



Technical Properties

Product name	FormAlox 999	FormAlox 998	FormAcon 3Y
Product description	Engineering alumina parts, manufactured using additive manufacturing method LCM <ul style="list-style-type: none"> high hardness superior temperature resistance excellent wear resistance high corrosion resistance 	Engineering alumina parts, manufactured using additive manufacturing method LCM <ul style="list-style-type: none"> high biocompatibility electrical insulator puncture-proof chemical resistance 	Engineering zirconia parts, manufactured using additive manufacturing method LCM <ul style="list-style-type: none"> excellent strength fracture toughness high thermal shock resistance low thermal conductivity high wear resistance high corrosion resistance
material	Al ₂ O ₃	Al ₂ O ₃	ZrO ₂ 3 mol-% Y ₂ O ₃ stabilized
purity	99.9 %	99.8 %	99.9 %
density	3.985 g/cm ³ (99.4 % of theoretical density)	3.985 g/cm ³ (98.4 % of theoretical density)	6.088 g/cm ³ (99.4 % of theoretical density)
hardness HV10	1800	1450	1250
bending strength	430 MPa (4-point)	359 MPa (3-point)	890 MPa (4-point)
Young´s modulus	380 GPa	300 GPa	205-210 GPa
CTE	8 ppm/K	7-8 ppm/K	10 ppm/K
thermal conductivity	30 W/mK	37 W/mK	2,5-3 W/mK
surface roughness Ra	~ 0.4 µm	0.9 µm	~ 0,3 µm
max. operating temp.	1650 °C	1650 °C	1500 °C
color	white	white	white
size	Max.: 81.9 x 51.4 x 156.8 mm Wall thickness: up to 4 mm	Max.: 81.9 x 51.4 x 156.8 mm Wall thickness: up to 5 mm	Max.: 75.3 x 47.2 x 146.5 mm Wall thickness: up to 3 mm

Typical values for these ceramic types. The given values were not determined from additive manufactured components.

UPDATE 15.11.2019