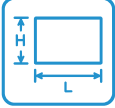
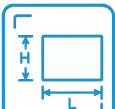



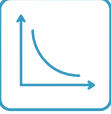






Tritone Design Rules CheatSheet

NAME & DESCRIPTION	DESIGN MITIGATION
 <p>Part Size Residual stresses and thermal gradients increase with size, leading to distortion, cracking, or build failure</p>	<p>Based on geometry 20-100 [mm]</p>
 <p>Aspect Ratio Tall, thin geometries are prone to instability, warping, or collapse during printing</p>	<p>Keep $AR < 8:1$ (length to width ratio) Add reinforcement ribs or cross-members Thickness Factor: The safe aspect ratio limit scales positively with wall thickness. Thicker cross-sections inherently allow for larger length-to-width ratios without compromising stability.</p>
 <p>Overhanging Elements Unsupported features may sag, warp, or exhibit poor surface quality due to lack of underlying material</p>	<p>Prefer self-supporting design Rules for when an overhanging element requires support: When element is supported on both sides and T/L ratio $> 1:4$ When element is supported on one side and T/L ratio $> 1:1$ C- shapes- bridge & Setter *The ratio of the flow path length (L) to the wall thickness (T).</p>
 <p>Thick & Thin features Thick features - Compromising demolding & debinding removal efficiency and rate. Thin features - structures become too fragile</p>	<p>Maximum thickness < 15 mm Minimum thickness > 0.8 mm The most recommended thickness is between 1.4 ->5 [mm] depending on aspect-ratio</p>

Tritone Design Rules CheatSheet

NAME & DESCRIPTION	DESIGN MITIGATION
 <p>Open-ended Structures Distortion due to thermal stresses</p>	<p>Avoid such structures or add cross-members to restrict distortion.</p>
 <p>Sharp Corners and Abrupt Thickness Changes Create stress concentration followed by distortion & cracking</p>	<ul style="list-style-type: none">▶ Add rounding (radius 0.5mm or more), chamfers or fillets to sharp corners▶ Design a gradual transition from one thickness to another
 <p>Part with Large Surface Area at the Bottom Compromising demolding & debinding removal efficiency and rate</p>	<p>Design a support structure intended to minimize deformation during sintering</p>
 <p>Small Holes Holes with inaccurate diameter</p>	<p>Minimum hole diameter is 0.3 [mm]</p>
 <p>Integrated Parts with Mating Surfaces If mating surfaces are too close, parts fuse together.</p>	<p>Allow for spacing of at least 0.3 [mm] between the mating parts' surfaces. Large aspect ratio of the interfacing surface may require more spacing.</p>
 <p>Volumetric and Thin-walled Bodies Example: close chamber</p>	<p>3 mm thickness for closed containers</p>