DuPont Teijin Films Mylar® A Polyester Film, 400 Gauge<br>Category : Polymer , Film , Thermoplastic , Polyester, TP , Polyester Film

## Material Notes:

Mylar® A films are tough, general purpose films that are transparent in 48 through 92 gauge and translucent in heavier gauges. They have a rough surface to provide ease of handling, good adhesion, and processability.Mylar $®$ A films have balanced tensile properties and excellent resistance to moisture and most chemicals. They can withstand temperature extremes from $-100^{\circ} \mathrm{F}$ to $300^{\circ} \mathrm{F}$. Mylar® does not become brittle with age under normal conditions, because it contains no plasticizers. Typical Applications:Apparel staysBook jacketsCarbon ribbonControl TapeDrumheadsDuct LinersIdentificationsMembrane touch switchesMetallized BasePressure Sensitive Labels (plain or metallized)Protective surfacingRelease linersRoll leaf (hot stamping)Spirit MastersApprovals: FDA Food Contact Status - All gauges of Mylar® A comply with the Food and Drug Administration regulation 21 CFR 177.1630 -- Polyethylene phthalate polymers. This regulation describes films which may be safely used in contact with all types of food excluding alcoholic beverages. Uncoated films such as Mylar® A can be used to contain foods during oven cooking or oven baking at temperatures above $250{ }^{\circ} \mathrm{F}$. UL 94 VTM-2-for 92-1400 gauge (0.0230.35 mm ). UL Recognition - for $92-500$ gauge ( $0.023-0.13 \mathrm{~mm}$ ) $\mathrm{HWI}=5, \mathrm{HAI}=4, \mathrm{CTI}=1$; for $700-1400$ gauge ( $0.18-0.35 \mathrm{~mm}$ ) $\mathrm{HWI}=4, \mathrm{HAI}=0$, CTI=1 Information provided by DuPont.

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Teijin-Films-Mylar-A-Polyester-Film-400-Gauge.php

| Physical Properties | Metric | English | Comments |
| :--- | :--- | :--- | :--- |
| Density | $1.39 \mathrm{~g} / \mathrm{cc}$ | $0.0502 \mathrm{lb} / \mathrm{in}^{3}$ | ASTM D1505 |
| Viscosity Measurement | 0.56 | 0.56 | ASTM D2857 |


| Mechanical Properties | Metric | English | Comments |
| :--- | :--- | :--- | :--- |
| Film Elongation at Break, MD | $140 \%$ | $140 \%$ | ASTM D882A |
| Film Elongation at Break, TD | $115 \%$ | $115 \%$ | ASTM D882A |
| Tensile Modulus | 3.50 GPa | 507 ksi | ASTM D822 |
| Poissons Ratio | 0.38 | 0.38 | Typical Mylar® before yield |
|  | 0.58 | 0.58 | Typical Mylar® after yield |
| Film Tensile Strength at Break, MD | 179 MPa | 26000 psi | ASTM D882A |
| Film Tensile Strength at Break, TD | 207 MPa | 30000 psi | ASTM D882A |


| Thermal Properties | Metric | English | Comments |
| :--- | :--- | :--- | :--- |
|  | $17.0 \mu \mathrm{~m} / \mathrm{m}-{ }^{\circ} \mathrm{C}$ | $9.44 \mu \mathrm{in} / \mathrm{in}-{ }^{\circ} \mathrm{F}$ |  |
| CTE, linear | @Temperature $30.0-$ | @Temperature 86.0 - | 92 Gauge; ASTM D696 |
| Specific Heat Capacity | $50.0^{\circ} \mathrm{C}$ | $122^{\circ} \mathrm{F}$ |  |
|  | $1.17 \mathrm{~J} / \mathrm{g}-{ }^{\circ} \mathrm{C}$ | $0.280 \mathrm{BTU} / \mathrm{lb}-{ }^{\circ} \mathrm{F}$ |  |


| Thermal Properties | Metric $_{\text {W/m-K }}$ | English ${ }_{\text {U-in/hr-ft }{ }^{2-}{ }^{\circ} \mathrm{F}}$ | Comments |
| :---: | :---: | :---: | :---: |
| Thermal Conductivity | @Temperature 25.0 $75.0^{\circ} \mathrm{C}$ | @Temperature 77.0 $167^{\circ} \mathrm{F}$ | (Mylar® 1000A) |
| Melting Point | $254{ }^{\circ} \mathrm{C}$ | $489{ }^{\circ} \mathrm{F}$ | DSC |
| Maximum Service Temperature, Air | $149{ }^{\circ} \mathrm{C}$ | $300{ }^{\circ} \mathrm{F}$ |  |
| Maximum Service Temperature, Inert | $-73.3{ }^{\circ} \mathrm{C}$ | $-100{ }^{\circ} \mathrm{F}$ |  |
|  | 1.1 \% | 1.1 \% |  |
| Shrinkage, MD | @Temperature $150^{\circ} \mathrm{C}$, Time 1800 sec | @Temperature $302{ }^{\circ} \mathrm{F}$, Time 0.500 hour | Unrestrained |
|  | 0.70 \% | 0.70 \% |  |
| Shrinkage, TD | @Temperature $150^{\circ} \mathrm{C}$, Time 1800 sec | @Temperature $302{ }^{\circ} \mathrm{F}$, Time 0.500 hour | Unrestrained |
| Optical Properties | Metric | English | Comments |
| Refractive Index | 1.64-1.67 | 1.64-1.67 | typical of Mylar® |
| Haze | 20-55\% | 20-55\% | ASTM D1003 |
| Electrical Properties | Metric | English | Comments |
| Comparative Tracking Index | 400-600 V | 400-600 V |  |
| Hot Wire Ignition, HWI | < $=7.0 \mathrm{sec}$ | <= 7.0 sec |  |
| High Amp Arc Ignition, HAI | <= 15 arcs | <= 15 arcs |  |
| Descriptive Properties | Value |  | Comments |
| Yield (nominal) | $5000 \mathrm{in}^{2} / \mathrm{lb}$ |  |  |

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