

Graphic Innovations

Vehicle Wrapping



Engineered to Achieve Perfection™



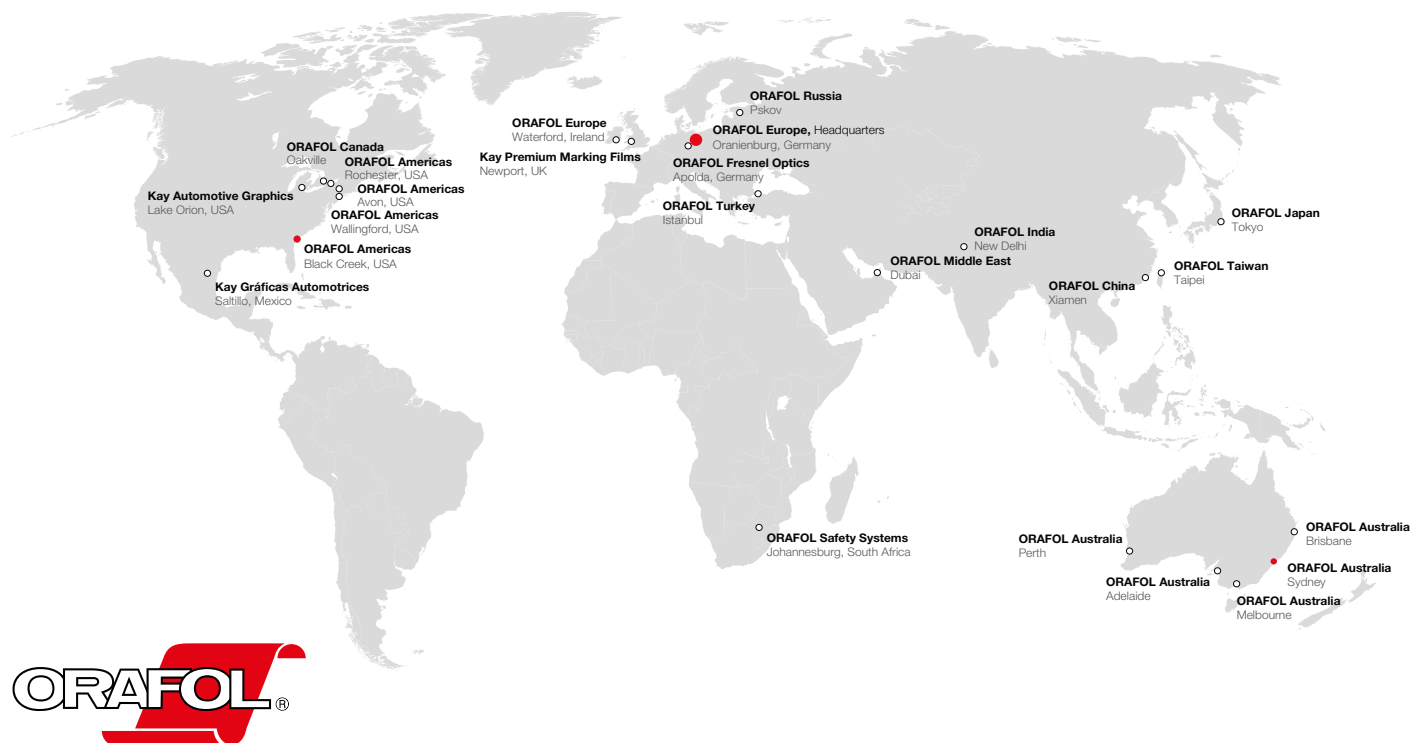


ORAFOL Europe GmbH

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
4	ORACAL® 970 / 970RA - Premium Wrapping Cast / <i>RapidAir</i> ®
5	Solid Colours - with a twist
5	ORACAL® 970 / 970RA - Premium Shift Effect Cast / <i>RapidAir</i> ®
5	ORACAL® 970 / 970RA - Premium Special Effect Cast / <i>RapidAir</i> ®
6	Tuning Films
6	ORACAL® 975/ 975RA - Premium Structure Cast / <i>RapidAir</i> ®
7	Digital Printing Films
7	ORAJET® 3951RA+ <i>ProSlide</i> - Premium Digital Printing Cast PVC - <i>RapidAir</i> ®
7	ORAJET® 3981RA+ <i>ProSlide</i> - Premium Digital Printing PU - <i>RapidAir</i> ®
7	ORAJET® 3951 - Premium Wrapping Cast
8	Laminating Films
8	ORAGUARD® 289F - Premium Laminating Film
8	ORAGUARD® 293 / 293F - Premium Laminating Film
8	ORAGUARD® 290 / 290F - Premium Laminating Film
9	Stoneguard Films
9	ORAGUARD® 280 / 280F / 283 / 283F / 270 / 285F
10	ORAFOL® Car Wrapping Seminars
11	ORAFOL® Cleaning, Care and Application Products
12-15	Product Overview

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® 970 / 970RA Series 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 cast PVC film (110 micron)
- 96 vivid standard colours
- Glossy and matt colours available
- Super matt available in black
- Large range of metallic colours
- Excellent dimensional stability and gloss retention
- The adhesive is a solvent polyacrylate adhesive. It is repositionable, permanent and transparent.

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.

96
COLOURS!





Solid Colours – with a twist

ORACAL® 970 / 970RA Series 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.
- 970RA: *RapidAir*® technology allows a rapid and bubble-free application and thus requires less application time and cost.



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.
- 970RA: *RapidAir*® technology allows a rapid and bubble-free application and thus requires less application time and cost

