



MYCROSINT® BORON NITRIDE TECHNICAL DATA

			Boron Nitride										
Material properties	Standard	Symbol/Unit	MYCROSINT® HD	MYCROSINT® S		MYCROSINT® CD		MYCROSINT® SO20		MYCROSINT® SO43		MYCROSINT® O40	
Crystalline phases			hex. BN	hex. BN		hex. BN		BN+ZrO ₂ +SiC		BN+ZrO ₂ +SiC		BN+ZrO ₂	
Binder phase/Binder type			< 1% B ₂ O ₃	4% B ₂ O ₃		B ₂ O ₃ + CaO						2% B ₂ O ₃	
Directionality			Isotropic	Anisotropic		Anisotropic		Anisotropic		Anisotropic		Anisotropic	
				⊥		⊥		⊥		⊥		⊥	
Density (typical)	DIN EN 623-2	ρ [g/cm ³]	1,96	2,07	2,07	1,97	1,97	2,3	2,3	2,92	2,92	2,82	2,82
Total porosity (calculated using theoretical density)	DIN EN 623-2	P [%]	< 13	< 7	< 7	< 12	< 12	10	10	< 6	< 6	< 6	< 6
Brinell hardness	DIN EN ISO 6506-1	HBW2,5/31,25	10	30	30	13	13	30	30	85	85	63	63
Young's modulus	DIN EN 843-2	E [GPa]	23	35	30	30	25	35	20	45	30	45	25
Flexural strength	DIN EN 843-1	σ _b [MPa]	19	95	85	40	35	70	40	120	80	120	80
Weibull modulus	DIN EN 843-1												
Compressive strength	AAW/AC-R-302-03	σ _c [MPa]	36	105	125	50	55	85	100	175	175	185	185
Coefficient of thermal expansion	DIN EN 821-1		Non-linear thermal expansion behavior, residual elongation after cooling; Specific values for indication only										
		α [10 ⁻⁶ /K]	-1	1	2	-1	-1	0,5	4,6	2	8	2	6
		α [10 ⁻⁶ /K]	0,5	1	2	1,5	2	1,9	6,6	4	9	3,5	9
		α [10 ⁻⁶ /K]	2,5	1	5	3	4	0,5	2,2	1,4	4,5	1,5	8
Specific heat at 20 °C	DIN EN 821-3	C _p [J/g K]	0,61	0,6	0,6	0,58	0,58	0,6	0,6	0,5	0,5	0,5	0,5
Thermal conductivity at 20 °C	DIN EN 821-2	λ [W/m K]	25	40	25	35	35	45	25	40	30	30	20
Maximum operating temperature (oxidizing/inert atmosphere)		[°C]	900/1800	1000/1500	1000/1500	1100/1500	1100/1500	1100/1800	1100/1800	1100/1800	1100/1800	1100/1800	1100/1800
Specific electrical resistance at 20 °C	DIN EN 50359	ρ [Ω cm]	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹²

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The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose.

The management system has been certified according to DIN EN ISO 9001, DIN EN ISO 14001. MYCROSINT® is a registered trademark of ESK Ceramics GmbH Co. KG

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