For **tough-as-nails protection** of your signs, labels, and overlays, go with Tuff-Cover laminate!

This industrial UV laminate not only preserves the color of your graphics up to 9 years with **double the UV-blocking power***, it resists the harshest of conditions and elements, including extreme weather and chemicals—even acid!

An 8 mil, velvet-textured laminate with a clear, permanent, pressure-sensitive adhesive, Tuff-Cover **works with either vinyl or polyester** base materials.

A favorite of military contractors, OEMs, and many others for its incredible durability.

Learn more about Tuff-Cover by visiting ShopGMS.com or calling 800-232-8018.

*Compared to other outdoor laminates.
# PRODUCT CHARACTERISTIC SHEET

**PLEASE READ BEFORE USING!**

Material: **TUFF COVER™ Outdoor UV laminate**

Part Nos: TCUV81350CV, and other size rolls

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### General Description:
Rigid clear film with an embossed velvet texture and a clear permanent acrylic adhesive. Use for over laminating. Outdoor testing of Tuff Cover™ in Arizona yielded excellent results for blocking UV damage and preserving printed colors. This film also exhibits excellent resistance to petroleum, cleaning agents, and cracking (flex-stress tests) under the stress of push-button overlay applications. The UV additives inherent in the product can migrate to the surface on rare occasion, and be visible as spots that can be wiped off with a dry cloth. We cannot accept returns if the product is rejected for that reason.

### Adhesive Properties:
Permanent UV inhibiting acrylic pressure sensitive adhesive that works on most surfaces including most vinyl and polyesters. It is not recommended for direct application to low energy surfaces.

### Tests performed | results:

<table>
<thead>
<tr>
<th>Ultimate Peel from</th>
<th>Average OZ/IN</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic</td>
<td>79</td>
<td>ASTM D 903 (Modified for 72 hour dwell time)</td>
</tr>
<tr>
<td>Glass</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Polypropylene</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

| Expected Shear     | 75            | ASTM D 3654 Method A |
| Room Temp (hours)  | a. 1 hrl dwell |
|                    | b. 1 sq. in. surface |
|                    | c. 4 lb. load    |

| Tack (gm/sq cm)    | 360           | ASTM D 2979 |

### Recommended Application Techniques:
Laminate with a cold pressure sensitive laminator or by hand. To much reverse tension (drag) on the laminate may cause curling in the finished product.

### GSP Software Settings:
Because this material is rigid, it may be better to assign “double or triple cuts” for easier cutting. To assign double or triple cuts in Gerber’s Omega software, select the cut line in your application, copy and paste it back. Do that twice to get three cuts. In more recent versions of Omega, you may select double cuts or multiple cuts in the settings dialog box in the Plot program. For envision cutter settings, in Gerber’s Plot program, go to cutter settings and set the Speed to 50, the Acceleration to 66, the Force to 50 for 3 cuts and 60 or more for 2 cuts, and Sharp Corners to 73. For best results, make some test cuts first, as the condition of your blade will make a difference.

**USE A 45° blade or 60° BLADE on any combination of material 8 mil or thicker.**

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### Thickness:
8.5 mil. film, plus 1.5 mil. of adhesive.

### Outdoor Life:
9+ years according to independent Outdoor & QUV tests

### Shelf Life:
9+ years stored at 70º F

### Service Temperature Range:
(-40º F to 175º F)

### Minimum Application Temp.:
50º F

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### Disclaimer:
All of the descriptive information listed above is our recommendation only. This information does not suggest or constitute a written or verbal warranty or guaranty of any kind by the manufacturer or distributor of this product. Although this material can be printed on with some solvent based printers, the surface characteristics of the material can change from roll to roll, and failure of optimal printing results are not a basis for returning the product. Purchasers of this product shall be responsible for independently determining the suitability of the material for the intended application. GMS0817 Graphic Marking Systems