

## Description

ORALITE® 5400 Commercial Grade are weatherproof, self-adhesive retroreflective films with a high level of flexibility and an excellent corrosion and solvent resistance. The retroreflective system of the ORALITE® 5400 Commercial Grade consists of catadioptric glass beads which are embedded in a transparent layer of plastic material (classification RA1, design A, former Type I). The smooth surface has a high scratch resistance and a good printability. The minimum reflection data corresponds to the EN 12899-1. The daylight colours correspond to the international norms for reflective materials of this class.

## Front Material

Special cast PVC film

## Release Paper

PE-coated silicone paper.

Product codes and batch numbers are printed on the backside of the liner. With help of these, all production parameters and raw materials can be traced.

## Adhesive

Solvent polyacrylate, permanent.

## Area of Use

ORALITE® 5400 Commercial Grade was especially developed for the manufacture of guidance and information signs as well as for reflective advertising art, which are intended for a short-term outdoor use and which require just a minimum of retroreflection. The ORALITE® 5400 has an adhesive with an excellent adhesion on metallic surfaces as aluminium and zinc coated steel plate. The sheeting can be screen printed with ORALITE® 5018 Screen Printing Ink or inkjet printed with most solvent based inks, UV- or Latex inks. Please refer to the chosen ink manufacturer's instructions to determine if an application laminate is required. If required, it is recommended that the material is laminated with ORAGUARD® 290F or ORAGUARD® 293F in order to provide increased UV protection. When using non-ORAFOL inks or printers, the application must be tested and approved by the customer. Please confirm the national regulations for use of reflective sheeting.

## Product Data

**Typical values for the coefficient of retroreflection** (new sheeting, measured using CIE standard illuminant A, and the provisions of CIE No. 54.2 and according to EN 12899-1):

Table 1 – Specific coefficient of retroreflection in cd/(lx m²)									
Observation angle	0.2°			0.33°			2°		
Entrance angle	5°	30°	40°	5°	30°	40°	5°	30°	40°
<b>white (010)</b>	70	30	10	50	24	9	5	2.5	1.5
<b>yellow (020)</b>	50	22	7	35	16	6	3	1.5	1
<b>red (030)</b>	14,5	6	2	10	4	1.8	1	0,5	0.5
<b>orange (035)</b>	25	10	2,2	20	8	2.2	1.2	0.5	-
<b>blue (050)</b>	4	1,7	0,5	2	1	-	-	-	-
<b>green (060)</b>	9	3,5	1,5	7	3	1.2	0.5	0,3	0.2

Colour specification limits for new sheeting at daylight (new sheeting, measured in accordance with CIE No. 15.2):

Table 2 – Chromaticity coordinates									
Colours	1		2		3		4		Luminance Factor $\beta$
	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	$\geq 0.35$
yellow (020)	0.494	0.506	0.470	0.480	0.513	0.437	0.545	0.455	$\geq 0.27$
red (030)	0.735	0.265	0.700	0.250	0.607	0.343	0.655	0.345	$\geq 0.05$
orange (035)	0.631	0.369	0.552	0.359	0.506	0.404	0.570	0.430	$\geq 0.12$
blue (050)	0.100	0.109	0.146	0.156	0.183	0.115	0.137	0.038	$\geq 0.01$
green (060)	0.007	0.703	0.216	0.448	0.147	0.400	0.018	0.454	$\geq 0.04$

## Physical and Chemical Properties

Thickness* (without protective paper)	135 micron (5.3 mils)
Temperature resistance	adhered to aluminium, -50° C to +82° C
Adhesive power* (FINAT-TM1 after 24h, stainless steel)	adhered to stainless steel: 15 N/25 mm (1 inch)
Shelf life**	2 years
Application Temperature	> +10° C
Service life by specialist application under vertical outdoor exposure	4 years***

\* average

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

\*\*\*standard central European climate

## 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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