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.

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

Tuning Films

ORACAL® 975 / 975RA Series Premium **Structure** Cast

ORACAL® 975 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:

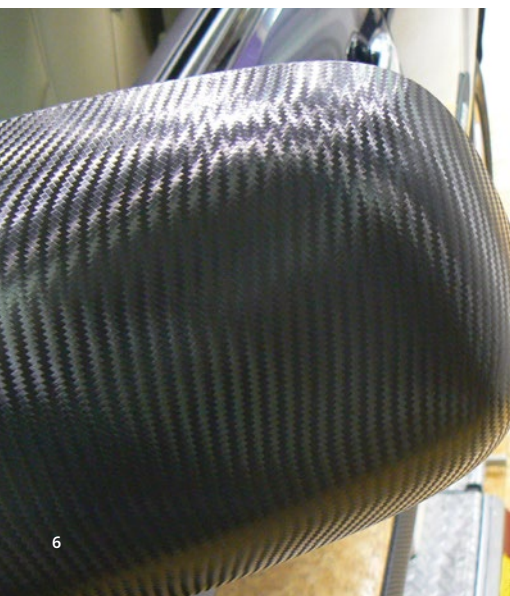
- Multi-layered Cast PVC (150 micron)
- Five structured optics
- Several colours in each structure
- High dimensional stability and maintenance of surface finish
- For uneven and arched surfaces
- Solvent polyacrylate, repositionable, permanent



Carbon Honeycomb Crocodile Cocoon Brushed

Product	Structure	Colours
ORACAL® 975CA	Carbon	Transparent, White, Black*, Brown, Silver grey, Gold, Anthracite, Geranium red, Middle blue
ORACAL® 975BR	Brushed	Silver grey, Gold, Deep blue metallic, Graphite metallic, Tin metallic
ORACAL® 975HC	Honeycomb	Black, Silver grey, Gold, Deep blue metallic, Tin metallic
ORACAL® 975CR	Crocodile	Black
ORACAL® 975CO	Cocoon	Black

*) Also available with *RapidAir*®



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

- The adhesive is a grey-coloured solvent polyacrylate adhesive. It is repositionable with permanent adhesion.
- Laminating film:
We recommend ORAGUARD® 293 / ORAGUARD® 293F / ORAGUARD® 290 / ORAGUARD® 290F

Premium Digital Printing PU - with ProSlide and RapidAir® technologies

ORAJET® 3981RA+ ProSlide

ORAJET® 3981RA+ ProSlide Premium Digital Printing PU is the environmentally friendly alternative when it comes to car wrapping. **The new ProSlide technology enables an easy and quick application due to its improved repositionability.**

Product benefits include:

- Premium PU high-performance film (50 micron)
- Available in white with a glossy surface
- Inkjet printing with solvent based inks, UV- or latex inks
- Extreme durability and brilliancy
- The adhesive is a grey-coloured solvent polyacrylate adhesive. It is repositionable with permanent adhesion.

