

RM case study

Case name	Collimator with internal cooling channel		
Dimensions in mm (L x W x H)	100 x 80 x 60		
Application	Laser collimator for space applications		
RM process	DMLS – Direct Metal Laser Sintering		
Software	-		
System	EOSINT M 250 Xt		
Material	DM20 – Direct metal including bronze material		
Lead time (hours/days)	4 days		
Costs	2100 €		
Surface finish	Shot peening + one post machining to reach 0.01 mm local tolerancy		
Mechanical properties	Tensile strength (at break): 700 MPa		
Thermal properties	Thermal conductibility: 35 W/mK at 180 °C		
Any additional info	Full redesign of the part. Reduction of components from 13 to 2. Integration of the cooling channels inside de volume. Optimisation of the diaphragm geometry.		
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