

## BX-1 – Zirconia Toughened Alumina (ZTA)

## **MATERIAL TECHNICAL DATA SHEET**

TRADE NAME:	BX-1	
MATERIAL DESCRIPTION		
Chemical Name & Formula:	Zirconia Toughened Alumina – $Al_2O_3 + Z_3$	ZrO <sub>2</sub>
MAIN COMPONENTS		
Al <sub>2</sub> O <sub>3</sub> :	85%	
ZrO <sub>2</sub> :	14%	
Y <sub>2</sub> O <sub>3</sub> :	1%	
PHYSICAL DATA		
Physical Form:	Polycrystalline structure	
Boiling Temperature:	N.A.	
Melt Temperature:	N.A.	
Vapour Pressure:	N.A.	
Evaporation Rate:	N.A.	
Specific gravity:	N.A.	
Density:	≥4,10g/cm <sup>3</sup>	
Water solubility:	Insoluble	
Colour:	White - Creamy	
Odour:	None	
MECHANICAL PROPERTIES AT ROOM TEMPERATURE		
Water Absorption	% 0	)
Vickers Hardness	(HV 0,5) 1	.500
Flexural Strength	MPa 4	150
Compressive Strength	MPa 3	3100
Young's Modulus	GPa 3	80
Maximum service temperature	°C 1	.400
Thermal Conductivity @20°C	W/(m·K) 2	9
Thermal Expansion Coefficient (RT-800°	C) 10 <sup>-6</sup> /°C 8	3,8
Thermal Shock Resistance (∆T)	°C 1	.40
PHYSICAL AND CHEMICAL PROPERTI	IES	

## PHYSICAL AND CHEMICAL PROPERTIES

Excellent chemical and wear resistance, suitable for textile components thanks to very low friction coefficient and very smooth surface.

Not suitable for HF (Hydrofluoric acid).

Please, note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in any way and should only be treated as indicative values. They should be used for guidance only and for no other purpose.



It is strictly forbidden to publish, edit, market, distribute, radio or video transmitted in any way or in any form, reproduce, communicate to public, make available to public, rent and loan, perform publicly, use in any way and disseminate -from anyone- trademarks, graphics settings, text, photos, graphics, audio and video works by third parties and everything else included in this document, unless written permission to ask exclusively at box@bettini.srl