- Lamination film:
We recommend the PVC-free and plasticiser-free ORAGUARD® 289F.

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.

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

- The adhesive is a solvent polyacrylate adhesive. The white film has a grey coloured adhesive. It is repositionable, with permanent adhesion.
- Lamination film:
We recommend ORAGUARD® 293 / ORAGUARD® 293F / ORAGUARD® 290 / ORAGUARD® 290F



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 plasticiser-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)
- Transparent with a glossy surface
- For long-term outdoor applications
- Adhesive is transparent, solvent polyacrylate, permanent
- Highly recommended for use in combination with the PVC- and plasticiser-free ORAJET® 3981RA.

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)
- Ultra-flexible
- Excellent conformability to rivets and corrugations
- For long-term outdoor applications
- Adhesive is transparent, solvent polyacrylate, permanent
- 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)
- Transparent with a glossy or matt surface
- For long-term outdoor applications
- Adhesive is transparent, solvent polyacrylate, permanent
- Release liner 290: Silicone paper
- Release liner 290F: Polyester film

"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



Stoneguard Films

The ORAGUARD® Stone Guard 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.

ORAGUARD® 280 / 280F / 283 / 283F / 270 / 285F

Product benefits include:

- Highly transparent films
- Glossy surface
- Adhesive is solvent polyacrylate, permanent
- High UV-resistance
- Excellent tear strength

Product	Type	Thickness	Service Life*
ORAGUARD® 280	Polyurethane film	200 micron	Maximum 7 years
ORAGUARD® 280F**	Polyurethane film	200 micron	Maximum 7 years
ORAGUARD® 283	Polyurethane film	130 micron	Maximum 7 years
ORAGUARD® 283F**	Polyurethane film	130 micron	Maximum 7 years
ORAGUARD® 270	Polymeric PVC film	150 micron	Maximum 5 years
ORAGUARD® 285F**	Polyurethane film	50 micron	Maximum 5 years

*) Service life when applied by a specialist, and usage under vertical outdoor exposure (normal climate of Central Europe).

***) The release material of this product is a 100 µm polyester film.





SPECIAL
CAR WRAPPING
SEMINARS



ORAFOL® Car Wrapping Seminars – level 2

Several times a year, ORAFOL hosts advanced two-day workshop seminars for professionals employed in the car wrapping industry.

At these workshops participants gain all the expertise for the application of ORAFOL® car wrapping materials. This is a truly unique opportunity to learn best practices and all the **DO's and DON'Ts** from the best. The seminars are conducted in both German and English. As the number of participants for each workshop is limited, it is a good idea to contact us quickly if you want to reserve a seat at the next event.

Contact ORAFOL for information about the next upcoming seminar:
seminars@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

This special pre-wrap surface cleaner degreases and removes cleaning agent residues prior to the application of ORAFOL® self-adhesive films.

Contact ORAFOL for details.

NEW!

ORAFOL® Application Gel

For an even easier wet application of ORAFOL wrapping films.


- Prolonged slip-behaviour
- No dripping during vertical or over-head jobs
- No premature drying
- Dries off invisible and residue free

Contact ORAFOL for more information!



