

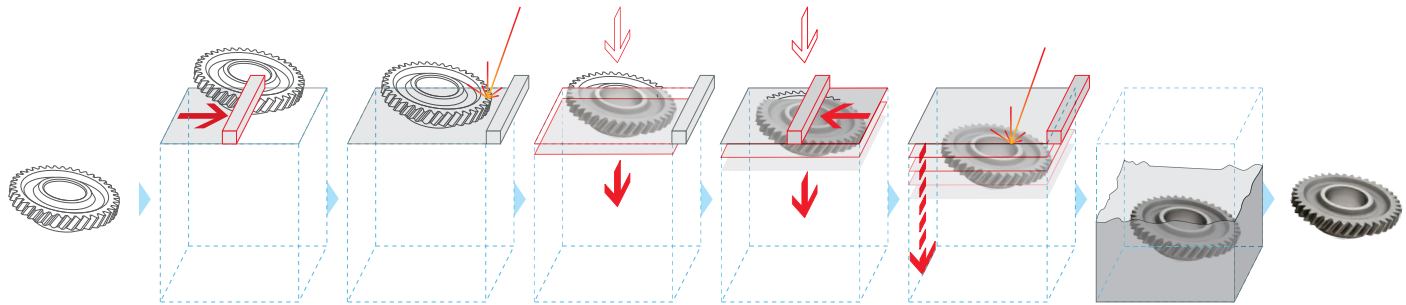
# Let our expertise guide you

Our team of experts can help tailor your AM solution, from prototype to finished parts, material development, machine sales as well as bespoke project management.

These guidelines are to help you design your ideal part to utilise the benefits of Additive Manufacturing.

Whether that's unlocking complex geometries for intricate designs, reducing product weight or improving production efficiency.

Simply send us your file to get started with Precious Metal AM.



Laser fuses powder  
Powder is applied  
Platform is lowered

STL File

Application of a layer of powder

Powder is solidified into a cross-section of the model

Building platform is lowered




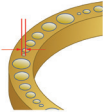

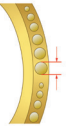
The next layer of powder is applied

The process repeats itself until the part is complete

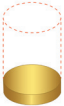
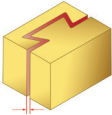
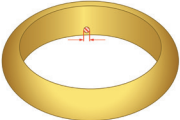
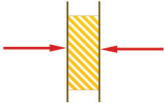
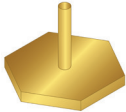
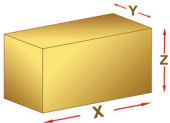
Loose powder is removed

Ready to finish part

# Precious Metal Additive Manufacturing Design Rules

Vertical Supported Walls	Embossed Details	Support & Overhangs	Engraved Details	Horizontal bridges	Horizontal Holes
					
For any vertical supported walls that are connected by at least two sides and where support is not required, the minimum thickness is 0.3mm.	For any embossed details across a surface the minimum thickness is 0.3mm.	For stability of wall or overhang structures the maximum angle is 45°.	Minimum depth of details on horizontal surfaces.	Our systems and tools can make an unsupported horizontal surface of up to 0.5mm.	The maximum diameter for unsupported tunnels is 1.0mm. Please note that any larger tunnels will require additional support within the tunnel.
0.3mm	0.3mm	45°	0.5mm	0.5mm	1.0mm

Vertical Holes	Connecting / Moving Parts	Escape Holes	Minimum Features	Pin Diameter	Tolerance
					
It's possible to build vertically up from 0.5mm.	For moving components that are self-supported we recommend a minimum clearance of 0.5mm.	Minimum powder release hole for hollow parts.	The smallest feature possible to build is on any design is 250µm.	For any standalone pins over 5mm tall, the minimum diameter is 0.8mm.	Our specialist machines have a tolerance of ±100µm for both horizontal and vertical accuracy, as well as 20µm in the Z direction.
0.5mm	0.5mm	1.0mm	250µm	0.8mm	±100µm

To find out more call us: +44 (0)121 212 6498  
Visit: [cooksongold-am.com](http://cooksongold-am.com)