ORALITE® 5600

Fleet Engineer Grade

ORALITE® 5600 Fleet Engineer Grade is a removable reflective film for long-term outdoor advertising on painted surfaces. The film is extremely flexible and easily conformable over rivets. Detailed processing instructions can be found on our product website.

Reflective Properties

Reflective Technology: Glass bead, Reflectivity classes: RA1, Reflective film structure: Design A (embedded glass beads), Reflection norm: ORALITE® 5600 - Tabelle 1, ORALITE® 5600 - Tabelle 2

Areas of Application

- Construction vehicles
- Construction sites
- Emergency vehicles & vehicles with special rights
- Safety & emergency services
- Traffic & transportation
- Agricultural machines
- Advertising
- Advertising & signage

Colours

ORALITE® 5600 is available in the following colours: White (F010), Yellow (F020), Red (F030), Orange (F035), Blue (F050), Green (F060), Black (F070), Azure (F084), Gold (F091), Lemon (F213), Ruby (F364)

Total thickness

- 0.15 mm (Average value, without protective paper)

Front material

Premium PVC film, cast film, 0.11 mm

Liner

Silicone cardboard PE coated on both sides, 145 g/m²

Adhesive

Solvent-polyacrylate, Transparent

Recommended laminating films

ORAGUARD® 290, ORAGUARD® 290DU, ORAGUARD® 290F, ORAGUARD® 293, ORAGUARD® 293F, ORAGUARD® XP279

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Recommended transfer materials

ORATAPE® LT72 Application Tape, ORATAPE® MT52 Application Tape, ORATAPE® MT72 Application Tape, ORATAPE® MT95 Application Tape

Technical properties

RESISTANCE

Durability	7 Year(s)	with professional processing, with vertical outdoor weathering, central European normal climate
Shelf Life	2 Year(s)	in original packaging, at 20 °C and 50 % relative humidity
Elongation at break	Minimum elongation at break along 100 % Minimum elongation at break across 100 %	DIN EN ISO 527 DIN EN ISO 527
Tensile strength	Minimum tensile strength along 0 MPa Minimum tensile strength across 0 MPa	
Temperature resistance	Minimum temperature -40 °C Maximum temperature 80 °C	bonded to aluminum, normal Central European climate

ADHESIVE PROPERTIES

Removability	Removable	The use of heat helps with easily removing the product.
Adhesive power	15 N/25 mm	after 24 h, adhered on stainless steel | Average value, FINAT TM 1
	16 N/25 mm	after 24 h, adhered on acrylic varnish | Average value, FINAT TM 1

PROCESSING

Recommended printing procedure	Screen printing, Digital printing with solvent-based inks, UV printing, Latex printing	
Application temperature	Minimum temperature 10 °C	

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Proposed application technology	Dry application

Table 1 - Specific coefficient of retroreflection R' in cd / (lx m²) [Typical values] (New sheeting; CIE standard illuminant A; CIE Nr. 54.2)

Observation Angle		0.2°		0.33°	
Entrance angle		5°	30°	5°	30°
White	**(010)**	100	40	80	35
Yellow	**(020)**	55	25	45	20
Red	**(030)**	18	8	15	6
Orange	**(035)**	27	10	23	8
Blue	**(050)**	5	1.7	4	1
Green	**(060)**	13	5	11	5
Black	**(070)**	35	15	30	10
Azure	**(084)**	11	4	8	3
Gold	**(091)**	70	27	50	22
Lemon	**(213)**	75	30	55	25
Ruby	**(364)**	10	5	8	4

Table 2 - Chromaticity coordinates (Colour specification limits at daylight; New condition; CIE Nr. 15.2)

Colours		1		2		3		4		Luminance factor β
		x	y	x	y	x	y	x	y	
White	**(010)**	0.305	0.315	0.335	0.345	0.325	0.355	0.295	0.325	≥ 0.35
Yellow	**(020)**	0.494	0.506	0.470	0.480	0.513	0.437	0.545	0.455	≥ 0.27
Red	**(030)**	0.735	0.265	0.700	0.250	0.607	0.343	0.655	0.345	≥ 0.05
Orange	**(035)**	0.631	0.369	0.552	0.359	0.506	0.404	0.570	0.430	≥ 0.12
Blue	**(050)**	0.100	0.109	0.146	0.156	0.183	0.115	0.137	0.038	≥ 0.01

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Colours		1		2		3		4		Luminance factor β
		x	y	x	y	x	y	x	y	
Green	**(060)**	0.007	0.703	0.216	0.448	0.147	0.400	0.018	0.454	□ 0.04
Black	**(070)**	0.385	0.355	0.300	0.270	0.260	0.310	0.345	0.395	0 □ β □ 0.03
Azure	**(084)**	0.120	0.125	0.160	0.120	0.160	0.480	0.160	0.460	□ 0.03
Gold	**(091)**	0.460	0.440	0.480	0.440	0.480	0.420	0.460	0.420	□ 0.16
Lemon	**(213)**	0.395	0.515	0.450	0.460	0.495	0.502	0.423	0.574	□ 0.16
Ruby	**(364)**	0.710	0.290	0.610	0.300	0.569	0.341	0.655	0.345	□ 0.03

PRODUCT NOTE

The substrate to be bonded must be free of dust, grease or other contamination, which can affect the adhesive strength of the material. Freshly varnished or painted surfaces must be fully cured. Before applying the material the user must check the compatibility of the selected paints and inks. The self-adhesive, reflecting material can only be applied when dry. For other applications, the user is responsible to the full extent for evaluating the suitability of the product and for all risks associated with this application. ORALITE® 5600 can be printed with the ORALITE® 5018 screen printing ink or with most solvent-based inks, UV or latex inks. Please take into account the instructions of the selected ink manufacturer to determine whether an application laminate is required. If necessary, it is recommended to laminate the material with ORALITE® 5051 289F, ORAGUARD® 290F or ORAGUARD® 293F to ensure improved UV protection. When using other inks or printers than ORAFOL, the applications must be tested and approved by the customer. While the use of heat helps with removing the product easily, a solvent-based adhesive remover might be required to fully remove possible adhesive residues. For detailed information please use the processing instructions published by ORAFOL or contact the responsible employee of the ORAFOL Reflective Solutions Division. All ORALITE® products are manufactured in a production environment certified and checked in accordance with ISO 9001:2015. The batch can be traced at any time by means of the roll number.

IMPORTANT NOTES

All ORAFOL products are subject during their entire manufacturing process to thorough quality control so that it is ensured that they are of merchantable quality and free from manufacturing defects. The published information is based on our analyses and examinations and does not constitute warranted characteristics or a quality agreement. In view of the wide range of applications of ORAFOL products and the continuous development of new applications, the buyer should carefully weigh up the suitability and performance of the product for the respective purpose and they bear all risks in connection with such use. No warranty is assumed for purposes other than those listed in the Technical Data Sheet or for applications which are not processed in accordance with the processing guidelines of ORAFOL. The durability of the end product depends on a multitude of factors including, but not limited to, the substrate selection and preparation, compliance with the recommended application guidelines, geographical area, exposition conditions and maintenance of the ORAFOL material and of the end product. Product faults which are caused by the substrate or improper surface preparation, do not lie within the responsibility of ORAFOL. The relevant national provisions must be observed when using ORAFOL products. ORAFOL recommends that you obtain the current specifications from your local authority and ensure that the product complies with them. Please contact ORAFOL for further information. ORALITE® is a trademark of ORAFOL Europe GmbH.

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