Product Overview – Vehicle Wrapping Materials

	Product	Short name	Front material	Colours / surfaces Gloss (G), Matt (M)	Adhesive	Covering material	Area of use
For solid colour applications	ORACAL® 970	Premium Wrapping Cast	Multilayer Cast PVC film 110 micron	76 colours (G) incl. 25 colours (metallic) 20 colours (M) incl. 15 colours (metallic) 1 colour (SM)	Solvent polyacrylate, repositionable, permanent	PE-coated silicone paper 143 g/m ²	Developed for complete car wrapping.
	ORACAL® 970 RapidAir®	Premium Wrapping Cast	Multilayer Cast PVC film 110 micron	76 colours (G) incl. 25 colours (metallic) 20 colours (M) incl. 15 colours (metallic) 1 colour (SM)	Solvent polyacrylate, RapidAir® adhesive, repositionable, permanent	PE-coated RapidAir® silicone paper 145 g/m ²	Developed for complete car wrapping. The RapidAir® technology enables easy and quick application, without air inclusion.
	ORACAL® 970 Shade shifter	Premium Shift Effect Cast	Multilayer Cast PVC film 110 micron	9 colours (G), (M)	Solvent polyacrylate, repositionable, permanent	PE-coated silicone paper 143 g/m ²	Developed for complete car wrapping.
	ORACAL® 970 RapidAir® Shade shifter	Premium Shift Effect Cast	Multilayer Cast PVC film 110 micron	9 colours (G), (M)	Solvent polyacrylate, RapidAir® adhesive, repositionable, permanent	PE-coated RapidAir® silicone paper 145 g/m ²	Developed for complete car wrapping. The RapidAir® technology enables easy and quick application, without air inclusion.
	ORACAL® 970 Special Effect Cast	Premium Special Effect Cast	Multilayer Cast PVC film 110 micron	4 colours (G) 2 colours (M)	Solvent polyacrylate, repositionable, permanent	PE-coated silicone paper 143 g/m ²	Developed for complete car wrapping.
	ORACAL® 970 RapidAir® Special Effect Cast	Premium Special Effect Cast	Multilayer Cast PVC film 110 micron	8 colours (G) 2 colours (M)	Solvent polyacrylate, RapidAir® adhesive, repositionable, permanent	PE-coated RapidAir® silicone paper 145 g/m ²	Developed for complete car wrapping. The RapidAir® technology enables easy and quick application, without air inclusion.
	ORACAL® 975 Structure Cast	Premium Structure Cast	Multilayer Cast PVC film 150 micron	5 structures in various colours	Solvent polyacrylate, repositionable, permanent	PE-coated silicone paper 143 g/m ²	Developed for decorative surface refinement on cars. Especially created for highlighting vehicle parts - the ideal tuning film.
	ORACAL® 975 RapidAir® Structure Cast	Premium Structure Cast	Multilayer Cast PVC film 150 micron	Carbon black	Solvent polyacrylate, repositionable, permanent	PE-coated RapidAir® silicone paper, 145 g/m ²	Developed for decorative surface refinement on cars. The RapidAir® technology enables easy and quick application, without air inclusion.

	Product	Front material	Colours / surfaces Gloss (G), Matt (M)	Adhesive	Covering material	Area of use
For solvent based inkjet printing, UV- or latex inks	Premium Digital Printing Cast PVC ORAJET® 3951RA+ ProSlide RapidAir®	Premium Cast PVC film 55 micron	White (G)	Solvent polyacrylate, repositionable with permanent final adhesion, grey	PE coated RapidAir® ProSlide silicone paper 158 g/m ²	Developed for complete car wrapping. The RapidAir® technology enables easy and quick application, without air inclusion. The new ProSlide technology enables an easy and quick application due to its improved repositionability.
	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/m ²	Developed for complete car wrapping with printed designs.
	Premium Digital Printing PU ORAJET® 3981RA+ ProSlide RapidAir® 	Premium high performance polyurethane 50 micron	White (G)	Solvent polyacrylate, repositionable with permanent final adhesion, grey	PE coated RapidAir® ProSlide silicone paper 158 g/m ²	Developed for complete car wrapping. Environmentally friendly option. The RapidAir® technology enables easy and quick application, without air inclusion. The new ProSlide technology enables an easy and quick application due to its improved repositionability.

① Measurement after 24 h
 ② Adhered to aluminium
 ③ Special sizes available upon request

④ 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

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 ④	Standard sizes of rolls on 3" cores	
				Widths (mm)	Lengths (m)
18	+15° C	-50° C to +120° C	Black, white 12 years Coloured: 10 years Metallic: 5 years selected colours: 3 years	1520	25 50
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
18	+15° C	-50° C to +120° C	4 years	1520	25 50
16	+15° C	-50° C to +120° C	4 years	1520	25 50
18	+15° C	-50° C to +120° C	3 years	1520	25 50
16	+15° C	-50° C to +120° C	3 years	1520	25 50
22	+15° C	-50° C to +120° C	Black, white, coloured: 5 years Metallic: 3 years	1520	10 25 50
18	+15° C	-50° C to +120° C	5 years	1520	10 25 50

