

Graphic Solutions

Vehicle Wrapping



Engineered to Achieve Perfection™



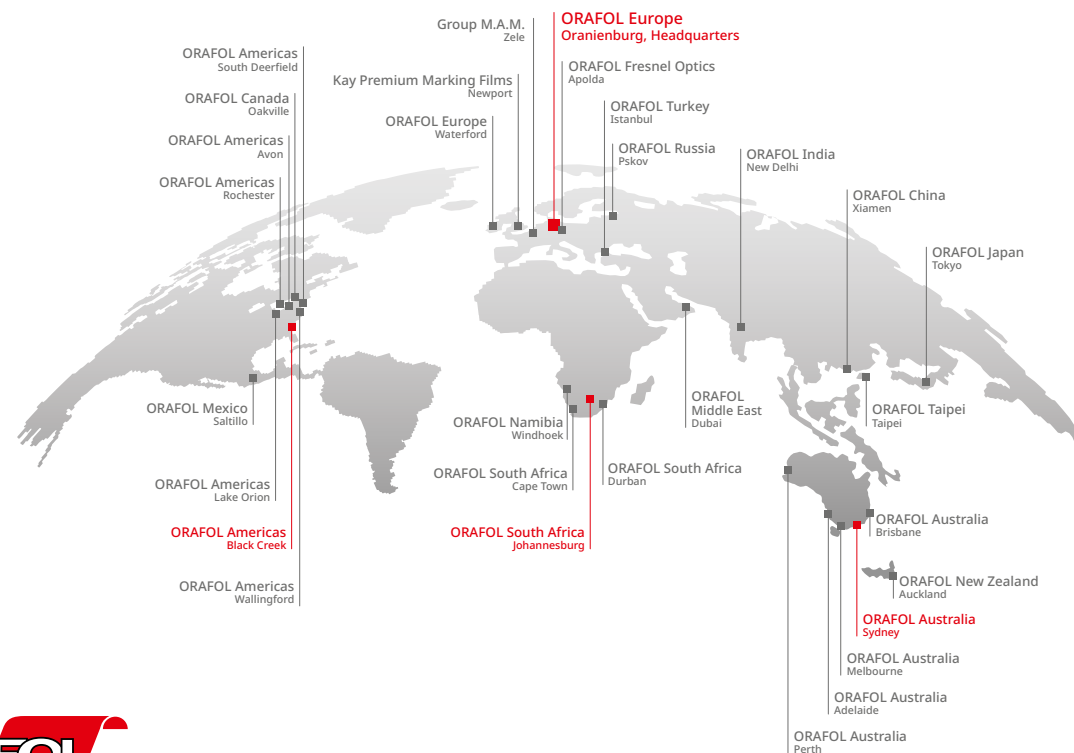


ORAFOL Europe GmbH

Headquarters and production facility

ORAFOL is one of the world's leading manufacturers of innovative self-adhesive graphic films, reflective materials and adhesive tape systems. The international ORAFOL Group is headquartered just outside the city gates of Berlin, in Oranienburg.

ORAFOL's Worldwide Locations



Vehicle Wrapping

ORAFOL offers the market's largest range of high quality vehicle wrap films. Explore the range and unleash your creativity.

Made in Germany.

- 4 **Solid Colours – ORACAL® 970RA/970RA+**
- 4 Premium Wrapping Cast/*RapidAir®*/*ProSlide*
- 4 Premium Shift Effect Cast/*RapidAir®*
- 4 Premium Special Effect Cast/*RapidAir®*
- 5 Premium Structure Cast/*RapidAir®*
- 6 **Glitter Metallic Films**
- 6 ORACAL® 851 – Sparkling Glitter Metallic Cast
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For full product details, Technical Data Sheets, Application Guidelines, Maintenance and Usage Terms as well as for up-to-date information, please refer to our website where they can be downloaded: www.orafol.com

Solid Colours

ORACAL® 970RA/970RA+

Premium Wrapping Cast

ORACAL® 970 Premium Wrapping Cast series is your ideal wrapping film for solid coloured fleet and motor sport vehicle wraps. Exceptional dimensional stability and conformability over curved surfaces, rivets and corrugations. The material does not require an overlamine.

