

Product Description

ORALITE® 6900 Brilliant Grade are highly reflective, weatherproof, self-adhesive films with excellent corrosion and solvent resistance. The product was developed for the manufacture of vehicle livery markings and traffic signs.

ORALITE® 6900 sheeting is composed of a UV stabilized acrylic front film. Its retroreflective system consists of sealed cells of air backed microprisms, using total internal reflection. The distinct shape of the sealing pattern identifies the machine direction and the manufacturer of the sheeting shown in Figure 1.

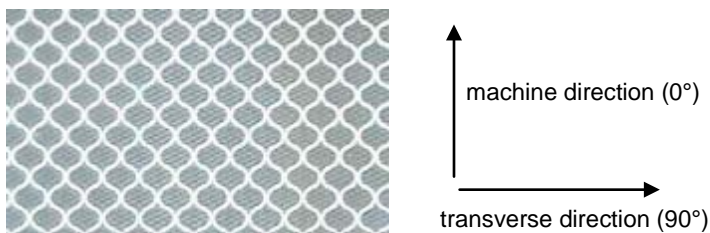
Retroreflectivity

ORALITE® 6900 Brilliant Grade for Vehicle Livery complies with the UK Home Office Centre for Applied Science & Technology (CAST) (formerly PSDB) High Conspicuity Livery specification. The 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® 6900 Brilliant Grade is available as white (010), fluorescent yellow-green (029), fluorescent orange (038), red (030), green (060) and royal blue (049). The sheeting conforms to the daytime colour requirements in tables 2 & 3 when measured in accordance with the provisions of CIE No. 15.2. The fluorescence luminance factors are given as informative values.

Figure 1 - Sealing pattern and application directions



Adhesive

The adhesive consists of a solvent polyacrylate, permanent pressure sensitive adhesive specially formulated for the application onto metallic surfaces such as aluminium, zinc coated steel plate and painted metal surfaces. Application to non metallic surfaces should be tested and approved prior to full production. The adhesive is protected by a release liner made of polypropylene film, silicone coated on one side, 0.075 mm thickness.

Application/Processing

Surfaces to which ORALITE® 6900 Brilliant Grade 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. For other applications the user is fully responsible for evaluating the suitability of the product, and for any risks associated with that use. For detailed application instructions and for applications requiring edges to be sealed please refer to the appropriate documentation or contact your ORAFOL Reflective Solutions Division representative for advice.

Orientation

ORALITE® 6900 Brilliant Grade will perform effectively at either 0° or 90° orientations allowing for the most efficient use of the material. In cases where individual pieces are aligned adjacent to others, text combined with panels and or striping, it is recommended to utilise the material in the same orientation.

Product Data

Retroreflectivity for new sheeting (cd/lx/m²)

Table 1 – Specific coefficient of retroreflection												
Observation angle	0.20°			0.33°			0.50°			1.00°		
Entrance angle	5°	30°	45°	5°	30°	45°	5°	30°	45°	5°	30°	45°
white (010)	350	170	40	300	165	30	110	60	20	35	20	3
red (030)	60	25	7	60	33	5	20	10	3.6	7	4	1
green (060)	35	18	4	30	17	3	11	6	2	3.5	2	0.5
royal blue (049)	25	12	3	19	11	2	7	3	1.3	2.5	1.5	0.5
fl. yellow-green (029)	300	150	33	240	130	24	50	20	9	28	16	2.5
fl. orange (038)	160	80	18	80	50	20	45	20	8	8	4	2

Daytime 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	> 0.27
red (030)	0.735	0.265	0.700	0.250	0.610	0.340	0.660	0.340	≥ 0.03
green (060)	0.110	0.415	0.170	0.415	0.170	0.500	0.110	0.500	≥ 0.03
royal blue (049)	0.130	0.090	0.160	0.090	0.160	0.140	0.130	0.140	≥ 0.01

Table 3 – Chromaticity coordinates, fluorescent colours										
Colours	1		2		3		4		Luminance factor β	Fluo. Luminance factor β _F
	x	y	x	y	x	y	x	y		
fluo. yellow-green (029)	0.373	0.625	0.358	0.549	0.427	0.483	0.465	0.535	≥ 0.60	≥ 0.35
fluo. orange (038)	0.506	0.404	0.570	0.429	0.655	0.345	0.560	0.340	≥ 0.15	≥ 0.18

Physical and Chemical Properties

Thickness* (without protective paper and adhesive)	0.230 mm (9 mils); 0.280 mm (11 mils) for colours 029, 038
Temperature resistance	adhered to aluminium, -56° C to +82° C (-70° 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 (FINAT-TM1 after 24h, stainless steel)	15 N/25 mm (1 inch)
Shelf life*	1 year
Application temperature	> +15° C (50° F)
Expected Service life by specialist application**	Up to 10 years***

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

** standard central European climate

*** for warranty document contact Orafol

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.

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

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 material 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. Failures caused by the substrate or improper surface preparations are not the responsibility of ORAFOL. Please refer to the Warranty document published by ORAFOL for detailed information. When using ORALITE® 6900 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 d 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.

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