

3M Nextel™ AF-20 Industrial Woven Fabric 312

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Nextel-AF-20-Industrial-Woven-Fabric-312.php

| Physical Properties | Metric | English | Comments |
|---------------------|-------------|---------------------------|---|
| Density | 2.70 g/cc | 0.0975 lb/in ³ | |
| Permeability | 15 | 15 | [ft ³ /min/ft ²], Air w/o sizing |
| Thickness | 510 microns | 20.1 mil | |
| Fiber Count | 2000 dtex | 1800 denier | roving |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|-----------|------------|------------------------------------|
| Tensile Strength at Break | 1700 MPa | 247000 psi | filament 25.4mm |
| Tensile Modulus | 152 GPa | 22000 ksi | filament |
| Tear Strength | 26.5 kN/m | 151 pli | Fill, Breaking Strength w/o Sizing |
| | 29.4 kN/m | 168 pli | Warp, Breaking Strength w/o Sizing |

| Thermal Properties | Metric | English | Comments |
|------------------------|---|---|----------|
| CTE, linear | 3.00 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 25.0 - 500 °C | 1.67 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 77.0 - 932 °F | |
| Specific Heat Capacity | 1.05 J/g $\cdot\text{°C}$ @Temperature 500 °C | 0.251 BTU/lb $\cdot\text{°F}$ @Temperature 932 °F | |
| Melting Point | 1800 °C | 3270 °F | |

| Optical Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
| Refractive Index | 1.568 | 1.568 | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|--------|---------|----------|
| Al2O3 | 62.5 % | 62.5 % | |
| B2O3 | 13 % | 13 % | |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|---------------------------|---------------------------|-----------------|
| Electrical Properties | Metric | English | Comments |
| Dielectric Constant | 5.2 | 5.2 | |
| | @Frequency 9.375e+9 Hz | @Frequency 9.375e+9 Hz | |
| Dissipation Factor | 0.018 | 0.018 | |
| | @Frequency 9.375e+9 Hz | @Frequency 9.375e+9 Hz | |

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