

## Description

ORALITE® 5710 Engineer Grade Premium is a weatherproof, self-adhesive retroreflective film with an excellent corrosion and solvent resistance. The retroreflective system of the ORALITE® 5710 Engineer Grade Premium consists of catadioptric glass beads which are embedded in a transparent layer of plastic material (corresponds to class RA 1, design A, formerly Type I). The smooth surface shows a high scratch resistance and impact strength and a very good printability. ORALITE® 5710 Engineer Grade Premium contains an identification watermark.

The reflective data and colours at daylight comply with the international specifications for reflective materials of this class, such as EN 12899-1 (Europe), 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).

## Release Paper

89#, PE-coated silicone paper

## Adhesive

Solvent polyacrylate, permanent, with increased initial tack

## Area of Use

ORALITE® 5710 Engineer Grade films are specially developed for the manufacture of long-term, outdoor, traffic control and guidance signs, warning signs and information signs as well as for reflective lettering, numbers and symbols. ORALITE® 5710 Engineer Grade Premium adhesive forms an excellent adhesion to metallic surfaces such as aluminium and zinc coated steel plate. The material has an identification watermark.

## Technical Data

<b>Thickness*</b> (without protective paper and adhesive)	5.25-mil
<b>Temperature resistance</b>	Adhered to aluminum, -68°F to +180°F
<b>Saltwater resistance (DIN 50021)</b>	Adhered to aluminum, after 100 h/ 73°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 aluminum, 8h in wash-alkalics (0.5% household cleaning agents) at room temperature and 149°F, no variation
<b>Adhesive power*</b> (FINAT-TM 1 after 24h, stainless steel)	3.42 lb/in (film tear)
<b>Shelf life**</b>	2 years
<b>Application temperature</b>	50°F
<b>Minimum Life Expectancy***</b> (based on accepted application procedures on vertical surfaces)	7 years (unprinted)
<b>Recommended Overlay</b>	ORALITE® 5051 Transparent Film
<b>Print Compatibility</b>	Screen Printing: ORALITE® 5018 Screen Printing Ink is recommended

\* average    \*\* in original packaging, at 68° F and 50% relative humidity

\*\*\* standard central European climate



ORAFOL Americas – GA  
1100 Oracal Parkway  
Black Creek, GA 31308  
Phone: 888.672.2251

ORAFOL Americas – CT  
120 Darling Drive  
Avon, CT 06001  
Phone: 800.654.7570  
techsupport-americas@orafol.com - www.orafolamericas.com

ORAFOL Canada  
2831 Bristol Circle  
Oakville, Ontario L6H 6X5  
Phone: 888.727.3374

### Product Data Attention

**Typical reflection data** (measured according to DIN 67520 Part 1 and Part 2, state as manufactured)

Observation Angle		Minimum coefficient of retroreflection (R) cd/fc/ft <sup>2</sup> (cd · lx <sup>-1</sup> · m <sup>-2</sup> )								
		0.2°			0.33°			2°		
Entrance Angle		5°	30°	40°	5°	30°	40°	5°	30°	40°
white	010	100	40	10	80	35	9	5	2.5	1.5
yellow	020	60	26	7	45	20	6	3	1.5	1
orange	035	30	12	2.2	25	10	2.2	1.2	0.5	-
red	030	22	9	2	17	6.5	1.8	1	0.5	0.5
green	060	13	5	1.5	11	5	1.2	0.5	0.3	0.2
blue	050	6	2.4	0.5	4	1.3	-	-	-	-
brown	080	5	2	-	3	1	-	-	-	-

**Colors** (DIN 5033 Part 3, DIN 5036 Part 1, DIN 61871, state as manufactured)

Table 2- Color Coordinates										
Colors		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	0.505	0.470	0.480	0.513	0.437	0.545	0.454	≥ 0.27
Orange	035	0.610	0.390	0.535	0.375	0.506	0.404	0.570	0.429	≥ 0.17
Red	030	0.735	0.265	0.700	0.250	0.610	0.340	0.660	0.340	≥ 0.05
Green	060	0.110	0.415	0.170	0.415	0.170	0.500	0.110	0.500	≥ 0.04
Blue	050	0.130	0.090	0.160	0.090	0.160	0.140	0.130	0.140	≥ 0.01
Brown	080	0.445	0.397	0.523	0.429	0.479	0.373	0.558	0.394	0.03 - 0.09

**Note:**

All ORALITE® products are manufactured within an ISO 9001:2008 controlled manufacturing environment and batch traceability is possible on the basis of the roll number.

**IMPORTANT NOTICE**

When using ORALITE® sheeting, please comply with relevant national specifications. ORAFOL recommends obtaining the current requirements from your local authority and ensure product conformance with such requirements. Please contact ORAFOL for further



ORAFOL Americas – GA  
1100 Oracal Parkway  
Black Creek, GA 31308  
Phone: 888.672.2251

ORAFOL Americas – CT  
120 Darling Drive  
Avon, CT 06001  
Phone: 800.654.7570  
techsupport-americas@orafol.com - www.orafolamericas.com

ORAFOL Canada  
2831 Bristol Circle  
Oakville, Ontario L6H 6X5  
Phone: 888.727.3374

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.

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. The low tensile strength of the material can make the removability of the reflective film more difficult. Please review applicable application information published by ORAFOL.

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.orafolamericas.com](http://www.orafolamericas.com) for detailed information.

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

ORALITE® is a trademark of ORAFOL Europe GmbH.



ORAFOL Americas – GA  
1100 Oracal Parkway  
Black Creek, GA 31308  
Phone: 888.672.2251

ORAFOL Americas – CT  
120 Darling Drive  
Avon, CT 06001  
Phone: 800.654.7570  
techsupport-americas@orafol.com - [www.orafolamericas.com](http://www.orafolamericas.com)

ORAFOL Canada  
2831 Bristol Circle  
Oakville, Ontario L6H 6X5  
Phone: 888.727.3374