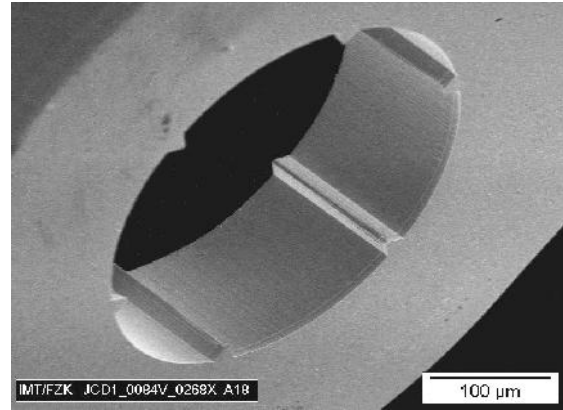


Properties of LIGA Parts in Gold



LIGA parts made of gold; the diameter of the smallest parts is near 1mm



SEM-photograph of the internal tothing made possible by the LIGA-technique

Structure height	100µm to 1000µm or more		
Structure details	Less than 1µm possible		
Smallest free-standing structures (holes in metal or metal columns)	One twentieth of structure height as a safe guideline, one fiftieth is usually possible by implementing specific layout rules		
Tolerance of lateral dimensions	Less than +-0,5µm		
Tolerance of height	Typically +-10µm, lower values available upon request		
Properties of available gold material	Pure gold (>99%)	Hardness ~70Hv0.1	Density ~19g/cm ³
	Hard gold (>98%)	Hardness >160Hv0.1	Density ~19g/cm ³
Surface finishing	Matt or polished		
Roughness of peripheral area	Less than 50nm		
Method of fabrication	Electroplated gold or gold alloy into lithographically patterned polymer templates		
Delivery	First parts within 3 months		

Examples – Application Areas:

- Escapement wheel for watch parts
- Unbalanced parts may be used for fine adjustment in mechanical applications
- Highly precise apertures with extremely sharp edges for X-rays or electron beams
- Gratings for X-ray optics

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