Product benefits include:

- Multi-layered, high-performance cast PVC film (110 micron)
- Glossy and matt colours available
- Super matt available in black
- Large range of metallic colours
- Excellent dimensional stability and gloss retention
- Solvent based polyacrylate adhesive
- Repositionable with permanent final adhesion.

RA product benefits also include:

- The *RapidAir*® technology allows a rapid and bubble-free application and thus requires less application time and cost.

RA+ product benefits also include:

- *ProSlide* technology for extra easy repositioning.

Note: The product should be worked in, cut and applied with an overlap at the edge, for more curved surfaces, or for corrugations and rivets.

Premium Shift Effect Cast

The exciting variation of the classic ORACAL® 970 series – with a colour shifting effect depending on which angle you view the material from.

Product benefits include:

- Unique shade shifting effect where the colour changes depending on viewing angle
- Multi-layered cast PVC film (110 micron)
- Glossy and matt colours available
- All the same product benefits as the classic ORACAL® 970 series above.



Premium Special Effect Cast

Glamorous version of the classic ORACAL® 970 series – with a unique shimmer effect.

Product benefits also include:

- Unique glitter effect
- Multi-layered cast PVC film (110 micron)
- Glossy and matt colours available
- All the same product benefits as the classic ORACAL® 970 series above.

RA product benefits also include:

- The *RapidAir*® technology allows a rapid and bubble-free application and thus requires less application time and cost

Note: The product should be worked in, cut and applied with an overlap at the edge, for more curved surfaces, or for corrugations and rivets.



Premium Structure Cast

ORACAL® 970 Premium Structure Cast is your ideal film for surface refinement in car design, especially for highlighting vehicle parts. It is the perfect tuning film.

Product benefits include:

- Multi-layered Cast PVC (150 micron)
- Five structured optics
- Several colours in each structure
- High dimensional stability and maintenance of surface finish
- For uneven and arched surfaces
- Solvent based polyacrylate adhesive
- Repositionable with permanent final adhesion.



Product	Structure	Colours
ORACAL® 970CA	Carbon	Transparent, White, Black*, Silver grey, Gold, Anthracite, Geranium red, Middle blue
ORACAL® 970HC	Honeycomb	Black, Silver grey, Gold, Deep blue metallic
ORACAL® 970CO	Cocoon	Black
ORACAL® 970BR	Brushed	Silver grey, Gold, Graphite metallic, Tin metallic





Digital Printing Films

Premium Digital Printing Cast PVC – with *ProSlide* and *RapidAir*® technologies

ORAJET® 3951RA+ *ProSlide*

ORAJET® 3951RA+ *ProSlide* Premium Digital Printing Cast PVC is the new and upgraded car wrapping option for printed full wraps. The *RapidAir*® technology makes application even easier! **The new *ProSlide* technology enables an easy and quick application due to its improved repositionability.**

Product benefits include:

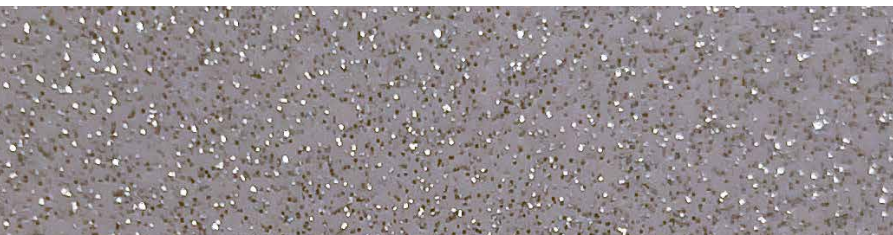
- Premium Cast PVC film (55 micron)
- Available in white with a glossy surface
- Inkjet printing with solvent based inks, UV- or latex inks
- Extreme durability and brilliancy
- Solvent based grey-coloured polyacrylate adhesive
- Repositionable with permanent final adhesion
- Laminating film:
We recommend ORAGUARD® 293/293F/290/290F

Glitter Metallic Films

ORACAL® 851

Sparkling **Glitter Metallic** Cast

Sparkling Glitter Metallic Cast PVC film for plotter applications with optimal cutting and application characteristics. Specially developed for lettering, marking and decoration. Surface has a high glossy finish. Available in 18 mesmerizing, high gloss – glitter metallic colours, including Crystal Clear Sparkle (986) transparent that can be laminated to the surface of any standard ORACAL® 631, 641, 651, 751, or 951 plotter film colour to create a vibrant custom Sparkling Glitter Metallic colour.



