



Henson Ceramics Limited

Castle Works, Stafford ST16 2ET

HCL259A

HCL1000 SERIES

PROPERTIES	UNIT	TEMPERATURE	HCL1081 (C-786)	HCL1082 (C-786)	HCL1085 (C-795)	HCL1091 (C-799)	
Al ₂ O ₃	%		94.5	94.5	97.5	99.7	
Colour			White	White	White	Cream	
Cracks			No cracks	No cracks	No cracks	No cracks	
Open Porosity			Nil	Nil	Nil	Nil	
Grain Size	10 ⁻⁶ m		10-20	3-8	8-15	3-10	
Density	kgm ⁻³		>3600	>3700	>3800	>3900	
Cross Breaking Strength	MPa	20°C	>300	>300	>300	>310	
Youngs Modulus	GPa	20°C	312	>312	320	350	
Hardness	Rockwell 45N		78	>78	79	81	
Coefficient of Linear Expansion	10 ⁻⁷ °C ⁻¹	20° - 600°C	75	75	79		
		20° - 1000°C	77	77	81		
		20° - 200°C				71	
		20° - 800°C				82	
Thermal Conductivity	Wm ⁻¹ K ⁻¹		>14	>14	>18	>25	
Loaded Deformation Temperature	°C		1450	1450	1452	1450	
Instantaneous Dielectric Strength (0.5mm)	MVm ⁻¹		28	28	30	31	
Volume Resistivity	ohm.m	20°C	2.5 x 10 ¹⁷	>10 ¹⁷	>10 ¹⁷	>10 ¹⁷	
Te Value (t _{k1})	°C		980	980	1000	975	
Permittivity		25°C	(10MHz)	9.2	9.2	9.51	9.6
			(1GHz)	8.5	8.5	9.05	9.6
			(9.368GHz)	9.02	9.02	9.1	
			(9.63GHz)				9.69
Power Factor		25°C	(10MHz)	<1 x 10 ⁻⁴	<1 x 10 ⁻⁴	<1 x 10 ⁻⁴	
			(1GHz)	<1 x 10 ⁻⁴	<1 x 10 ⁻⁴	<1 x 10 ⁻⁴	
			(9.368GHz)	<2 x 10 ⁻⁴	<2 x 10 ⁻⁴	<3 x 10 ⁻⁴	
			(9.63GHz)				<2 x 10 ⁻⁴

Please note that these figures are based on test sample results and should be taken as a guide only