

Product Description

ORALITE® retroreflective films series 5230 Economy Construction Grade are weatherproof, self-adhesive retroreflective films with excellent corrosion and solvent resistance. The product was especially developed for the manufacture of traffic control and guidance signs made of polyolefinic material, e.g. road work signs, which are intended for short term outdoor use. ORALITE® 5230 Economy Construction Grade is composed of a special cast PVC film. Its retroreflective system consists of catadioptric glass beads which are embedded in a transparent layer of plastic material. The material has an identification watermark.

Retroreflectivity

Typical values of Retroreflectivity of ORALITE® 5230 Economy Construction Grade are as in DIN EN 12899-1 (RA1; design A). Typical retroreflection values are shown in table 1.

When using ORALITE® reflective films series 5230 Economy Construction Grade, 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.

Colour

ORALITE® retroreflective films series 5230 Economy Construction Grade are available in white (010) and yellow (020), orange (035) and red (030). The sheeting conforms to the daytime color requirements in table 2 when measured in accordance with the corresponding specifications, the provisions of CIE No. 15.2, and shall comply with the specifications of DIN 6171-1:2013-10.

Adhesive

The adhesive consists of a solvent polyacrylate, permanent pressure sensitive adhesive with aggressive tack, formulated for the application to plastic as well as metal surfaces. The adhesive is protected by a PE coated paper as release liner.

Application/Processing

ORALITE® 5230 Economy Construction Grade was especially developed for traffic control 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 completely cured. The compatibility of selected substrate should be tested by the user, prior to application of the material. For other applications the user is fully responsible for evaluating the suitability of the product, and for any risks associated with that use. ORALITE® reflective films series 5230 Economy Construction Grade is suitable for solvent based inkjet printing or screen printing. The recommended laminates are ORAGUARD® 290F and ORAGUARD® 293F. For screen printing ORALITE® 5018 ink is recommended. A transparent coating is not necessary.

Please refer to the Practical Information #4.2 published by Orafol for full instructions.

Please contact your ORAFOL Reflective Solutions Division representative for advice relating to the above.

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.

Product Data

Table 1 – Typical specific coefficient of retroreflection									
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	0,5
red (030)	14,5	6	2	10	4	1,8	1	0,5	0,5

Colour specification limits for new sheeting:

Table 2 – Chromaticity coordinates									
Colours	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	0.506	0.470	0.480	0.513	0.437	0.545	0.455	≥ 0.27
orange (035)	0.631	0.369	0.552	0.359	0.506	0.404	0.570	0.430	≥ 0.12
red (030)	0.735	0.265	0.700	0.250	0.607	0.343	0.655	0.345	≥ 0.05

Physical and Chemical Properties

Thickness¹ (without protective paper and adhesive)	0.090 mm (3.6 mils)
Temperature resistance	adhered to aluminium, -40°C to +82°C (-40°F to 180°F)
Resistance to cleaning agents	adhered to aluminium, 8h in solution (0.5% household cleaning agents) at room temperature and 65°C (150°F): no variation
Adhesive power¹ (FINAT-TM1 after 24h, stainless steel)	>15 N/25mm (1 inch)
Shelf life²	2 years
Application temperature	> +10°C (50°F)
Service life by specialist application³ under vertical outdoor exposure	3 years (not printed)

¹ average

² in original packaging, at 20°C and 50% relative humidity

³ standard central European climate

Note: Values stated in SI units are to be regarded as standard. The values in parentheses are conversions and shall not be considered as the standard, as these values maybe approximate.



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 for detailed information.

ORALITE® is a trademark of ORAFOL Europe GmbH.

