



Innovative *Polyester Films*  
**Electrical Insulation**

*Insulated by*  
**Mylar®**

# Delivering *innovative solutions*

- Unique reliability and quality consistency
- Highest thermal performance and the only film to resist UL F-rated temperature peaks ~150°C
- Best in class mechanical and physical properties

Mylar®

Melinex®

Teonex®

#### Good Balance of Mechanical Properties

- a strong tough material which is suitable for mechanical forming and allows easy roll to roll lamination

#### Good Thermal Endurance

- making suitable for motors operating at elevated temperatures

#### Underwriter Laboratories Recognition

- QMFZ2-E93687 (Mylar® & Melinex®) QMFZ2-E206562 (Teonex®)

#### High Dielectric Strength

- breakdown voltage of 23kV at a thickness of 250 micron

#### Resists against Chemical Attack

- from solvents and resins commonly used in the production of electrical laminates

#### Compliance to International Material Standards and Specifications

FILM NAME	THICKNESS (MICRON)	FILM DESCRIPTION
Mylar® A	23, 50, 75, 100, 125, 190, 250, 300, 350, 500	Milky white film with high dielectric strength, temperature durability and dimensional stability
Melinex® 238	75, 125, 190, 210, 225, 250, 300, 350	Milky white film with low oligomer content and superior thermal performance specifically for insulation in hermetic compressor motors
Teonex® Q51	12, 16, 25, 38, 50, 75, 100, 125, 188, 250	Polyethylene Naphthalate (PEN) films offering superior thermal and hydrolytic stability together with very low oligomer content and extraction. Underwriters Laboratories recognition to 160°C (mechanical) and 180°C (electrical) for the range 25-250 micron. Teonex® QMFZ2-E206562



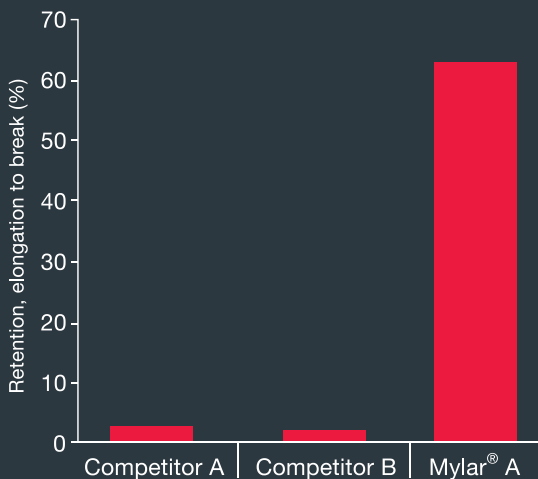
## Internal Comparative Testing Results

SPECIMEN	GAUGE (µm)	MECHANICAL PROPERTIES						DELAMINATION	PRESSURE COOKER			
		MDM (N/mm²)	MDT (N/mm²)	SM (N/mm²)	ST (N/mm²)	ELM (%)	ELT (%)	DL (points)	32ELM (%)	32ELT (%)	36ELM (%)	36ELT (%)
Competitor A	190	3726	4382	178.3	209.6	151.1	92.5	n.a.	71.1	60.4	39.2	64.9
Competitor A	250	3434	3834	174.9	182.2	177.3	134.9	35	47.5	57.9	2.4	24.1
Competitor B	250	3691	3714	184.3	174.4	166.6	172.1	11	11.6	5.6	1.9	1.6
Mylar® A	250	3557	3749	196.3	182.9	178.2	156.0	25	74.9	63.8	62.8	50.3
Competitor B	350	3481	3478	197.0	168.9	203.8	183.7	240	17.2	4.2	n.a.	n.a.
Mylar® A	350	3568	3204	191.8	173.9	178.0	214.8	2	39.6	34.7	n.a.	n.a.

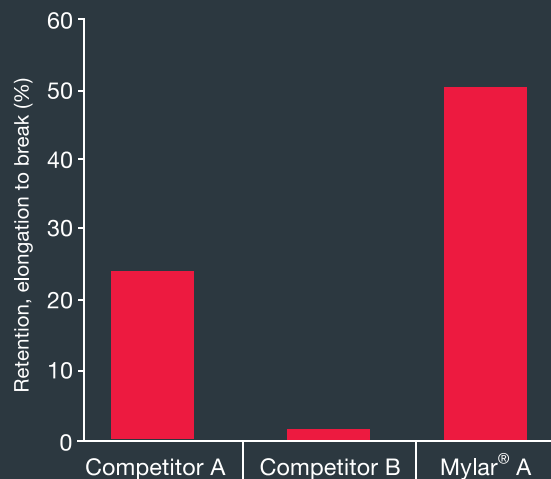
- MDM** - Modulus, MD-direction
- MDT** - Modulus, TD-direction
- SM** - Tensile strength, MD-direction
- ST** - Tensile strength, TD-direction
- ELM** - Elongation to break, MD-direction
- ELT** - Elongation to break, TD-direction
- DL** - Delamination, graduation in disadvantage points

- 32ELM** - Retention, elongation to break (in % of original elongation), MD-direction, after 32 h in pressure cooker (121°C)
- 32ELT** - Retention, elongation to break (in % of original elongation), TD-direction, after 32 h in pressure cooker (121°C)
- 36ELM** - Retention, elongation to break (in % of original elongation), MD-direction, after 36 h in pressure cooker (121°C)
- 36ELT** - Retention, elongation to break (in % of original elongation), TD-direction, after 36 h in pressure cooker (121°C)

Retention after 36 h pressure cooker (121°C)  
Film thickness: 250 microns MD-direction



Retention after 36 h pressure cooker (121°C)  
Film thickness: 250 microns TD-direction





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 Teijin Films 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.

Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see 'DuPont Teijin Films Medical Caution Statement', H-50102-1-DTF.

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