

# HSM WIRE INTERNATIONAL, INC.

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## Aromatic Polyamide Product / NOMEX®

NOMEX® paper is an aromatic polyamide product which combines physical toughness, chemical and moisture resistance and an excellent high temperature dielectric breakdown strength. Where temperature requirements are increased, it is often used as a replacement for conventional paper. NOMEX® paper has a higher thermal rating than most other papers and insulations of this type. It will retain at least 300 v/mil dielectric breakdown strength and 50% of its tensile strength after ten years at 250°C. Typical applications include dry-type or oil-filled transformers, lifting magnets, form wound coils and a majority of electrical equipment applications.

### NOMEX® Type 410 Aromatic Polyamide Paper

NOMEX® Type 410 is a calendared insulation paper which offers high inherent dielectric strength, mechanical toughness, flexibility and resilience. NOMEX® Type 410 is the original form of NOMEX® paper, and is widely used in a majority of electrical equipment applications. Available in 12 thickness (0.05 to 0.76 mm) (2 to 30 mil), NOMEX® Type 410 is used in almost every known electrical sheet insulation application.

### Typical Electrical Properties

This information is to be used as a guide only. The data listed herein falls within a normal range but should not be used to establish specification limits or used alone as the basis of design. NOMEX® is a registered trademark of DuPont.

Nominal Thickness (mil)	2	3	5	7	10	12	15	20	24	25.5	29	30
(mm)	0.05	0.08	0.13	0.18	0.25	0.30	0.38	0.51	0.61	0.65	0.73	0.76
Dielectric Strength / AC rapid rise V/mil	430	550	680	840	815	820	830	810	800	730	750	680
kV/mm	17	22	27	33	32	32	32	32	31	29	30	27
Full wave impulse V/mil	1000	1000	1400	1400	1600	-	1400	1400	-	-	-	1250
kV/mm	39	39	55	55	63	-	55	55	-	-	-	49
Dielectric constant at 60 Hz	1.6	1.6	2.4	2.7	2.7	2.9	3.2	3.4	3.7	-	3.7	3.7
Dissipation factor 60 Hz (x 10-3)	4	5	6	6	6	7	7	7	7	-	7	7