

## Product Description

ORALITE® 5300 Commercial Grade are weatherproof, self-adhesive retroreflective films with an excellent corrosion and solvent resistance. The product was especially developed for the manufacture of guidance and information signs as well as for reflective lettering, numbers and symbols, which are intended for medium term outdoor use. It is composed of an alkyd resin top film and a retroreflective system made of catadioptric glass beads which are embedded in a transparent layer of plastic material. The smooth surface shows a high scratch resistance and impact strength, and a very good printability. The product complies with EN 12899-1 (RA1) and ASTM D4956 (type I) regarding colour and retroreflectivity. The product series and lot number is printed on the back side to enhance identification and traceability of all rolls.

## Adhesive

Solvent polyacrylate, permanent adhesive specially formulated for the application on metallic surfaces such as aluminium and zinc coated steel plate. The adhesive is protected by a release liner made of PE coated silicone paper, 155 g/m<sup>2</sup>.

## Printing

ORALITE® reflective films series 5300 Engineer Grade is suitable for screen printing. ORALITE® screen printing inks series 5010 and 5018 are recommended. A transparent coating is not necessary. Please refer to the Practical Information #4.2 published by ORAFOL for full instructions.

## Application

ORALITE® reflective films series 5300 Engineer Grade were especially developed for the manufacture of signs and reflective lettering applications. Surfaces to which the material will be applied must be thoroughly cleaned from dust, grease or any contamination which could affect the adhesion of the material. Freshly lacquered or painted surfaces should be allowed to dry for at least three weeks and to completely cure respectively. The compatibility of selected lacquers and paints should be tested by the user, prior to application of the material. The self-adhesive reflective material can only be used for dry application. Please refer to the Practical Information #4.2 published by ORAFOL for full instructions. For other applications the user is fully responsible for evaluating the suitability of the product, and for any risks associated with that use. Please contact your ORAFOL Reflective Solutions Division representative for advice.

The batch traceability according to ISO 9001 is possible on the basis of the roll number.

## Product Data

Retroreflectivity for new sheeting as per EN12899-1 (RA1):

Table 1 – Specific coefficient of retroreflection R' in cd/lx/m <sup>2</sup>									
Observation angle	0.2°			0.33°			2°		
Entrance angle	5°	30°	40°	5°	30°	40°	5°	30°	40°
white (010)	70	30	10	50	24	9	5	2.5	1.5
yellow (020)	50	22	7	35	16	6	3	1.5	1
orange (035)	25	10	2.2	20	8	2.2	1.2	0.5	-
red (030)	14,5	6	2	10	4	1.8	1	0,5	0.5
green (060)	9	3.5	1.5	7	3	1.2	0.5	0,3	0.2
blue (050)	4	1.7	0.5	2	1	-	-	-	-

Colour specification limits for new sheeting:

Table 2 – Chromaticity coordinates (daylight, EN12899-1:2007 Class CR2)									
Colours	1		2		3		4		Luminance factor $\beta$
	X	y	X	y	X	y	X	y	
<b>white (010)</b>	0.305	0.315	0.335	0.345	0.325	0.355	0.295	0.325	≥ 0.35
<b>yellow (020)</b>	0.494	0.505	0.470	0.480	0.513	0.437	0.545	0.454	≥ 0.27
<b>orange (035)</b>	0.610	0.390	0.535	0.375	0.506	0.404	0.570	0.429	≥ 0.17
<b>red (030)</b>	0.735	0.265	0.700	0.250	0.610	0.340	0.660	0.340	≥ 0.05
<b>green (060)</b>	0.110	0.415	0.170	0.415	0.170	0.500	0.110	0.500	≥ 0.04
<b>blue (050)</b>	0.130	0.090	0.160	0.090	0.160	0.140	0.130	0.140	≥ 0.01

## Physical and Chemical Properties

<b>Thickness*</b> (without protective paper and adhesive)	95 micron
<b>Temperature resistance</b>	Adhered to aluminium, -50° C to +82° C
<b>Saltwater resistance (DIN 50021)</b>	Adhered to aluminium, after 100 h/ 23° C no variation
<b>Resistance to solvents and chemicals</b>	With expert application resistant to most oils, grease, fuels, aliphatic solvents, weak acids, salts and alkalis
<b>Resistance to cleaning agents</b>	Adhered to aluminium, 8 h in wash-alkalics (0.5% household cleaning agents) at room temperature and 65° C, no variation
<b>Adhesive power*</b> (FINAT-TM1 after 24h, stainless steel)	15 N/25 mm (film tear)
<b>Shelf life**</b>	2 years
<b>Application Temperature</b>	> +10° C
<b>Service life by specialist application</b> under vertical outdoor exposure (standard central European climate)	7 years (not printed)

\* average    \*\* in original packaging, at 20° C and 50% relative humidity

## IMPORTANT NOTICE

When using ORALITE® sheeting the relevant national specifications have to be complied with. ORAFOL recommends you obtain the current requirements from your local authority and ensure product conformance with such requirements. Please contact ORAFOL for further information.

All ORALITE® products are subject to careful quality control throughout the manufacturing process and are warranted to be of merchantable quality and free from manufacturing defects. Published information concerning ORALITE® products is based upon research which the Company believes to be reliable although such information does not constitute a warranty. Because of the variety of uses of ORALITE® products and the continuing development of new applications, the purchaser should carefully consider the suitability and performance of the product for each intended use, and the purchaser shall assume all risks regarding such use. All specifications are subject to change without prior notice.

No warranty is given for purposes other than those listed in the Technical Datasheet or which are not processed according to ORAFOL's processing and handling instructions. The durability of the signs will depend on a variety of factors, including but not limited to substrate selection and preparation, compliance with recommended application guidelines, geographic area, exposure conditions and maintenance of the product and finished sign. Sign failures caused by the substrate or improper surface preparations are not the responsibility of ORAFOL. Please refer to the full warranty document available at [www.orafol.com](http://www.orafol.com) for detailed information.

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