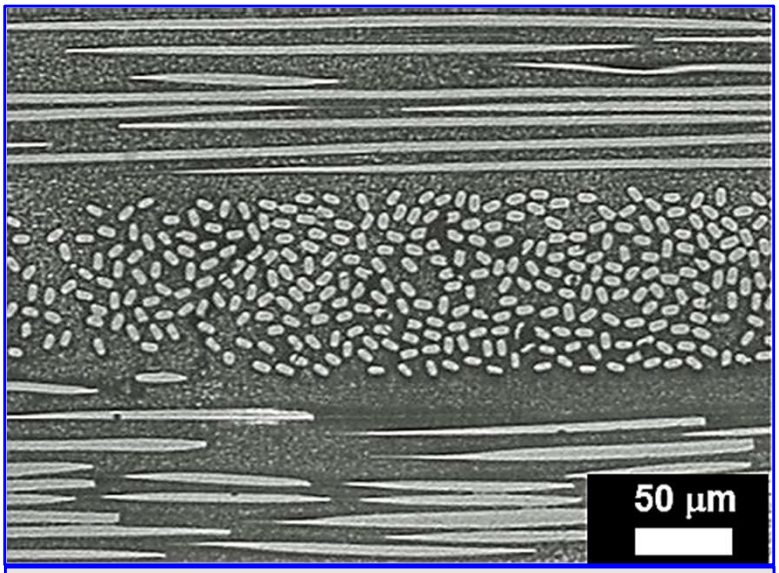
AS/N312 CMC

AS/N312 ceramic matrix composite is comprised of **Nextel™ N312 fiber in an Aluminosilicate matrix.** This datasheet provides nominal properties for a typical layered-fabric composite architecture with 0/90 fiber reinforcement.

PHYSICAL PROPERTIES

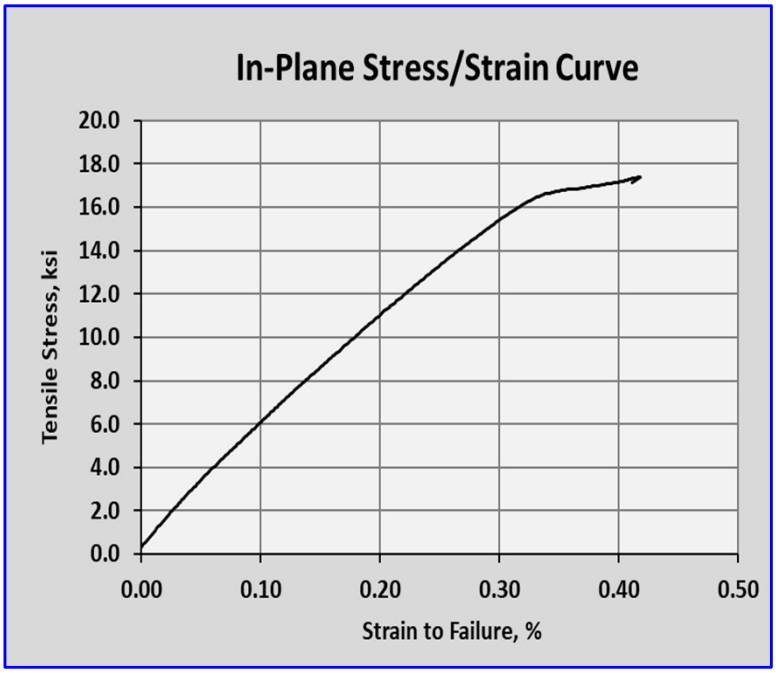
Fiber/Fabric	1200D 5HS Nextel™ N312
Matrix	Aluminosilicate
Filler	Alumina
Typical Ply Thickness, mils	9.0
Fiber Volume Fraction, %	44
Bulk Density, *g/cc*	2.44
Open Porosity, %	~20
Max Use Temperature (Continuous/Short-Term)	815°C/982°C



Fiber Diameter 8 - 12 µm

MECHANICAL PROPERTIES

Tensile Strength, *ksi*	19.3
Tensile Modulus, *Msi*	5.3
Tensile Strain-at-Failure, %	0.46
Interlaminar Tensile Strength, *ksi*	0.6
Flexure Strength, *ksi*	22.5
Flexure Modulus*, msi*	5.5
Compressive Strength, *in-plane, ksi*	18.1
Compressive Modulus, *in-plane, Msi*	4.9
Iosipescu Shear Strength*, in-plane, ksi*	4.2
Iosipescu Shear Modulus, *in-plane, Msi*	1.5
Shear Strength, Interlaminar *(SBS), ksi*	1.4



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THERMAL PROPERTIES			
Temperature:	**23°C** (73°F)	**300°C** (572°F)	**1000°C** (1832°F)
Specific Heat, *W·sec/gm·K*	0.76	1.1	1.16
Thermal Diffusivity, in-plane, *cm²/s*	0.0076	0.0052	0.0071
Thermal Conductivity, in-plane, *W/m·K*	1.36	1.26	1.99
Coefficient of Thermal Expansion, in-plane*, ppm/°C*	3.7	4.3	5.3
Coefficient of Thermal Expansion, Transverse*, ppm/°C*	3.8	4.2	4.5