

Aluminum Nitride Composites

Property Comparison*

Property	Ceralloy® 13740	Ceralloy® 13740Y	Ceralloy® 137 CD1	Ceralloy® 2710
Composition	AlN-SiC	AlN-SiC	AlN Composite	BeO-SiC**
Process	Hot Press	Hot Press	Hot Press	Hot Press
Density (g/cm³)	3.19	3.19	2.99	3.02
Outgassing	No	No	No	
Thermal Conductivity (W/mK)(RT)	30	53	95-105	130
Dielectric Constant @1.0GH	22	30		33
@8.0GH	15	22	38	24
@10.0GH	15	21	31	23
@12.0GH			27	
Loss Tangent @1.0GH	0.11	0.11		0.05
@8.0GH	0.3	0.3	0.45	0.25
@10.0GH	0.28	0.28	0.4	0.25
@12.0GH			0.05	
Thermal Expansion Coefficient 10⁴/°C (RT – 1000 °C)	5.1	5.1	5.0	7.0
Flexural Strength (MPa) @ RT	300	300	190	
Applications	Replacement for Ceralloy 2710 BeO-SiC. Terminations, Server Wedges, Load Pellets, Absorbers	Replacement for Ceralloy 2710 BeO-SiC. Terminations, Server Wedges, Load Pellets, Absorbers	Replacement for Ceralloy 2710 BeO-SiC. Terminations, Server Wedges, Load Pellets, Absorbers	Terminations, Server Wedges, Load Pellets, Absorbers
Key Features			Higher Thermal Conductivity than Ceralloy 2710 @ Temperatures >150C. Close Match in Electrical Properties	Former Industry Standard for Terminations, etc.

* Property values are typical and should not be considered specifications.

** BeO-SiC is no longer manufactured by Ceradyne. Data is included for reference only.

