DuPont™ Nomex® LT

ELECTRICAL INSULATION

Innovative insulation material combines strength and high saturability.

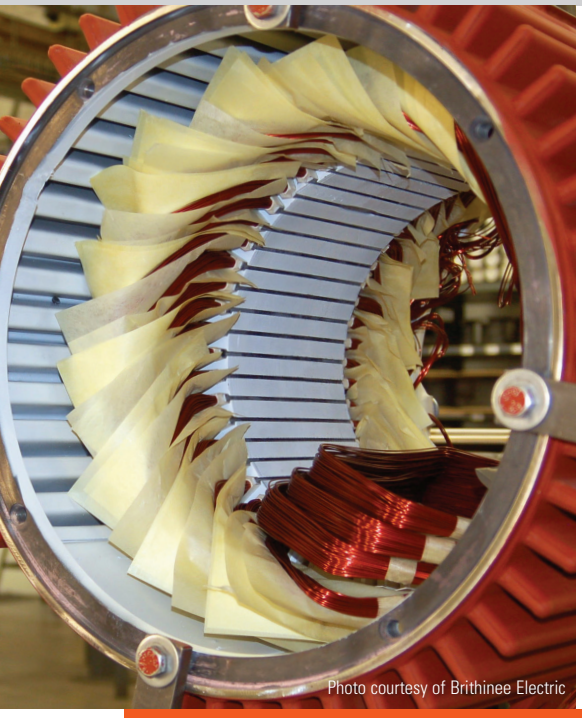

Photo courtesy of Brithinee Electric

DuPont™ Nomex® LT is ideal for use in Class H (180˚C) and Class F (155˚C) electrical equipment, such as this 75 kW, 6-pole generator.

For more than 40 years, DuPont™ Nomex® products have been delivering superior performance and reliability in the most demanding electrical applications and are currently being used in new and emerging technologies such as wind power generation and electric or hybrid-electric vehicles.

Since introducing DuPont™ Nomex® paper for electrical insulation more than four decades ago, the experts at DuPont have developed an amazing array of new products to satisfy evolving industry needs. The latest innovation is DuPont™ Nomex® LT, a nonwoven electrical insulation product for motors, generators and transformers that combines mechanical strength and high saturability.

Patented new technology platform

DuPont™ Nomex® LT is based on a patented new technology platform that was developed as the result of a collaborative effort between teams of DuPont scientists who are experts in the fields of fibers and nonwovens. Employing a proprietary sheet structure, DuPont™ Nomex® LT is a cost-effective material for Class H (180˚C) and Class F (155˚C) electrical insulation systems where flame resistance is not a requirement.

What sets DuPont™ Nomex® LT apart from other materials used in Class H and Class F temperature insulation systems is its unique combination of strength and high saturability—two highly desirable properties for applications such as conductor wrap and phase and layer insulation for coils.

In fact, standard industry tests confirm that DuPont™ Nomex® LT features excellent initial tear, tear propagation and elongation performance, which provides the stretching and flexibility needed for wrapping and other manufacturing processes.

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Enhanced electrical properties

DuPont™ Nomex® LT is a highly saturable material that helps improve impregnation by resins or varnishes, resulting in significantly enhanced electrical properties that can lead to improved motor operation. Processing characteristics of this open structure are similar to other insulation materials used in the industry.

Table I shows examples of the excellent impregnability of DuPont™ Nomex® LT.

Table I. Impregnated AC Dielectric Properties of DuPont™ Nomex® LT

Product	Units	Dry	Resin[1]	Resin[2]	Test Method[3]
Nomex® LT 2.4 mil	V/mil	180	1520	990	ASTM D-149
Nomex® LT 5.0 mil	V/mil	130	1320	1170	ASTM D-149

Note: Samples were prepared by coating and curing the resin.
[1]Commercial epoxy solventless resin.
[2]Commercial thixotropic polyester resin.
[3]Tested with ¼" diameter electrode.

Exceptional tear strength

In insulation materials, thinner is better because it transfers heat more efficiently. However, the material must also be strong to withstand manufacturing processes. DuPont™ Nomex® LT has higher tear strength properties than other competitive materials and other types of DuPont™ Nomex® brand paper, including Type 410 paper, which is mechanically one of the toughest in the industry.

Because DuPont™ Nomex® LT is stronger than other insulation materials, you can use thinner sheets or less material to help deliver the same performance and optimize your electrical equipment designs.

Innovation by DuPont

At DuPont, we are committed to continuing to develop new and modified products to help you better meet your evolving needs. From the broadest portfolio of electrical insulation materials in the world to unique testing capabilities and technical expertise, DuPont can help you solve your equipment design challenges.

DuPont™ Nomex® LT is offered in discrete and laminate forms. Discrete product is available in 2.4 mil, 5 mil, 7 mil and 10 mil thicknesses.

To learn more about DuPont™ Nomex® LT and how this innovative new material can help you optimize equipment designs, call 1.800.931.3456 or visit www.Nomex.com

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Product safety information is available upon request
This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentations. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge and experience become available. Since we cannot anticipate all variations in actual end-use conditions, DUPONT MAKES NO WARRANTIES AND ASSUMES NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any trademark patent right.

Please note:
The properties in this publication are preliminary average values and should not be used as specification limits. This data only represents a small amount of material and will likely change with more data collection. Unless otherwise noted, all properties were measured in air under "standard" conditions (in equilibrium at 23°C, 50% relative humidity). Note that, like other products of papermaking technology, Nomex® papers have somewhat different properties in the papermaking machine direction (MD) compared to the cross direction (XD). In some applications it may be necessary to orient the paper in the optimum direction to obtain its maximum potential performance.