



## TECHNICAL DATA SHEET - WRAPPING

### HX3000 Series

Range of products consisting of a 70- $\mu\text{m}$  to 280- $\mu\text{m}$  (upon reference), very high-performance, multi-layered, cast film, which is coated with a pressure-sensitive, solvent-based acrylic adhesive. Structured adhesive for faster application and air evacuation. Specially designed for full vehicle wraps and heavily deformed surfaces\*. Gloss, matt, super matt or structured surface finish.

\* *HX30CHSBRB is intended for use on flat or slightly curved surfaces:*

#### **FILM FEATURES:**

##### Indicative values

• Thickness ( $\mu\text{m}$ ):		
• Honeycomb effect (HX30HC889S):	150	
• Forged carbon effect (HX30CAF89S):	140	
• Other carbon effects (HX30CA000B):	150 to 180 $\mu\text{m}$ (upon colour)	
• Alligator-skin effect HX30AL000B:	160 to 210 $\mu\text{m}$ (upon colour)	
• Small grain leather effect (HX30PG00B):	210	
• Brushed aluminium effect (HX30BA000B):	130	
• Silver mirror finish (HX30CHSBRB):	70	
• Matt & super matt:	100 to 110 $\mu\text{m}$ (upon colour)	
• Variochrome & Rainbow:	110	
• Pearly iridescent:	110 to 165 $\mu\text{m}$ (upon colour)	
	<u>Average values</u>	<u>Standard</u>
• Tensile strength (N/25 mm):	min. 15	HEXNFX41021
• Elongation at break (%):		
• Structured surface effects (carbon, alligator-skin, leather, honeycomb, brushed aluminium, etc.) and HX30CHSBRB:	min. 50	HEXNFX41021
• Other references:	min. 90	HEXNFX41021
• Shrinkage 168 hours at 70 °C (158 °F) (mm):	< 0.5	HEXRET001

#### **LINER:**

- Embossed and silicone-coated liner.
- Stable under hygrometric variations.

**ADHESIVE PROPERTIES:**

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

(N/25 mm)	<b>HX30CAF89S</b> (forged carbon effect)	<b>HX30HC889S</b> (honeycomb effect)	<b>HX30CA000</b> (carbon effect)	<b>HX30AL000B</b> (alligator-skin effect)	<b>HX30PG000B</b> (small grain leather effect)	<b>HX30BA000B</b> (brushed aluminium effect)	<b>HX30CHSBRB</b> (silver mirror finish)	<b>Other references</b> (mat, varichrome, pearly iridescent, rainbow)	Standard
Peel strength test 180° on glass – after 20 minutes of application:	16	17	11	14	11	16	7	16	HEXFTM001
Peel strength test 180° on glass – after 24 hours of application:	22	21	14	22	15	20	10	19	
Initial tack	19	23	17	22	17	18	9	17	HEXFTM009
Release	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	HEXFTM003

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

**ADHESIVE:**

- Solvent-based acrylic adhesive.
- Structured adhesive for faster application and air evacuation.
- Immediate and permanent adhesion, optimal after 24 hours of contact.
- Dry application.

**USER'S INSTRUCTIONS:**

- Minimum recommended application temperature: +18 °C (+64 °F). Apply preferably between +20 °C and +25 °C (+68 °F and +77 °F).
- Operating temperature range: from -40 °C to +90 °C (-40 °F to +194 °F).
- Conformable product, suitable for devices on wheels and vehicles only.
- The HX30000 films with structured surfaces (carbon, alligator, leather, honeycomb, etc.) are fragile products. The heating and re-heating steps following application require particular attention. Heating phases that are too long or too focused may lead to the film tearing off.
- During removal, the structured products tend to tear off along the pattern of the structure.
- The carbon effect HX30HX30CAF89S and HX30CA000 films (except HX30CA890B) as well as HX30HC889S with honeycomb effect are fragile and sensitive to scratching or marking. To be handled with care.
- Films with matt (or super matt) surface finishes are fragile products, sensitive to scratching and marking. To be handled with care. If any traces remain after application, they can be reduced by slightly heating (max. 90 °C / 194 °F) the surface with a heat gun.
- For certain structured effects (alligator-skin, leather) the repetition of the pattern may create the impression of a grid pattern, particularly if the product is applied to large surfaces.

- Due to their particular structure, certain films of this range (structured effects, matt or super matt films) may show dirt more easily than a smooth PVC film. This type of film may require more frequent and/or more thorough cleaning. Cleaning can be difficult for films exposed to a particularly dirty environment (e.g. race cars, rally cars, etc.).
- The **HX30CHSBRB** (silver mirror) represents a technical product requiring particular attention during application:
  - Handle the film on its liner with great care:
    - Do not fold the film as long as it is still in contact with its liner. Any foldings will result in slight marks on the film that cannot be removed later. Once the film is peeled off from the liner, it can be folded without any risk of damage.
    - Do not wind up the film too tightly (e.g. do not roll up without using a core) as this may result in tunnelling and liner lifting from the film, as well as irreversible film marking.
  - The HX30CHSBRB film is stiffer than the other products of the HX30000 range and therefore requires more strength for the same deformation. Wrapping large-size surfaces may require the intervention of two operators and a longer application time than other products of the HX30000 range.
  - Be careful not to exceed the limits of the product: the HX30CHSBRB can undergo a slight and irreversible alteration of its appearance (whitening, loss of gloss) if the film is stretched / deformed beyond its limits.
  - Due to its mirror finish, the HX30CHSBRB stores heat rapidly and for a long time. The temperature rise of the film during the application with a heat gun is faster and longer lasting than in the case of the other products of the HX30000 series. This feature must be taken into account during installation. Be careful of the film to avoid burning yourself.
  - If any bubbles appear during application, do not pierce them, otherwise the film can be permanently damaged!
  - For a perfect finish and an authentic mirror aspect, clean the film surface with the *Laser Wash* cleaner. Caution: do not clean the film within the 24 hours following its application.
- Due to their structure, the metallised and glossy pearly iridescent and rainbow films will slightly fade when stretched. In order to obtain a uniform appearance and therefore avoid demarcations, it is necessary to heat slightly (+40 °C / +104 °F) and stretch the entire film during application.
- Due to their composition, the pearly iridescent and rainbow films are fragile. After heating the film, it is imperative to wait for at least 3 seconds before applying it (using a squeegee and gloves...). A shorter waiting time might considerably increase the risk of delamination of the upper film layer. In the case of film overlapping, the removal or repositioning of the top film must be carried out with caution in order to prevent delamination of the upper layer of the bottom film (particularly at the film edges).
- 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.

