



# **KHANDELWAL INDUSTRIES**

**AN ISO 9001:2015 CERTIFIED COMPANY**

## **|| Nomex® 410 ||**

**3Nomex® a high-performance synthetic material developed by DuPont™, emerged as a key player in various industries due to its exceptional thermal stability, flame resistance, and durability. Originally introduced as a flame-resistant material for firefighters, it has found a broad range of applications in areas where protection, safety, and reliability are critical. Nomex® fibers are non-conductive and exhibit low thermal conductivity, making them invaluable in applications where thermal insulation and electrical safety are essential.**

### **Uses :**

Nomex's® versatility and exceptional properties make it an essential material in numerous industries. Nomex® paper is employed as electrical insulation in motors, transformers, and other electrical equipment. It ensures electrical safety and reliability. Industrial Insulation: In industrial settings, it is used as thermal insulation in furnaces, ovens, and heat shields, safeguarding equipment and workers from high temperatures.

Aerospace and Aviation: In aviation, Nomex® is used for aircraft components such as insulation blankets and structural reinforcement due to its lightweight yet durable nature.

• **Mechanical Properties** The typical mechanical property values for **Nomex® 410** are shown in the below :

Property	0.05 mm (2)	0.08 mm (3)	0.10 mm (4)	0.13 mm (5)	0.18 mm (7)	0.25 mm (7)	0.30 mm (7)	0.38 mm (7)	0.51 mm (7)			0.61 mm	0.76 mm	Test Meth
Typical Thickness	0.05	0.08	0.1	0.13	0.18	0.25	0.3	0.38	0.51			0.61	0.76	ASTM D374
Basis Weight	41	64	88	115	174	249	310	395	549	692	839			ASTM D646
Density (g/cc)	0.72	0.81	0.83	0.88	0.95	0.96	1	1.02	1.06	1.13	1.08			-
Tensile Strength MD (N/cm)	43	68	93	141	227	296	380	462	610	728	816			ASTM D828
Tensile Strength XD (N/cm)	19	34	49	71	116	161	185	252	374	500	592			ASTM D828
Elongation MD (%)	10	12	12	16	20	22	23	22	23	21	21			ASTM D828
Elongation XD (%)	17	9	9	13	15	18	18	16	18	16	17			ASTM D828
Elmendorf Tear MD	0.8	1.2	1.9	2.9	3.7	5.6	7.1	9	14.3	N/A	N/A			TAPPI 414
Elmendorf Tear XD	1.5	2.4	4.4	4.8	7.2	10.6	13.7	16.7	24.8	N/A	N/A			TAPPI 414
Shrinkage at 300°C MD (%)	11	16	24	31	48	69	88	110	158	191	233			ASTM D1004
Shrinkage at 300°C XD (%)	6	9	14	17	27	42	55	71	114	153	193			ASTM D1004
Moisture Absorption (%)	0.8	0.8	0.4	0.4	0.5	0.2	0.2	0.2	0	0	0			-