ORALITE® 5421
Commercial Fleet Marking Grade

Description
ORALITE® 5421 Commercial Fleet Marking Grade are flexible, weatherproof, self-adhesive retroreflective films with an excellent corrosion and solvent resistance. The smooth surface shows a high scratch resistance and impact strength, and a very good printability

The retroreflective system of the ORALITE® 5421 consists of catadioptric glass beads which are embedded in a transparent layer of plastic material (class RA1, design A, formerly Type I).

ORALITE® 5421 exceeds the retroreflectivity performance requirements of EN 12899-1 (Europe). The daytime colours are in accordance to international specifications for reflective materials of this class, as EN 12899-1 (Europe), DIN 67520 and DIN 6171 (Germany), BS 873: Part 6 (UK), NFP 98-520 (France), SN 640878 (Swizerland), ASTM D 4956 (USA), JIS Z 9117 (Japan).

Front Material
Special cast PVC film

Release Paper
PE-coated silicone paper, 145 g/m².

As the product and batch number are applied to the silicone-coated paper, all production parameters and raw materials can be completely traced back.

Adhesive
Solvent polyacrylate, removable.

Area of Use
ORALITE® 5421 Commercial Fleet Marking Grade was especially developed for the manufacture of warning signs on cars and is removable from lacquered surfaces with the help of heat. The films are made for medium-term outdoor use. The material is equipped with an imprint according to the French norm TPESC A 10071, necessary for warning signs and available both as application kit and rolls.

When using the ORALITE® 5421, the particular national specifications have to be complied with.

Product Data
Minimum reflection data (EN 12899-1)

Table 1 – Specific coefficient of retroreflection R' in cd/lx/m²

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
red	**(030)**	14,5	6	0	10	0	0	-	0	0

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

Table 2 – Colour 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
yellow	**(020)**	0.494	0.505	0.470	0.480	0.513	0.437	0.545	0.454	≥ 0.16
red	**(030)**	0.735	0.265	0.700	0.250	0.610	0.340	0.660	0.340	≥ 0.03

Physical and Chemical Properties

Thickness* (without protective paper and adhesive)	90 micron
Temperature resistance**	adhered to aluminium, -50° C to +82° C
Adhesive power* (FINAT-TMI after 24h, stainless steel)	15 N/25 mm (film tear)
Shelf life**	2 years
Application Temperature	› +10° C
Service life by specialist application under vertical outdoor exposure (standard central European climate)	4 years

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

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 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. Furthermore the application information published by ORAFOL is to be considered.

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.