ORAJET® 3951

The ORAJET® 3951 series is your ideal wrapping film for printed, full coverage fleet and motor sport vehicle wraps.

Product benefits include:

- Premium cast PVC film (55 micron)
- Available in white and transparent with a glossy surface
- Inkjet printing with solvent based inks, UV- or latex inks
- Extreme durability and dimensional stability in corrugations and on rivets
- Solvent based polyacrylate adhesive
- Repositionable with permanent final adhesion.
- Lamination film:
We recommend ORAGUARD® 293/293F/290/290F/290DU/289F



Laminating Films

To ensure the long-term durability of your printed ORAJET® car wrapping films, we recommend lamination with the ORAGUARD® Series.

ORAGUARD® 289F

Premium PVC- and plasticizer-free high performance film available with glossy surface, and with the highest level of UV-protection.

Product benefits include:

- Premium PVC- and plasticiser-free high-performance film (50 micron)
 - For the protection of large-format indoor and outdoor
- graphic applications
 - Solvent based polyacrylate adhesive
 - Highly recommended for use in combination with the PVC- and plasticiser-free ORAJET® 3981RA+ ProSlide.

ORAGUARD® 293/293F

Ultra flexible transparent Premium Cast PVC film with glossy surface and highest level of UV protection

Product benefits include:

- Premium Cast PVC film (30 micron)
 - Transparent with a glossy or matt finish (293F – glossy finish only)
 - Excellent conformability to rivets and corrugations
- For long-term outdoor applications
 - Solvent based polyacrylate adhesive
 - Release liner 293: Silicone paper
 - Release liner 293F: Polyester film

ORAGUARD® 290/290F

Premium Cast PVC film available with both glossy and matt surfaces, and with the highest level of UV protection.

Product benefits include:

- Cast PVC film (50 micron)
 - Protection of digitally printed large format graphics in indoor and outdoor applications
- Solvent based polyacrylate adhesive
 - Release liner 290: Silicone paper
 - Release liner 290F: Polyester film

ORAGUARD® 279

Premium high performance PU film with a glossy or silk glossy surface and the highest level of UV protection.

Product benefits:

- Premium high performance polyurethane laminating film (50 micron)
 - Solvent polyacrylate, permanent, transparent
- For the protection of large-format indoor and outdoor graphic applications

"The German quality does not fail to shine through in the ORAFOL range of car wrapping materials. With more than 20 years of industry experience, I can honestly say that if you are looking for the best wrapping materials, you have come to the right place in ORAFOL."

Manfred Hunold – Car Wrapping Expert



Paint Protection Films

The ORAGUARD® Paint Protection Series is the ideal choice for the paint protection of flat or moderately curved surfaces, where more rugged protection is required. This series is the ideal protection of vehicle body parts against stone chipping and other mechanical forces.

With the ORAGUARD® films, you get a long-term paint protection of your car, that will enable your car to go through daily use for years and keep on looking great!

