

Product Description

ORALITE® retroreflective films series 5930M Prismatic Construction Grade are flexible, highly reflective, weatherproof, self-adhesive films with excellent corrosion and solvent resistance. The surface of reflective sheeting can be screen printed to manufacture construction and work zone signs. The recommended screen printing ink is ORALITE® 5018, if this ink is used, a protective clear coat is not necessary. ORALITE® 5930M is available as roll and is intended for medium-term outdoor use. Its retroreflective system consists of metallised micropisms. The distinct pattern identifies the machine direction and the manufacturer of the sheeting and is shown in Figure 1.

Retroreflectivity

ORALITE® 5930M exceeds the minimum performance requirements of DIN 67520:2013-10 (RA2; design C) and ASTM D4956 (type IV). The required minimum retroreflection values, shown in table 1, are complied with when measured in accordance with the corresponding specifications using CIE standard illuminant A, and the provisions of CIE No.54.2.

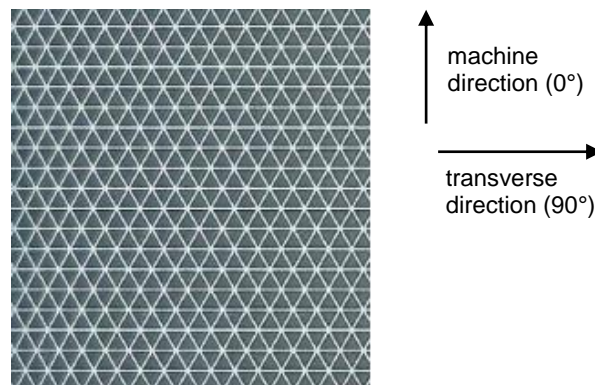
Colour

ORALITE® 5930M sheeting is available in white (010), yellow (020), red (030) and green (060). The sheeting conforms to the daytime colour 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: 2013-10 and ASTM D4956 (type IV) .

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 siliconised PE-paper as release liner (100g/m²).

Figure 1: Sealing pattern and application directions



Application/Processing

ORALITE® 5930M 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. Plastic surfaces need to be free of any emission. 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.

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

Note: All ORALITE® products are manufactured within an ISO 9001:2015 controlled manufacturing environment and batch traceability is possible on the basis of the roll number.

Product Data

Retroreflectivity for new sheeting (cd/lx/m²) as per DIN 67520:2013-10 and ASTM D4956 (type IV)

Table 1 – Specific coefficient of retroreflection (DIN 67520:2013-10 RA2; design C)									
Observation angle	0.2°			0.33°			2°		
Entrance angle	5°	30°	40°	5°	30°	40°	5°	30°	40°
White	250	150	110	180	100	95	5	2.5	1.5
Yellow	170	100	70	120	70	60	3	1.5	1
Red	45	25	15	25	14	13	1	0.4	0.3
Green	45	25	12	21	12	11	0.5	0.3	0.2

Daytime color specification limits for new sheeting:

Table 2 – Chromaticity coordinates (DIN 6171: 2013-10 and ASTM D4956 (type IV), table 3)									
Colours	1		2		3		4		Luminance factor β
	x	y	x	y	x	y	x	y	
White	0.355	0.355	0.305	0.305	0.285	0.325	0.335	0.375	≥ 0.25
Yellow	0.545	0.455	0.487	0.423	0.427	0.483	0.465	0.535	≥ 0.16
Red	0.735	0.265	0.674	0.236	0.569	0.341	0.655	0.345	≥ 0.03
Green	0.007	0.703	0.248	0.409	0.177	0.362	0.026	0.399	≥ 0.03

Physical and Chemical Properties

Thickness ¹ (without protective paper)	0.360 mm (14.5 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 power ¹ (FINAT-TM1 after 24h, stainless steel)	>15 N/25 mm (1 inch)
Shelf life ²	1 year
Application temperature	> +10° C (50° F)
Service life by specialist application ³ under vertical outdoor exposure	5 years

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.

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