*Note: To ensure optimum opacity, the films of the HX30000 range contain a high concentration of pigments. In certain cases, when cleaning the film, coloured traces may appear on the cleaning cloths. This action removes excess pigment from the film surface. This operation will not impair in any way the appearance or durability of the films. This effect may be intensified when using cleaning products containing solvents.*

## **OPERATING RECOMMENDATIONS:**

- Recommendation (whenever possible): Sunlight and prolonged exposure to weathering and pollution may provoke ageing of the film<sup>(1)</sup>. A vehicle wrapped with HX30000 film must be protected from sun and bad weather (rain, dew...) as often as possible: during the day, park in the shade; at night, park the car in a closed garage (otherwise, cover the vehicle with a loose protective cover).
- The colour of the films is controlled by HEXIS in order to ensure faithful reproduction of their colour tints. Nevertheless, in the case that your project requires the use of several rolls of the same colour reference, HEXIS recommend using only a single batch number of each reference.
- For more information on the application method of the HX30000 range, please refer to the Application Guide on the "Professionals" pages, category "Wrap vinyls", on our site [www.hexis-graphics.com](http://www.hexis-graphics.com).

## **STORAGE:**

- Shelf life (before use):

The shelf life of this film is 2 years when stored unopened in its original packaging at a temperature ranging from +15 °C to +25 °C (+59 °F to +77 °F) with relative humidity between 30 % and 70 %.

## **INDICATIVE DURABILITIES:**

- The pigmentation (colour) of the PVC affects the stability duration of the dyes. An estimate of such a durability is confirmed by accelerated UV ageing tests performed on the cast HX30000 films and by natural outdoor weathering.
- This durability does not cover any alteration arising from scratches or contamination of the product occurring during the application or life cycle of the product.

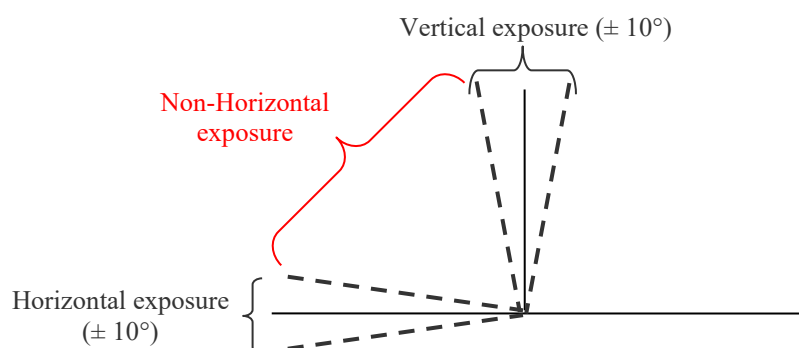
<b>Dominant colour</b>		<b>Max. indicative durability (years)<sup>(2)</sup> Vertical exposure (± 10°) Central European climate</b>
Range 1:	Matt white, black Colours, other matt tints	5
	Variochrome Pearly iridescent: HX30BNCB, HX30JIMB/M, HX30OPAB/M, HX30RGOB/M, HX30VBOB/M, HX30BNEB/M, HX30BDMB/M, HX30GDPB/M Rainbow: HX30RW889B, HX30RW002B, HX30RW990B	2
Range 2:	Carbon effect HX30CAF89S and HX30CA000B (except gold and silver) Alligator-skin, leather, honeycomb effect	5
	Brushed aluminium HX30BA000B	3
	Chrome HX30CHSBRB	0.5

**Chart I:** Vertical durabilities<sup>(1)</sup> Central Europe

- The results indicated below are obtained specifically in vertical ( $\pm 10^\circ$ ) outdoor exposure. The conditions of durability indicated in Chart 1 are inherent to this position up to a few degrees. Other positions accentuate climatic influences and an alteration in gloss or colour, or even a slight dusting may appear. Application to the vehicle bonnet is particularly severe, due to the horizontal exposure and the heat from the engine.
- To estimate the durabilities for non-vertical exposure, divide the durabilities in Chart 1 by the factors given in Chart 2.

Exposure	Dividing factor <sup>(2)</sup>
	Central European climate
Non-vertical exposure	2
Horizontal exposure ( $\pm 10^\circ$ )	2.8

Chart 2: Dividing factor



- The real durability of a product depends on a large number of parameters, including, among others, the quality and preparation of the substrate, exposure (environment, climate, exposure angle), graphics maintenance, and degree of pollution.

To find the indicative durabilities of the films for the country of exposure, 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:

(1) If an important degradation of the film (due to prolonged exposure to sunlight, weathering, polluting agents) appears (discolouration, powdering, tanning...), it must be immediately removed from the vehicle in order to avoid any damage to the underlying paintwork.

(2) The indications of durability noted in this document do not constitute a binding guarantee. They are an estimate of the 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.

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 the published information is based on measurements regularly performed in the laboratory. It 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).