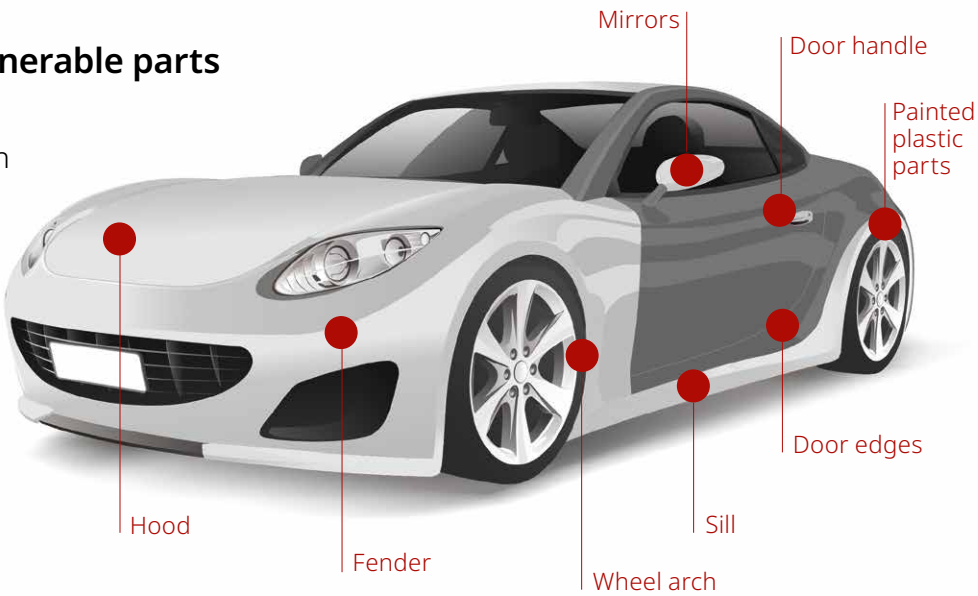
- Preserves the value of your car
- Protects your car varnish against stone-chip or gravel damage, scratches and general debris (e.g. bird droppings, bug splatters)
- Protects your car against outdoor pollution
- Anti-corrosion
- Invisible protection

Criteria	ORAGUARD® 2815GF+	ORAGUARD® 2815MF+	ORAGUARD® 2815GF	ORAGUARD® 270	ORAGUARD® 285F
Base Material	Polyurethan	Polyurethan	Polyurethan	PVC	Polyurethan
Thickness	160µm	160µm	160µm	150µm	50µm
Stone-chip Protection	Best	Best	Best	Better	Good
Chemical Resistance	Highest	Highest	Highest	High	High
Stretchablility	Best	Best	Best	Good	Best
Stain Retention	Excellent with super-hydrophobic surface	Excellent with super-hydrophobic surface	Excellent	Good	Good
Gloss Level	Highest	Matte	Highest	High	High
Self-healing Properties	Best	Best	Best	Good	Better
Surface Finish	Gloss	Matte	Gloss	Gloss	Gloss
Service Life*	10 years	10 years	10 years	5 years	5 years

* Service life by specialist application under vertical outdoor exposure (standard central European climate)

Protect the most vulnerable parts of your car

Typical areas of application

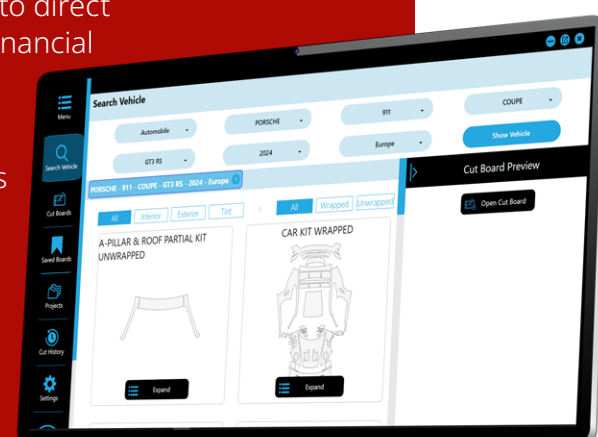


Additional service:

Cutting software for paint protection films

Cutting software enables the precise cutting of paint protection films (PPF) and optimises the entire processing procedure. The combination of ORAFOL films and cutting software ensures precise, economical and efficient processing. The intuitive operation and regular updates make it the ideal solution for professional use. A comprehensive vehicle database with over 23,000 PPF kits for more than 77 car manufacturers ensures maximum flexibility. If a model is missing, it will be added within 48 to 72 hours.

