS)

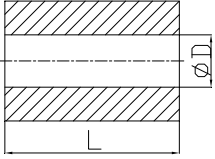
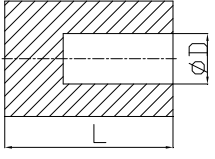
## 1. Casting Accuracy

Dimension Tolerance			Angle Tolerance			
Dimension (mm)	Normal (mm)	Premium (mm)				
0-10	±0.15	±0.10	Normal	$\alpha \pm 1^\circ$	$\beta \pm 2^\circ$	$\gamma \pm 2^\circ$
10-25	±0.25	±0.15	Premium	$\alpha \pm 0.5^\circ$	$\beta \pm 1^\circ$	$\gamma \pm 1^\circ$
25-50	±0.40	±0.25	<b>Tolerance of flatness, straightness, roundness</b>			
50-80	±0.50	±0.35	Dimension(mm)	Normal(mm)	Premium(mm)	
80-100	±0.60	±0.45	0-25	0.20	0.10	
100-120	±0.80	±0.55	25-50	0.40	0.20	
120-150	±1.00	±0.70	50-100	0.60	0.40	
> 150	±0.8%	±0.5%	100-150	0.80	0.50	

Notes:

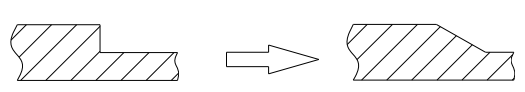
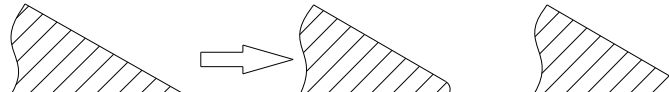
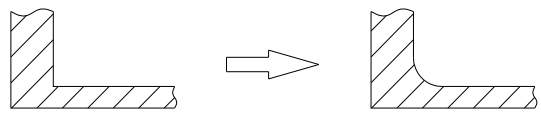
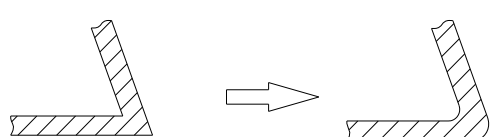
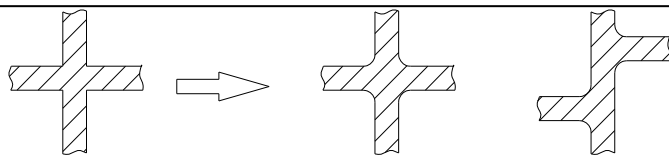
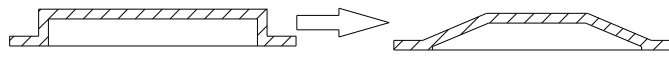
1. Normal value is for uncritical and non-fitting dimension, premium value is for critical and fitting dimension;
2. If there is any dimension tolerance on casting that can not be realized by investment casting process, further machining operation may be needed.

## 2. Casting Ability

Limits for Casting Hole and Slot(mm)			Minimum Casting Wall Thickness(mm)		
Dimension of Hole			Dimension	Normal	Premium
			≤10	≥1.5	≥1.0
			10 ~ 20	≥2.0	≥1.5
∅2 ~ 4	L/D ≤1.5	L/D ≤1.0	20 ~ 50	≥2.5	≥2.0
∅4 ~ 8	L/D ≤5.0	L/D ≤2.5	50 ~ 100	≥3.0	≥2.5
∅8 ~ 12	L/D ≤8.0	L/D ≤3.5	100 ~ 200	≥3.5	≥3.0
∅ ≥12	L/D ≤10	L/D ≤5.0	200 ~ 350	≥4.0	≥3.5
<b>Maximum Casting Outline Size(mm)</b>			<b>Casting Weight Range(kg)</b>		
1000×900×350			0.001-30		
<b>Casting Surface Roughness</b>					
Casting status			Ra (mm x10 <sup>-3</sup> )	Rz(inch x10 <sup>-3</sup> )	
Weight ≥5kg, Main Wall Thickness ≥12mm			3.2-6.3	125-250	
Weight <5kg, Main Wall Thickness <12mm			1.6-3.2	63-125	

Note: normal value is for uncritical and non-fitting dimension, premium value is for critical and fitting dimension.

### 3. Recommended structures for investment castings

 <p>Avoid abrupt wall thickness change</p>	 <p>Avoid sharp edges and corners</p>
  <p>Fillets and chamfers proposed for corners and edges</p>	 <p>Avoid cross-link connection</p>
	 <p>Avoid large-sized flat surface structure</p>