

Physical Properties of Polyurethane Film Used in the Manufacture of P.M. Research Protective Masks

Product Identifier: PM-T40 **Product Code:** PM-T40

Approximate Thickness 0.012" (.305mm) + 0.002" Adhesive

Adhesive Properties: Adhesive Type; Firm Acrylic. Adhesion tests per ASTM-D1000
24-hour dwell at room temperature; 180° peel at 12"/min (30.48 cm/min)

Stainless Steel 48 oz/in (.536kg/cm)

Service Temperature: neg 60 °F to 275 °F (neg 51 °C to 135 °C) (film softens above this limit)

| <u>Property</u> | <u>Test Method</u> | <u>Average Value</u> |
|---------------------|---|----------------------------|
| Tensile Strength | ASTM-D882 | 80 lbs./in. (14.287 kg/cm) |
| Elongation; %@break | ASTM-D882 | >300% |
| Tear Strength | ASTM-1938 | 3.5 lbs (1.588kg) |
| Taber Abrasion | ASTM-C501 H-18, 1000g wt 1000 cycles | <0.05g |
| Hardness; Shore A | ASTM-D2240 | 87 |
| Dielectric Strength | ASTM-D1000 | 12,700 volts |

Solvent Resistance: Solvent resistance after 24-hour immersion when applied to bonderized steel:

| | |
|----------------------------------|---------------------|
| Auto Oil | no effect |
| Distilled Water | no effect |
| Salt Water | no effect |
| Hydraulic Fluid | no effect |
| Regular Gasoline | slight edge lifting |
| Unleaded Gasoline | slight edge lifting |
| Unleaded Gasoline w/ 10% ethanol | slight edge lifting |
| Diesel Fuel | slight edge lifting |
| JP-4 Jet Fuel | slight edge lifting |
| JP-5 Jet Fuel | slight edge lifting |

Solvent resistance after 12-month immersion when applied to bonderized steel:

| | |
|-----------|-----------|
| TKS-Fluid | no effect |
|-----------|-----------|

Outdoor Exposure: After 9-years of South exposure at approximately N42° 06", W77° 59", no or negligible effect

Sunshine Carbon Arc Weatherometer Exposure Test: after 400-hours: no fading, chalking, dulling, yellowing, loss of adhesion, cracking, checking, blistering or peeling.

Xenon Weatherometer Exposure Test: after 3,000-hours: Avg color Delta E, <½ of 1%, Gloss change 0
after 6,000-hours: Avg color Delta E, <½ of 1%, Gloss change <5%
No cracking, crazing, blistering, peeling, mildew or other deterioration

| Revision |
|--|
| 0 Original document based on AMS-1005 rev 3, G Lewis |
| 1 Elongation to >300%, align with approved supply, G Lewis |

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