- **Precision and efficiency:** The software reduces reworking, minimises material consumption and saves time and costs. The use of pre-cut film blanks avoids cuts directly on the vehicle, prevents damage and makes processing easier.
- **Cost advantage:** ORAFOL customers save compared to direct registration. An annual subscription with additional financial benefits is also available.
- **Flexible application:** From front protection to complete wrapping - the wide range of PPF kits offers solutions for every requirement.
- **Free trial version and support:** A 14-day trial version is available after registration. A 24/7 support service guarantees quick help with questions.



Interested? Please contact us at graphic.solutions@orafol.de.

Cleaning, Care and Application

ORAFOL® Cleaning and Care Products

The best choice for wrapped vehicles

ORAFOL® Cleaning and Care agents have been specifically developed for the surface treatment of cars wrapped with ORAFOL® car wrapping films. All the products in the range have been engineered to enable consistent, excellent results.

With ORAFOL® cleaning and care agents, you can be sure that you are always working with professional cleaning and care treatment for your vehicle.

ORAFOL® Pre-Wrap Surface Cleaner

For the professional car wrapper



Special cleaner for professional car wrapping. The product effectively degreases and removes cleaning agent residues prior to the application of wrapping films.

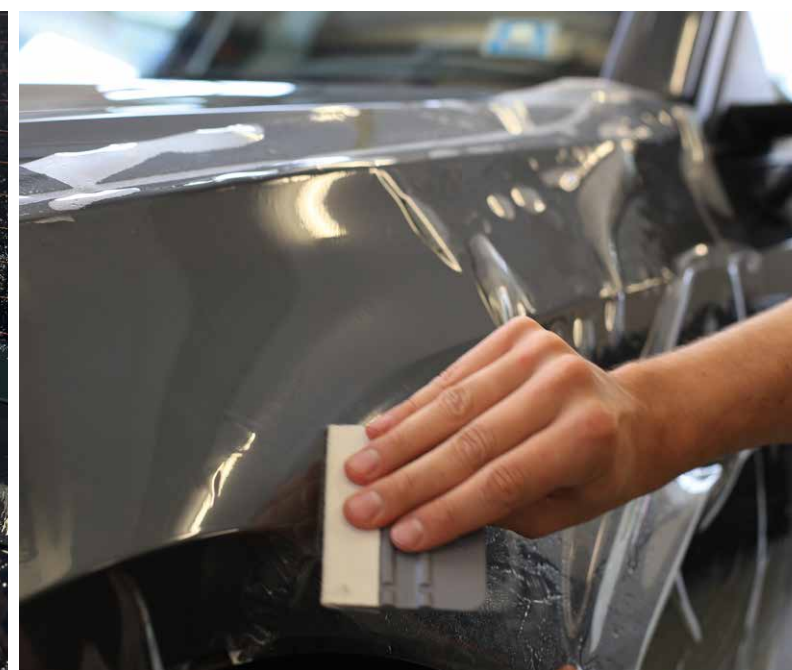
The product is supplied in 1 liter bottles or in a 5 liter canister. We recommend the 5 liter version, as this is a more environmentally friendly solution due to less packaging used. After use, the plastic canister may be disposed of according to local recycling systems.

ORAFOL® Application Gel



With the **ORAFOL® Application Gel**, installation of car wrapping films is easier than ever before. The gel will provide an initial bond to the surface while simultaneously maintaining good slip/floating properties and repositionability of the film. Adhesion will build up smoothly, reducing the risk of lift-lines and air entrapments.

- **For graphic films that require wet application**
- **Can be diluted as desired**
- **Prolonged slip-behaviour**
- **No dripping during vertical or over-head jobs**
- **No premature drying**
- **Dries off invisible and residue free**
- **Can be applied with a spray bottle**
- **The gel comes in 1000 ml bottles**



