PROTIQ
A Phoenix Contact Company

MATERIAL DATASHEET
3D-PRINTING WITH CERAMIC

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Ceramic objects are characterized by their excellent thermal and electrical insulation properties and high temperature resistance. With Lithography-based Ceramic Manufacturing (LCM), we are able to produce high-precision 3D objects with a smooth surface and exceptional ceramic durability. That way even complex miniature components can be produced, which are suitable for use in high-temperature engineering, aerospace or medicine.

MATERIAL			FormAlox 999	FormAlox 998	FormAcon 3Y
					
	properties	**unit**			
general properties	colour	–	white	white	light pink
	material	–	Al_2O_3	Al_2O_3	ZrO_2 3 mol-% Y_2O_3
	purity	%	99,9	99,8	99,9
	density	g/cm³	3,985	3,985	6,07
	surface roughness (Ra)	µm	~ 0,4	0,9	0,6
mechanical properties	hardness HV 10	–	1800	1450	1300
	bending strength	MPa	430	359	700
	Young's modulus	GPa	380	300	205
thermal properties	Coefficient of Thermal Expansion (CTE)	ppm/k	8	7-8	10
	thermal conductivity	W/mK	30	37	2,5-3
	max. operating temp.	°C	1650	1650	1500