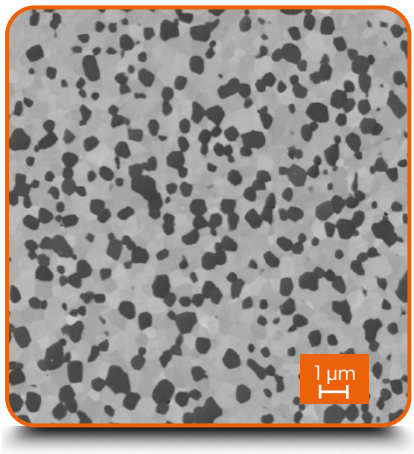
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Material Data Sheet
ATZ80

General Information

Name	ATZ80
Material Group	ATZ Alumina Toughened Zirconia
Description	Ceramic composite material based on a high purity zirconia matrix (80%) with alumina reinforcement



SEM Image: typical microstructure of ATZ80

Properties	Value	Unit
Ratio ZrO_2 (3 mol%Y) / Al_2O_3	80/20	wt.%
Color	white	-
Density	5,47	g/cm³
Bending Strength (3-Point)	1150	MPa
Hardness (HV10)	1579	-
Thermal Conductivity (20°C)	6,3	W/mK
Specific Heat (20°C)	528	J/kgK
Coefficient of Thermal Expansion (30 – 1.000°C)	10,4	10^{-6} K^{-1}
Average Grainsize (d50)	393	nm
Typical Chemical Composition (of used powder)		
ZrO_2 (+HfO_2)	74,0 – 79,0	%
Y_2O_3	3,6 – 4,2	%
Al_2O_3	18,0 – 22,0	%
SiO_2	< 0,02	%
Fe_2O_3	< 0,01	%
Na_2O	< 0,04	%

REACH-Information:
This product is not subject to registration requirements under Regulation (EC) No. 1907/2006 (REACH). To the best of our knowledge, it does not contain any Substances of Very High Concern (SVHC) above the threshold of 0.1% by weight.

Disclaimer:
The data and information in this document are based on tests believed to be reliable and are indicative only. They are given to demonstrate typical values of the material but should under no circumstance be considered as a formal commitment. Material proposal is made according to specifications provided by the customer. These are non-binding suggestions on the part of the Sembach company without assumption of any development activity and/or liability. Application and acceptance of these is the sole decision-making authority of the customer. Requirements for the product are to be specified exclusively by the customer, and each customer must conduct its own testing for safety and regulatory evaluations. We point out that the Sembach company does not perform any development activity.

Sembach GmbH & Co. KG
Oskar-Sembach-Str. 15
91207 Lauf a. d. Pegnitz

T: +49 9123 167 0
E: info@sembach.de
W: www.sembach.de