**DESIGN GUIDELINES**

**LASER POWDER BED FUSION & BINDER JETTING**

<table>
<thead>
<tr>
<th>IT CLASS</th>
<th>IT class 11-13</th>
<th>IT class 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>WALL THICKNESS</td>
<td>Wall thickness &gt;0,5 mm</td>
<td>Wall thickness 1.5 - 30 mm</td>
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<tr>
<td>SURFACE QUALITY</td>
<td>Surface: Rz&lt;50 µm</td>
<td>Surface: Rz 45 µm</td>
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<tr>
<td>PART SIZE</td>
<td>Compact &amp; complex design</td>
<td>Recommended maximum green part size ~ 100 x 100 max. 80 mm</td>
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</tbody>
</table>

- Self-supporting angle >45°
- Sharp edges to prefer against radius
- Min. holes diameter > 0,5 mm
- Holes diameter > 10 mm in horizontal orientation require supports
- Fragile details possible (≥0,4 mm depending on dimensions and materials)
- Aspect ratio: height of the wall / wall thickness ≤ 40:1 if t>1 mm
- Large scaled parts have larger distortion
- No support structure for overhangs at printing
- Radii at corners/chamfers preferred 0,5 mm
- Hole aspect ratio 10:1 / Min. hole diameter 1 mm
- Pin aspect ratio 5:1 / Min. pin diameter 1,5 mm
- Embossed / engraved structures > 0,5 mm
- Min. thickness for supported/unsupported walls 0,5/1,0 mm
- Inner cavities possible with intake and exhaust hole
- Sinter: flat surface for sinter placing preferred / Setter can be offered as printed in / life / ceramic
- Distortion depended of size and geometry