

RECOMMENDED DESIGN VOLTAGE IN DRY TYPE TRANSFORMER APPLICATIONS

TECHNICAL DATA SHEET

NOMEX® Paper Types 410, E56 & 414

Where there is potential for development of partial discharge, particularly at elevated temperatures, it is recommended that continuous working stresses at 50/60 Hz do not exceed 1.6 kV/mm (40 V/mil).

In cases where there is high risk of frequent line voltage surges or for other abnormal conditions to exist, continuous working stresses should be kept below 1.2 kV/mm (30 V/mil) for maximum transformer life expectancy.

NOMEX® Paper Type 411

Due to lower density of NOMEX® paper T411, continuous working stresses should be kept below 1.2 kV/mm (30 V/mil) wherever this paper is used.

NOMEX® Paper Type 418

With a 50% mica content by weight, this paper can withstand higher voltage stresses than the NOMEX® T410 range of products. The recommended maximum continuous working stress is 4.0 kV/mm (100 V/mil) or 3.2 kV/mm (80 V/mil) when frequent line voltage surges or other abnormal conditions may exist.

NOMEX® Paper Type 419

As the density of NOMEX® T419 is lower compared to NOMEX® T418, continuous working stresses should be kept below 3.2 kV/mm (80 V/mil) wherever this paper is used.

These values have been determined after long-term electrical aging tests according to ASTM D-2275. Voltage endurance curves for NOMEX® Types 410 and 418 are shown in Figure 1 and 2.

Recommendations on particular design will be provided upon request.

USA

DuPont
Advanced Fibers Systems
Customer Inquiry Center
5401 Jefferson Davis Highway
Richmond, VA 23234
Tel: (800) 453-8527
(804) 383-4400
Fax: (800) 787-7086
(804) 383-4132
E-mail: afscdt@usa.dupont.com

CANADA

DuPont Canada, Inc.
Advanced Fibers Systems
P.O. Box 2200
Streetsville Postal Station
Mississauga, Ontario, L5M 2H3
Canada
Tel: (800) 387-2122
(905) 821-5193
Fax: (905) 821-5177
E-mail: products@can.dupont.com

EUROPE

DuPont de Nemours International S.A.
Advanced Fibers Systems
P.O. Box 50
CH-1218 Le Grand-Saconnex
Geneva, Switzerland
Tel: +41-22-717-5111
Fax: +41-22-717-6218
E-mail: info.nomex@che.dupont.com

SOUTH AMERICA

DuPont do Brasil S.A.
Alameda Itapecuru, 506
BR-06454-080 Alphaville
Barueri, São Paulo
Brasil
Tel: +0800-17-17-15
+55 11 4166 8449
Fax: +55 11 7266 8904
E-mail: produtos.brasil@bra.dupont.com

JAPAN

DuPont Teijin Advanced Papers (Japan) Limited
ARCO Tower,
8-1 Shimomeguro I-chome
Meguro-ku, Tokyo 153-0064
Japan
Tel: +81-3-5434-6609
Fax: +81-3-5434-6605
E-mail: chihiro.kondo@jpn.dupont.com

ASIA PACIFIC

DuPont Teijin Advanced Papers (Asia) Limited
1122 New World Office Building, East Wing
24 Salisbury Road
Tsimshatsui, Kowloon
Hong Kong
Tel: +852-2734-5363
Fax: +852-2734-5486
E-mail: nomexpaper@hkg.dupont.com

Figure 1 — **VOLTAGE ENDURANCE UNDER 60 HZ OF SINGLE LAYER NOMEX® TYPE 410 – 0.25 MM (10 MIL)**

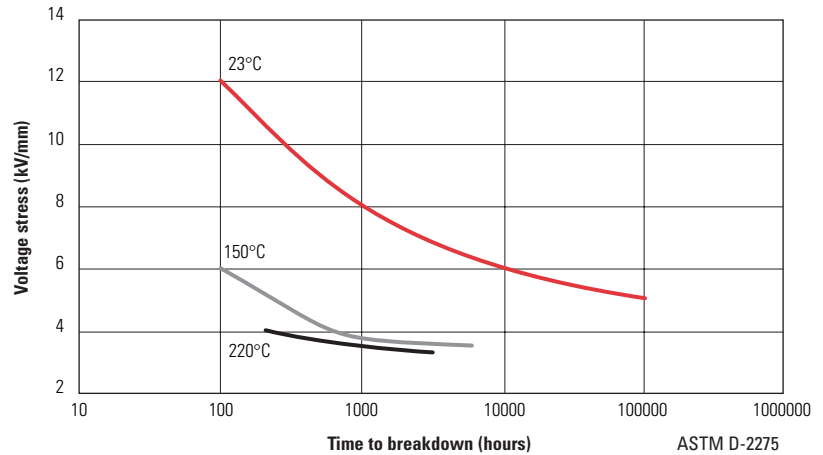
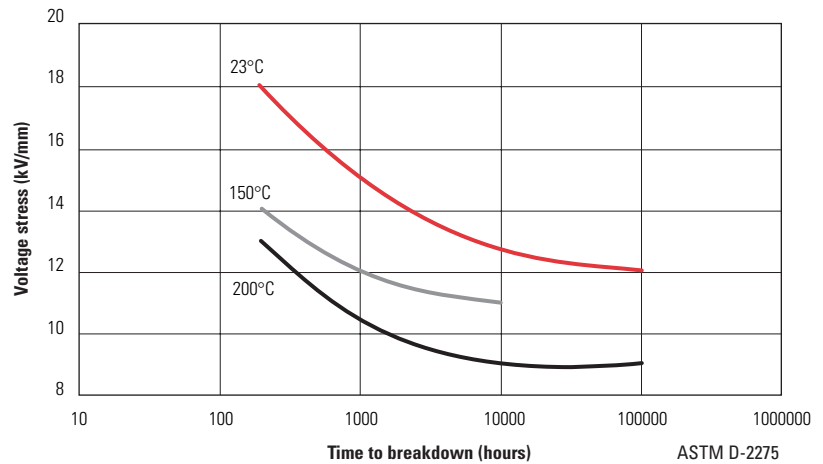


Figure 2 — **VOLTAGE ENDURANCE UNDER 60 HZ OF SINGLE LAYER NOMEX® TYPE 418 – 0.25 MM (10 MIL)**



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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 becomes 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 patent right.

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