DuPont™ Nomex® 419 Paper, 7 mil Nominal Thickness

Category : Other Engineering Material , Composite Fibers , Polymer , Film , Thermoset , Aramid

Material Notes:

Nomex® Type 419 is the uncalendared precursor of Nomex® Type 418. It is used in applications in which its lower density allows improved conformability and saturability.General NOMEX Information: Nomex® is a family of aromatic polyamide (aramid) fibers. This family consists of staple fibers, continuous filament yarns, paper, and spunlaced fabrics. The paper is produced from two forms of the aramid polymer. Small fibrous binder particles (fibrids) derived directly from the polymer under high shear conditions are mixed with short fibers (floc) which are cut to length from a fiber filament. The floc and fibrids are combined in a water based slurry from which a continuous sheet is produced on a specialized papermaking machine. This initial paper (as in Type 419) is low density and has poor properties. Subsequent densification and internal bonding is achieved by high temperature calendaring. The resulting paper is mechanically strong and has good electrical properties. Some uses for paper product include insulation in electric motors and transformers, wire wrapping, and honeycombed strength members in many aircraft. Nomex® brand fibers are inherently flame resistant: the flame resistance is a polymer property and does not diminish with the life of the fiber.Nomex® meta-aramid, poly(meta-phenyleneisophthalamide), is prepared from meta-phenylenediamine and isophthaloyl chloride in an amide solvent. It is a long chain polyamide in which at least 85% of the amide linkages are attached directly to two aromatic rings. The meta oriented phenylene forms bends in the polymer chain, reducing chain rigidity as compared to the para orientation in the chemically similar Kevlar® chain. This flexible polymer chain gives Nomex® more textile-like qualities while retaining high temperature properties similar to Kevlar®.Information provided by DuPont.

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Nomex-419-Paper-7-mil-Nominal-Thickness.php

Physical Properties	Metric	English	Comments
Bulk Density	0.450 g/cc	0.0163 lb/in³	
Density	0.450 g/cc	0.0163 lb/in³	
Thickness	178 microns	7.00 mil	Nominal
	206 microns	8.10 mil	Typical; TAPPI-411

Mechanical Properties	Metric	English	Comments
Film Elongation at Break, MD	1.83 %	1.83 %	ASTM D828
Film Elongation at Break, TD	2.09 %	2.09 %	ASTM D828
Tear Strength, Total	3.00 N	0.674 lb (f)	Initial in TD; ASTM D1004
	5.00 N	1.12 lb (f)	Initial in MD; ASTM D1004
Elmendorf Tear Strength, MD	0.394 g/micron	10.0 g/mil	Calculated from mfr's report of 0.8 N per TAPPI-414 and the typical thickness
Elmendorf Tear Strength, TD	0.512 g/micron	13.0 g/mil	Calculated from mfr's report of 1 N per TAPPI-414 and the typical thickness

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Break, MD	8.70 MPa	1260 psi	Calculated from mfr's report of 18 N/cm per ASTM D828 and the typical thickness
Film Tensile Strength at Break, TD	5.80 MPa	841 psi	Calculated from mfr's report of 12 N/cm per ASTM D828 and the typical thickness

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	220 °C	428 °F	Electrical insulation
Shrinkage, MD	0.10 %	0.10 %	at 240°C
Shrinkage, TD	0.00 %	0.00 %	at 240°C

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	50% RH; ASTM D257
	1.00e+16 ohm-cm	1.00e+16 ohm-cm	Dry; ASTM D257
Surface Resistivity per Square	1.00e+13 ohm	1.00e+13 ohm	50% RH; ASTM D257
	1.00e+15 ohm	1.00e+15 ohm	Dry; ASTM D257
Dielectric Constant	1.4 @Frequency 60 Hz	1.4 @Frequency 60 Hz	Dry; ASTM D150
	2.0 @Frequency 60 Hz	2.0 @Frequency 60 Hz	50% RH; ASTM D150
Dielectric Strength	15.6 kV/mm	396 kV/in	AC Rapid Rise; ASTM D149
	26.0 kV/mm	660 kV/in	Full-wave Impulse; ASTM D3426
Dissipation Factor	0.011 @Frequency 60 Hz	0.011 @Frequency 60 Hz	Dry; ASTM D150
	0.14 @Frequency 60 Hz	0.14 @Frequency 60 Hz	50% RH; ASTM D150

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China