



# THE I90EVO

Film composed of 50- $\mu$ m cast PVC, which is coated with a pressure-sensitive acrylic adhesive. Micro-structured adhesive for faster application and air evacuation. For solvent, eco-solvent, latex and UV inkjet printing. It has a glossy surface finish.

## FILM FEATURES:

	<u>Indicative values</u>	
• Thickness ( $\mu$ m):	50	
• Total thickness of the product ( $\mu$ m):	235	<u>Standard</u>
		HEXGSM001
		<u>Average values</u>
• Total weight of the product ( $\text{g/m}^2$ ):	240	HEXNFX41021
• Tensile strength (N/25 mm):	min. 15	HEXNFX41021
• Elongation at break (%):	min. 70	HEXRET001
• Shrinkage 168 hours at 70 °C (158 °F) (mm):	< 0.3	HEXOPA001
• Opacity (%):	> 99.5	

## GENERAL PRINTER COMPATIBILITES:

	Solvent	Eco-solvent	Latex	UV
<b>THE I90EVO</b>	✓	✓	✓	✓

## LINER:

- Silicone-coated and embossed PE paper 160  $\text{g/m}^2$ .
- Stable under hygrometric variations.

## ADHESIVE PROPERTIES:

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

	<u>Average values</u>	<u>Standard</u>
• Peel strength test 180° on glass (N/25 mm):		HEXFTM001
after 20 minutes of application	10	
after 24 hours of application	12	
• Initial tack (N/25 mm):	5	HEXFTM009
• Release (N/25 mm):	0.2	HEXFTM003
• Resistance to solvents: the adhesive is resistant to most chemicals (alcohol, diluted acids, oils).		

**ADHESIVE:**

- Solvent-based acrylic adhesive.
- Grey colour of the adhesive-coated side: homogenous.
- Structured adhesive for faster application and air evacuation.
- Immediate and permanent adhesion, optimal after 24 hours of contact.

**USER'S INSTRUCTIONS:**

- Touch-dry after less than 10 minutes depending on printer used.
- Recommended minimum application temperature: +10 °C (+50 °F).
- Operating temperature range (outdoors): -40 °C to +90 °C (-40 °F to +194 °F).
- Dry application method.

*It is mandatory to use the so-called "dry" application method with the THE190EVO film, due to its TAKE HEAT EASY liner. This technology means you can very easily reposition the film on the substrate during application, while not excluding the squeegeeing step for optimal adhesion of the film to the substrate.*

- Conformable product, particularly suitable for vehicles.
- Adhesion to glass, steel, aluminium, PVC, melamine, etc. except grain substrates or substrates coated with acrylic paint.
- In the case of painted substrates, 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.

**OPERATING RECOMMENDATIONS:**

- Optimal drying time for the inks before laminating or further processing is 48 hours minimum.
- The surface finish of your printings may be modified/improved/protected by applying the PCI90 laminate. Other laminates are also compatible (PC500, structured laminates, etc.).
- For more information on the application method of the THE190EVO film, please refer to the Application Guide on the "Professionals" pages, category "Digital printing media" on our site [www.hexis-graphics.com](http://www.hexis-graphics.com).

**STORAGE:**

- Shelf life (before application):

The shelf life of this film is 1 year when stored in its unopened original packaging at a temperature ranging from 15 °C to 25 °C (+59 °F to +77 °F) with relative humidity between 30 % and 70 %.

**DURABILITY:** (Central European climate)

- Vertical outdoor exposure:  
Unprinted: 10 years.  
Printed and laminated:
  - PC500: 5 years;
  - PC190: 4 years.
- Printed: 2 years.

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).

**INDICATIVE DURABILITIES:**

The indicative durabilities<sup>(1)</sup> specified on the technical data sheets of the PLOTTER, WRAPPING, DIGITAL PRINTING and PROTECTION FILMS FOR VEHICLES ranges are given for unmodified and unprocessed HEXIS films, for a vertical exposure ( $\pm 10^\circ$ ) in a central European climate (i.e. geographical area 1). The conditions of durability 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.

The chart below presents the conversion factors that enable the estimation of the durability<sup>(1)</sup> for a different exposure and/or geographical area.

