Hotblox Reduced-density Injection-moldable Pressureless-Sintered Silicon Nitride (RIPS)

Data Sheet

Description-
Hotblox RIPS is an extremely hard silicon nitride-based ceramic material that is ideal for numerous applications requiring structural capability or dielectric properties, singly or in combination. Hotblox RIPS has low dielectric constant and low loss tangent values; both of which remain fairly constant over a wide temperature range. Typical uses for this strong, lightweight material are high temperature radomes and antenna components for aerospace, bearings for the automotive industry, and cutting tools for metalworking. RIPS is intended to make net-molded parts without the need for post-sinter machining; however, if necessary it can be readily machined and threaded in the green state and sintered afterwards.

General-
Density (ASTM D792) 2.3 g/cm³
Color White/off white
Continuous Use Temperature 1400 °C
Water Absorption Testing in progress
( ASTM D570)

Mechanical Properties-
Flexural Strength 175 MPa
(ASTM D790)

Electrical Properties-
Dielectric Constant 4.1
(X-band)
Loss Tangent 0.005
(X-band)