Product Overview – Vehicle Wrapping Materials

Product	Short name	Front material	Colours/surfaces Gloss (G), Matt (M)	Adhesive	Covering material	Area of use	Adhesive power (FINAT-TM 1) N / 25 mm (average) ①	Minimum application temperature	Temperature resistance no variation ②	Service life in years for application onto vehicles ③	Standard sizes of rolls on 3" cores	
											Widths (mm)	Lengths (m)
ORACAL® 970RA <i>RapidAir®</i>	Premium Wrapping Cast Shift Effect Special Effect Structure	Multilayer Cast PVC film 110 micron	glossy, matte and textured	Solvent polyacrylate, <i>RapidAir®</i> adhesive, repositionable, permanent	PE-coated <i>RapidAir®</i> silicone paper 145 g/m²	Developed for complete car wrapping. The <i>RapidAir®</i> technology enables easy and quick application, without air inclusion.	16	+15° C	-50° C to +120° C	Black, white 12 years Coloured: 10 years Metallic: 5 years selected colours: 3 years	1520	25 50
ORACAL® 970RA+ <i>RapidAir® ProSlide</i>	Premium Wrapping Cast Shift Effect Special Effect	Multilayer Cast PVC film 110 micron	glossy, matte	Solvent polyacrylate, <i>RapidAir®</i> adhesive, repositionable, permanent, transparent	Double sided PE-coated <i>RapidAir®</i> <i>ProSlide</i> paper, one side silico- nized, 158 g/m²	Developed for complete car wrapping. The <i>RapidAir®</i> technology enables easy and quick applica- tion, without air inclusion. The new <i>ProSlide</i> technology enables an easy and quick application due to its improved repositionability.	12	+15° C	-50° C to +120° C	Black, white 12 years Coloured: 10 years Metallic: 5 years selected colours: 3 years	1520	25 50
ORACAL® 851	Sparkling Glitter Metallic Cast	Cast PVC film transparent: 75 micron colours: 100 micron	glossy, colours and transparent	Solvent polyacrylate, permanent	Silicone coated paper on one side, 137 g/m²	Developed for car wrapping and decorative lettering	18	+8° C	-50° C to +110° C	5 years	1220	50



	Product	Front material	Colours/surfaces Gloss (G), Matt (M)	Adhesive	Covering material	Area of use	Adhesive power (FINAT-TM 1) N / 25 mm (average) ①	Minimum application temperature	Temperature resistance no variation ②	Service life in years for application onto vehicles ③	ORAGUARD® Laminating films				
											293/ 293F*	289F	290/ 290F*	290DU	279G/ SG
For solvent based inkjet printing, UV- or latex inks	Premium Digital Printing Cast PVC ORAJET® 3951RA+ <i>ProSlide RapidAir®</i>	Premium Cast PVC film 55 micron	White (G)	Solvent polyacrylate, repositionable with permanent final adhesion, grey	PE coated <i>RapidAir® ProSlide</i> silicone paper 158 g/m²	Developed for complete car wrapping. The <i>RapidAir®</i> technology enables easy and quick application, without air inclusion. The new <i>ProSlide</i> technology enables an easy and quick application due to its improved repositionability.	14	+8° C	-50° C to +100° C	10 years	★	★	★		★
	ORAJET® 3951	Premium Cast PVC film 55 micron	White (G) Transparent (G)	Solvent polyacrylate, repositionable, permanent, White film: grey Transp. film: transp.	PE-coated silicone paper 143 g/m²	Developed for complete car wrapping with printed designs.	18	+8° C	-50° C to +100° C	White: 10 years Transp.: 8 years	★	★	★	★	★

*) ORAGUARD® 290F and 293F are covered with a release material consisting of a 36 micron polyester film.

① Measurement after 24 h

② Adhered to aluminium


③ The durability indicates maximum service life when applied by a specialist, and with proper care and usage. Durability under vertical outdoor exposure (normal climate of Central Europe). In case of printing materials, the stated durability is for unprinted material. For additional specifications, download Processing Guidelines and Maintenance and Usage Terms on www.orafol.com

All products above come with a 2 year shelf life in original packaging at 20° C and 50% relative humidity. STANDARD SPLICE-FREE.

For information about ICC profiles please see www.orafol.com

The statements in this information sheet are based upon our knowledge and practical experience. The data is intended only as a source of information and is given without any guarantee and does not constitute a warranty. Due to the wide variety of possible uses and applications, customers should independently determine the suitability of this material for their specific purpose, prior to use.

