



## TECHNICAL DATA SHEET - DIGITAL PRINTING - LAMINATE - PERMANENT ADHESIVE V 650 M

Film composed of a 3.15-mil (0.08-mm) calendered, monomeric PVC, which is coated with a pressure-sensitive acrylic adhesive. Suitable for cold lamination, matt surface finish. Mainly for use as a mechanical protection.

### FILM FEATURES:

|  | Indicative values                    |             |
|--|--------------------------------------|-------------|
| • Thickness:                             | 3.15 mil<br>0.08 mm                  |             |
|  | Average values                       | Standard    |
| • Tensile strength:                      | min. 7.75 lb./in.<br>min. 30 N/25 mm | HEXNFX4102I |
| • Elongation at break:                   | min. 80 %                            | HEXNFX4102I |
| • Shrinkage 168 hours at 158 °F (70 °C): | < 0.047 inch<br>< 1.2 mm             | HEXRET00I   |

### LINER:

- 54# silicone-coated paper with grey HEXIS print.
- Stable under hygrometric variations.

### ADHESIVE PROPERTIES:

(Measured average values at publication of the technical data sheet)

|                                   | Average values               | Standard  |
|-----------------------------------|------------------------------|-----------|
| Peel strength test 180° on glass: |                              | HEXFTM00I |
| after 20 minutes of application   | 3.76 lb./in.<br>17 N/25 mm   |           |
| after 24 hours of application     | 4.43 lb./in.<br>20 N/25 mm   |           |
| Initial tack                      | 4.20 lb./in.<br>19 N/25 mm   | HEXFTM009 |
| Release                           | 0.022 lb./in.<br>0.1 N/25 mm | HEXFTM003 |

- Resistance to solvents: the adhesive is resistant to most chemicals (alcohol, diluted acids, oils).

### ADHESIVE:

- Solvent-based acrylic adhesive.
- Immediate and permanent adhesion.

## **USER'S INSTRUCTIONS:**

- UV protection.
- Resistance against mechanical stress.
- Using this protective film also enables you to modify the product's visual aspect by providing it with a matt surface finish.
- Laminating the V880 or V890 film with the V650 laminate is strictly prohibited.
- When using this protective laminate for water-based inkjet prints, it must be applied with a 2-cm (0.79-in.) extra margin at the edges.
- Depending on the type of surface to be protected: when applied to paintworks or "non dry" inkjet prints, the V650 laminate may show signs of shrinkage. To avoid such alterations or for medium-term applications, we strongly recommend the use of our V700 laminate.
- Recommended application temperature: from +50 °F to +95 °F (from +10 °C to 35 °C).
- Operating temperature range: from -22 °F to +140 °F (from -30 °C to +60 °C).
- In the case of an already painted substrate, self-adhesive media must only be applied to undamaged original paintwork. If the paintwork is not original and/or damaged, the application and the removal are at the judgement and risk of the installer.

## **STORAGE:**

- Shelf life (before application):

The shelf life of this film is 1 year when stored upright in its original packaging in a dust-free environment at a temperature ranging from +59 °F to +77 °F (+15 °C to +25 °C) with relative humidity of 50 %.

## **DURABILITY:**

- Vertical outdoor exposure:

Without mechanical stress: Up to 2\* years.

With mechanical stress: depends on the type and frequency of the stresses.

\*Time during which the film retains a correct surface finish, from a conventional viewing distance. (A slight and gradual change in colour and gloss is a natural and inevitable phenomenon inherent in the natural breakdown of the materials).

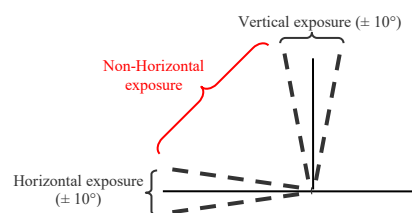
Note: The durability indicated in this document:

- concerns only the laminate and not the finished visual or graphic.
- is inherent to an upright position of  $\pm 10^\circ$  and to the product's geographical exposure position. Any other position accentuates climatic influences and an alteration in gloss or colour, or even a slight dusting may appear. Southern exposure, with a 45° inclination may divide the durability of the film by 2, and horizontal exposure by 2.8. Application to the vehicle bonnet is particularly severe, due to the horizontal exposure and the heat from the engine.
- is confirmed by UV ageing tests and vertical natural outdoor weathering.

- Vertical indoor exposure: up to 3 years (for surfaces or areas subject to moderate handling or visitor frequency).

*A film applied to surfaces exposed to mechanical stress will be subject to repeated abrasion that will reduce more or less rapidly its lifespan (change of appearance, peeling off, etc.).*

*To find the indicative durabilities of the films for any other exposure and geographical area, please refer to the "Conversion rules for indicative durabilities according to geographical area" chart available under Durability, on the "Professionals" pages on our site [www.hexis-graphics.com](http://www.hexis-graphics.com)*



## **NOTES:**

Due to the great variety of substrates and the growing number of new applications, the installer must check the suitability of the medium for each application. The measuring methods for the standards quoted above served as the basis for the development of our own measuring methods, which are available on request. Please feel free to contact us to get the latest instructions in use. All of the published information is based on measurements regularly performed in the laboratory. The published information does not however constitute a binding guarantee. The seller cannot be held liable for indirectly related damages and assumes no liability for claims that are higher than the replacement value of the purchased product. All specifications are subject to potential changes without prior notice. Our specifications are automatically updated on our website [www.hexis-graphics.com](http://www.hexis-graphics.com).