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 ④	Standard sizes ③ of rolls on 3" cores		ORAGUARD® Laminating films			
				Widths (mm)	Lengths (m)	293 / 293F*	289F	290 / 290F*	290DU
14	+8° C	-50° C to +100° C	10 years	760 1050 1370 1520	50	*	*	*	
18	+8° C	-50° C to +100° C	White: 10 years Transp.: 8 years	760 1050 1370 1520	50	*	*	*	*
14	+8° C	-50° C to +100° C	10 years	1370 1520	25, 50		*		


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

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)	Adhesive	Covering material	Area of use
Laminating Films	ORAGUARD® 293	Ultra-flexible transparent Premium Cast PVC 30 micron	Transparent (G), (M)	Solvent polyacrylate, permanent	Silicone paper, white 90 g/m ²	For the protection of digitally printed car wrapping films
	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
	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.
	ORAGUARD® 290	Premium Cast PVC film 50 micron	Transparent (G), (M)	Solvent polyacrylate, permanent	Silicone paper, white 90 g/m ²	For the protection of digitally printed car wrapping films
	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
	ORAGUARD® 290DU	Premium Cast PVC film 50 micron	Transparent (G)	Solvent polyacrylate, permanent	Silicone paper, white 90 g/m ²	For the protection of digitally printed car wrapping films. Highest level of UV protection.

	Product	Front material	Colours / surfaces Gloss (G), Matt (M)	Adhesive	Covering material	Area of use
Stoneguard Films	ORAGUARD® 280	Polyurethane film 200 micron	Transparent (G)	Solvent polyacrylate, permanent	Siliconised Kraft paper, 137 g/m ²	For application as a stone chipping protection film on vehicle body parts such as bumper, hood, rear bumper deck or side skirt etc.
	ORAGUARD® 280F	Polyurethane film 200 micron	Transparent (G)	Solvent polyacrylate, permanent	Polyester film, 100 micron	
	ORAGUARD® 283	Polyurethane film 130 micron	Transparent (G)	Solvent polyacrylate, permanent	Siliconised Kraft paper, 137 g/m ²	
	ORAGUARD® 283F	Polyurethane film 130 micron	Transparent (G)	Solvent polyacrylate, permanent	Polyester film, 100 micron	
	ORAGUARD® 270	Polymeric film 150 micron	Transparent (G)	Solvent polyacrylate, permanent	Siliconised Kraft paper, 137 g/m ²	
	ORAGUARD® 285F	Polyurethane film 50 micron	Transparent (G)	Solvent polyacrylate, permanent	Polyester film, 36 micron	

- ① Measurement after 24 h
- ② Adhered to aluminium
- ③ Special sizes available upon request

- ④ 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

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 ④	Standard sizes ③ of rolls on 3" cores	
				Widths (mm)	Lengths (m)
12	+8° C	-50° C to +110° C	8 years	760, 950, 1370, 1400, 1550	50
12	+8° C	-50° C to +110° C	8 years	760, 1050, 1370, 1400, 1550	50
12	+8° C	-50° C to +100° C	10 years	1370, 1550	25 50
12	+8° C	-50° C to +110° C	8 years	760, 1050, 1300, 1370, 1400, 1550	50
12	+8° C	-50° C to +110° C	8 years	760, 1050, 1300, 1370, 1400, 1550	50
14	+8° C	-59° C to +110°	8 years	1050, 1300, 1370, 1550	50

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 ④	Standard sizes ③ of rolls on 3" cores	
				Widths (mm)	Lengths (m)
22	+10° C	-40° C to +100° C	7 years	1260, 1520	25 50
22	+10° C	-40° C to +100° C	7 years	1260, 1520	25 50
18	+10° C	-40° C to +100° C	7 years	1260, 1520	25 50
18	+10° C	-40° C to +100° C	7 years	1520	25 50
20	+10° C	-40° C to +110° C	5 years	1260, 1400, 1520	50
18	+10° C	-40° C to +100° C	5 years	1370, 1520	25 50

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.



Engineered to Achieve Perfection™

Vehicle Wrapping

ORAFOL Europe GmbH
Orafolstraße 1, D-16515 Oranienburg, Germany

Tel: +49 (0)3301 864-0 / graphic.innovations@orafol.de

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