Product Overview – Paint Protection Materials

	Product	Front material	Colours/surfaces Gloss (G), Matt (M), Silk Glossy (SG)	Adhesive	Covering material	Area of use	Adhesive power (FINAT-TM 1) N/25 mm (average) ①	Minimum application temperature ②	Temperature resistance no variation	Service life in years for application onto vehicles ③
Laminating Films	ORAGUARD® 293	Ultra-flexible transparent Premium Cast PVC 30 micron	Transparent (G), (M)	Solvent polyacrylate, permanent	Silicone paper, white 90 g/m²	For the protection of digitally printed car wrapping films	12	+8° C	-50° C to +110° C	8 years
	ORAGUARD® 293F	Ultra-flexible transparent Premium Cast PVC 30 micron	Transparent (G)	Solvent polyacrylate, permanent	Polyester film, 36 micron	For the protection of digitally printed car wrapping films	12	+8° C	-50° C to +110° C	8 years
	ORAGUARD® 289F	 Premium PVC- and plasticiser- free high performance laminating film 50 micron	Transparent (G)	Solvent polyacrylate, permanent	Silicone-coated polyester film, 36 micron	For the protection of large-format indoor and outdoor graphic applications. Recommended in combination with the PVC- and plasticiser free ORAJET® 3981RA.	12	+8° C	-50° C to +100° C	10 years
	ORAGUARD® 290	Premium Cast PVC film 50 micron	Transparent (G), (M)	Solvent polyacrylate, permanent	Silicone paper, white 90 g/m²	For the protection of digitally printed car wrapping films	12	+8° C	-50° C to +110° C	8 years
	ORAGUARD® 290F	Premium Cast PVC film 50 micron	Transparent (G)	Solvent polyacrylate, permanent	Polyester film, 36 micron	For the protection of digitally printed car wrapping films	12	+8° C	-50° C to +110° C	8 years
	ORAGUARD® 290DU	Premium Cast PVC film 50 micron	Transparent (G)	Solvent polyacrylate, permanent	Silicone paper, white 90 g/m²	For the protection of digitally printed car wrapping films. Highest level of UV protection.	14	+8° C	-59° C to +110°	8 years
	ORAGUARD® 279	Premium high performance PU film 50 micron	Transparent (G/SG)	permanent, transpar- ent	Silicone coated paper, white 90 g/m²	For the protection of digitally printed large-format pic- tures in indoor and outdoor applications.	10	+8° C	-50° C to +100°	10 years

	Product	Front material	Colours/surfaces Gloss (G), Matt (M)	Adhesive	Covering material	Area of use	Adhesive power (FINAT-TM 1) N/25 mm (average) ①	Minimum application temperature ②	Temperature resistance no variation	Service life in years for application onto vehicles ③
Stone chip protection	ORAGUARD® 270	Polymeric film 150 micron	Transparent (G)	Solvent polyacrylate, permanent	Siliconised Kraft paper, 137 g/m²	For application as a stone chipping protection film on vehicle body parts such as bumper, hood, rear bumper deck or side skirt etc.	20	+10° C	-40° C to +110° C	5 years
	ORAGUARD® 285F	Polyurethane film 50 micron	Transparent (G)	Solvent polyacrylate, permanent	Polyester film, 36 micron		18	+10° C	-40° C to +100° C	5 years
	ORAGUARD® 2815GF+	Top-coated polyurethane film 160 micron	Transparent (G) with super-hydrophobic surface	Solvent polyacrylate, permanent	Matt PET, 75 micron		17	+10° C	-40° C to +100° C	10 years
	ORAGUARD® 2815MF+	Top-coated polyurethane film 160 micron	Transparent (G) with super-hydrophobic surface	Solvent polyacrylate, permanent	Matt PET, 75 micron		17	+10° C	-40° C to +100° C	10 years
	ORAGUARD® 2815GF	Top-coated polyurethane film 160 micron	Transparent (G)	Solvent polyacrylate, permanent	Matt PET, 75 micron		17	+10° C	-40° C to +100° C	10 years

① Measurement after 24 h

② Adhered to aluminium

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Find out more about our products at:
www.orafol.com · www.orafoleurope.com

