

### Description

ORALITE® 5810 High Intensity Grade is a highly reflective, weatherproof, self-adhesive film with excellent corrosion and solvent resistance. The smooth surface of ORALITE® 5810 High Intensity Grade allows a very good printability. The retroreflective system of ORALITE® 5810 High Intensity Grade consists of encapsulated catadioptric glass beads which are partially embedded in a layer of plastic material (corresponds to class RA 2, design B, formerly Type II).

ORALITE® 5810 High Intensity Grade contains an identification watermark.

The reflective data and colours at daylight comply with the international specifications of this class such as EN 12899-1 (European Regulation), DIN 67520 and DIN 6171 (Germany), BS 873: Part 6 (Great Britain), NFP 98-520 (France), SN 640878 (Switzerland), ASTM D 4956-17 (US), JIS Z 9117 (Japan).

### Front Material

Acrylic film

### Release Paper

Polypropylene film, silicone coated one side, 0.075 mm

### Adhesive

Solvent polyacrylate, permanent

### Area of Use

ORALITE® 5810 High Intensity Grade was especially developed for the manufacture of traffic control and guidance signs, warning and information signs, which are intended for long-term outdoor use. The special structure of the cells allows the identification of the film manufacturer. ORALITE® 5810 High Intensity Grade has an adhesive with an excellent adhesion on metallic surfaces as aluminium and zinc coated steel plate. When using ORALITE® 5810 High Intensity Grade, the particular national specifications have to be complied with.

### Printing Method

The use of ORALITE® 5010 and 5018 Screen Printing Inks is recommended. A transparent coating is not necessary.

### Certificates

Preliminary approval by the German Federal Highway Research Institute (BASt) according to DIN EN 12899-1, DIN 67520 and DIN 6171;

CE Declaration of Conformity according to DIN EN 12899-1

### Product Data

Minimum reflection data (DIN 67520, Part 1 and Part 2, state as manufactured)

Table 1 – Specific coefficient of retroreflection R' in cd/lx/m <sup>2</sup>									
Observation angle	0.2°			0.33°			2°		
	5°	30°	40°	5°	30°	40°	5°	30°	40°
<b>white (010)</b>	250	150	110	180	100	95	4	2.4	1.4
<b>yellow (020)</b>	170	100	70	122	67	64	3	1.5	1
<b>orange (035)</b>	100	60	29	62	40	22	1.5	0.8	0.7
<b>red (030)</b>	45	25	15	25	14	13	0.8	0.4	0.3
<b>green (060)</b>	45	25	12	21	12	11	0.6	0.3	0.2
<b>blue (050)</b>	20	11	8	14	8	7	0.2	0.1	-
<b>brown (080)</b>	3.5	1.5	1	2.5	1	-	-	-	-

Colours (DIN 5033 Part 3, DIN 5036 Part 1, DIN 6171, state as manufactured):

Colour Coordinates									
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	$\geq 0.27$
<b>yellow (020)</b>	0.494	0.505	0.470	0.480	0.513	0.437	0.545	0.454	$\geq 0.16$
<b>orange (035)</b>	0.610	0.390	0.535	0.375	0.506	0.404	0.570	0.429	$\geq 0.14$
<b>red (030)</b>	0.735	0.265	0.700	0.250	0.610	0.340	0.660	0.340	$\geq 0.03$
<b>green (060)</b>	0.110	0.415	0.170	0.415	0.170	0.500	0.110	0.500	$\geq 0.03$
<b>blue (050)</b>	0.130	0.090	0.160	0.090	0.160	0.140	0.130	0.140	$\geq 0.01$
<b>brown (080)</b>	0.455	0.397	0.523	0.429	0.479	0.373	0.558	0.394	0.03 - 0.09

### Physical and Chemical Properties

<b>Thickness*</b> (without protective paper and adhesive)	210 micron
<b>Temperature resistance**</b>	adhered to aluminium, -56° C to +82° C (-68° F to 180° F)
<b>Salt-water resistance (DIN 50021)</b>	adhered to aluminium, after 100h at 23° C (74° F), 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, 8h in wash-alkalica (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 (25 mm = 0.98 in) (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)	10 years (not printed)

\*average \*\* standard central European climate \*\*\* 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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