

DUPONT™ NOMEX® CREPE PAPER 2 MIL TYPE 410

PRELIMINARY TECHNICAL DATA SHEET

NOMEX® is a synthetic aromatic polyamide and is generally known as an aramid. The molecular structure of the material is particularly stable and the performance characteristics of NOMEX® paper are a consequence of this. These NOMEX® brand papers have a range of properties, including:

- High Temperature Resistance – rated by UL for continuous use at 220°C; has usable properties in ranges from -196°C to 300°C.
- Chemical Resistance – broad chemical compatibility with most industrially used oils, resins, adhesives and refrigerants.
- Additional Attributes – mechanical toughness, non-toxic, flame resistant, insensitive to moisture, radiation resistant, inherently high dielectric strength.

NOMEX® Type 410 is broadly used as a wire wrap material in many transformer and motor applications. Creping allows the paper to have significantly better elongation, which allows the use of these papers in applications where movement of the wrapped wire requires this increased elongation. Specific examples include automatic and manual wrapping transformer and motor leads and continuous transposed cable (CTC) wrap. These creped papers are designed to be stretched to 100% without breaking. As the

tapes are elongated, the thickness will decrease consistent with this stretching.

Testing of our creped papers in mineral oil at room temperature (23°C) has been conducted. Table 2 shows that the 60 Hz dielectric strength is very dependent on the dielectric strength of the media (air or oil), and that the creping process has not substantially altered the dielectric properties.

PLEASE NOTE:

The properties in this data sheet 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 paper-making technology, NOMEX® papers and pressboards have somewhat different properties in the machine direction (MD) compared to the cross direction (XD). In some applications it may be necessary to orient the paper or pressboard in the optimum direction to obtain its maximum potential performance.

Table 1 – 2 MIL TYPE 410 MECHANICAL DATA

Test	Not Creped	Creped
Typical Thickness (mm)	0.05	0.729
Density (g/cc)	0.72	0.12
MD Tensile Strength (N/cm)	38.7	37
MD Elongation (%)	9.3	130

Table 2 – 2 MIL TYPE 410 ELECTRICAL DATA

Test	Not Creped	Creped
Thickness (mils)	2.15	28.7
Thickness (mm)	0.05	0.729
Dielectric Strength (2" flat electrode)		
kV (air)	0.92	1.75
kV (oil)	2.66	4.0

Other types of NOMEX® brand paper are also available in creped form. Examples include both 3 mil Type 410 and 7 mil Type 411. Contact your local DuPont representative for more information about these materials and how to order.

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Product safety information is available upon request.

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H-98109 Rev. 08/03



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