

Material data sheet

voxeljet 3D printers

Plastic

Base material	PMMA particle material (55 µm)	PMMA particle material (85 µm)
Binder-type	Polypor B	Polypor C
Tensile strength	≥ 2.0 MPa	≥ 2.0 MPa
Yield point	1 %	1 %
Burn-out temperature	700 °C	600 °C
Residual ash content	< 0.01 weight %	< 0.01 weight %
Especially suited for	investment casting; design models	investment casting
Advantages	sharp edges; for highest accuracy and true-to-detail; reusable particle material	white colour; good for dyeing; burns out very well; reusable particle material

Technical data plastic parts

Layer thickness	150 µm
Resolution x, y	up to 600 dpi
Accuracy	± 0.4 % (min. ± 0.3 mm)

› Can be used for prototypes, illustrative models or lost models

› Precise layering & high accuracy

Suitable finishing treatment

	Wax	Epoxy
Tensile strength	see base material	up to 25 MPa
Softening temp.	73 °C	80 °C
Burn out temp.	see base material	-
Characteristics	smooth liquid, resistant surface	solid material, dyeable

› Components of high complexity

› Economical production in batch sizes of one as well as in series production

› Infiltration in any colour

› Perfect for investment casting because of the base material PMMA

Sand

Base material	raw silica sand, Cerabeads	silica sands of various grain sizes
Binder-type	Phenolic resin	Cold hardening furan resin
Bending strength	250 - 500 N/cm ²	≥ 220 N/cm ² (depending on the sand or binder)
Loss on ignition	adjustable (2.0 - 2.6 weight %)	approx. 2.5 weight %
Especially suited for	Sand casting of almost all alloys, especially steel or iron alloys.	Sand casting of almost all alloys.
Advantages	low gas shock, sand almost 100% recyclable, easy unpacking and highest edge sharpness.	Largest build volumes, fast build rates, most widely used.

› Any hybrid design and combination with conventional molds

› Complex cores manufactured and reproduced in one piece

› High flexibility with regard to quantity and mold design

› Close-to-production mold and casting properties

› Economical from prototype to small series production

Technical data sand parts

Layer thickness	200 - 300 µm; standard 300 µm
Resolution x, y	up to 300 dpi
Accuracy	± 0.1 % (min. ± 1.5 layer thickness)

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