

**Description**

ORALITE® retroreflective films series 5810 HIGH INTENSITY GRADE are highly reflective, weatherproof, self-adhesive films with excellent corrosion and solvent resistance. The smooth surface of ORALITE® reflective films series 5810 HIGH INTENSITY GRADE allows a very good printability. The retroreflective system of the ORALITE® reflective films series 5810 HIGH INTENSITY GRADE consists of encapsulated catadioptric glass beads (corresponds to class RA 2, design B, formerly Type II). ORALITE® reflective films series 5810 HIGH INTENSITY GRADE contain an identification water mark. The reflective data and colors 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 (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® reflective films series 5810 HIGH INTENSITY GRADE were 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. The ORALITE® 5810 HIGH INTENSITY GRADE has an adhesive with an excellent adhesion on metallic surfaces as aluminium and zinc coated steel plate.

When using the ORALITE® reflective films series 5810 HIGH INTENSITY GRADE, the particular national specifications have to be complied with.

**Printing method**

The use of ORALITE® - Screen printing inks 5010 and 5018 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

The statements in this information sheet are based upon our knowledge and practical experience. This data is intended only as a source of information and is given without 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.



## Technical Data

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

Observation angle	Specific coefficient of retroreflection R' in cd / lx per m <sup>2</sup>								
	0,2°			0,33°			2°		
	5°	30°	40°	5°	30°	40°	5°	30°	40°
white (010)	250	150	110	180	100	95	4	2.4	1.4
yellow (020)	170	100	70	122	67	64	3	1.5	1
orange (035)	100	60	29	62	40	22	1.5	0.8	0.7
red (030)	45	25	15	25	14	13	0.8	0.4	0.3
green (060)	45	25	12	21	12	11	0.6	0.3	0.2
blue (050)	20	11	8	14	8	7	0.2	0.1	-
brown (080)	3.5	1.5	1	2.5	1	-	-	-	-

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

	Colour coordinates								Luminance factor $\beta$
	1		2		3		4		
	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	$\geq 0.27$
yellow (020)	0.494	0.505	0.470	0.480	0.513	0.437	0.545	0.454	$\geq 0.16$
orange (035)	0.610	0.390	0.535	0.375	0.506	0.404	0.570	0.429	$\geq 0.14$
red (030)	0.735	0.265	0.700	0.250	0.610	0.340	0.660	0.340	$\geq 0.03$
green (060)	0.110	0.415	0.170	0.415	0.170	0.500	0.110	0.500	$\geq 0.03$
blue (050)	0.130	0.090	0.160	0.090	0.160	0.140	0.130	0.140	$\geq 0.01$
brown (080)	0.455	0.397	0.523	0.429	0.479	0.373	0.558	0.394	0.03 – 0.09

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<b>Thickness*</b> (without protective paper and adhesive)	210 micron
<b>Temperature resistance***</b>	adhered to aluminium, -56°C to +82°C (-69°F to 180°F)
<b>Salt-water resistance</b> (DIN 50021)	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 washalcalics (0,5% householdcleaning agents) at room temperature and 65°C, no variation
<b>Adhesive power*</b> (FINAT-TM1 after 24h, stainless steel)	15 N/25mm (25mm = 0,98in) (film tear)
<b>Shelf life**</b>	2 years
Application temperature	> +10°C
<b>Service life by specialist application</b> under vertical outdoor exposure (standard central European climate)	10 years (not printed)

\* average

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

\*\*\* standard central European climate

**Note**

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 completely cured. 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. Furthermore the application information published by ORAFOL is to be considered. The batch traceability according to ISO 9001 is possible on the basis of the roll number.

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