



MYCROSINT® BORON NITRIDE TECHNICAL DATA

			Boron Nitride										
Material properties	Norm	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	
Orientation dependency			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		Thermal expansion behavior: nonlinear, residual elongation after cooling; CTE given 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 heatm 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 temperature of use (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

MYCROSINT®/e-0306

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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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