	Area 1 Vertical	Area 1 Non vertical	Area 1 Horizontal	Area 2 Vertical	Area 2 Non vertical	Area 2 Horizontal	Area 3 Vertical	Area 3 Non vertical	Area 3 Horizontal
Calculation of indicative durabilities <sup>(1)</sup>	Indicative durabilities as on technical data sheets (id1)	id1 * 0.50	id1 * 0.35	id1 * 0.65	id1 * 0.35	id1 * 0.15	id1 * 0.35	id1 * 0.15	id1 * 0.10

**Definition of climate zones:****Geographical area 1:**

Andorra, Armenia, Austria, Azerbaijan, Belorussia, Belgium, Bosnia-Herzegovina, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, metropolitan France, Georgia, Germany, Greenland, Hungary, Iceland, Ireland, Italy (north of Rome), Kazakhstan, Latvia, Lichtenstein, Lithuania, Luxembourg, Moldova, Montenegro, Norway, the Netherlands, Poland, Romania, United Kingdom, Russia, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Ukraine, USA (except states listed in area 2).

**Geographical area 2:**

Afghanistan, Albania, Argentina, Australia (southern States), Bahamas, Barbados, Belize, Bangladesh, Bhutan, Burma, Bolivia, Brazil, Bulgaria, Cambodia, Cape Verde, Caribbean islands, Chile, China, Cooperative Republic of Guyana, Cuba, Cyprus, Colombia, Costa Rica, Crete, Ecuador, El Salvador, Fiji, French West Indies (Guadeloupe, Martinique...), Greece, Guatemala, Guyana, Haiti, Honduras, India, Indonesia, Italy (south of Rome), Jamaica, Japan, Kyrgyzstan, Korea, Laos, Lesotho, Macedonia, Malaysia, Maldives, Malta, Mongolia, Nepal, Nicaragua, New Zealand, Pakistan, Panama, Papua-New-Guinea, Paraguay, Peru, Philippines, Polynesia, Porto Rico, Portugal, Dominican Republic, Sardinia, Singapore, South Africa, Spain, Sri Lanka, Surinam, Swaziland, Syria, Tajikistan, Taiwan, Thailand, East Timor, Turkey, Turkmenistan, Uruguay, USA (Arizona, California, Florida, Nevada, New Mexico, Texas, Utah), Uzbekistan, Venezuela, Vietnam, West Indies.

**Geographical area 3:**

Algeria, Angola, Australia (northern and desert states), Bahrain, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Iraq, Iran, Israel, Ivory Coast, Jordan, Kenya, Kuwait, Lebanon, Liberia, Libya, Madagascar, Malawi, Mali, Morocco, Mauritius, Mauritania, Mexico, Mozambique, Namibia, Niger, Nigeria, Oman, Palestine, Qatar, Reunion Island, Rwanda, Senegal, Saudi Arabia, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Tunisia, Uganda, United Arab Emirates, Western Sahara, Yemen, Zambia, Zimbabwe.

All desert areas.

Areas at altitudes above 1000 m (3300 ft.).

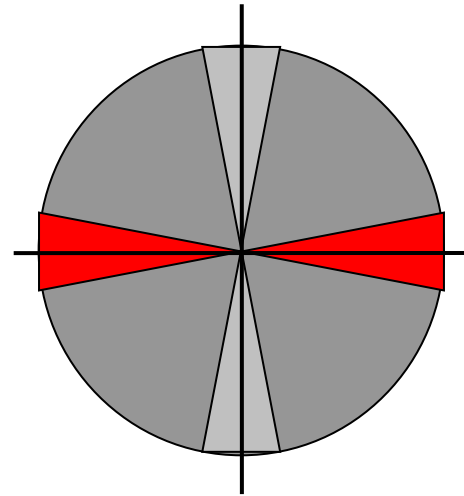
**NOTES:**

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).



**GENERAL CONVERSION RULES FOR INDICATIVE DURABILITIES ACCORDING TO GEOGRAPHICAL AREA  
PLOTTER, WRAPPING, DIGITAL PRINTING AND PROTECTION  
FILMS FOR VEHICLES**

Vertical exposure:	± 10° from vertical
Non-vertical exposure:	11 to 79° from vertical
Horizontal exposure:	80 to 90° from vertical



- 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 and angle), graphics maintenance, degree of pollution, printing technology and quality of the inks used for the digital printing films.
- Recommendation (*whenever possible*): Sunlight and prolonged exposure to weathering and pollution may provoke ageing of the film<sup>(2)</sup>. A wrapped vehicle 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).

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. 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).

**NOTES:**

(1) 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.

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

