

# ORALITE® 5650RA FLEET ENGINEERING GRADE REFLECTIVE FILM WITH RAPIDAIR® TECHNOLOGY

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## Description

5-mil\*, cast PVC reflective film that combines excellent weather, solvent and corrosion resistance. Meets ASTM D 4956 specifications for Type I, Class 1 retroreflective sheeting. 11 colors available.

## Release Liner

89# PE-coated silicone paper featuring advanced air release technology to facilitate quicker, easier application

## Adhesive

Clear, solvent-based, repositionable, permanent low initial tack adhesive (removable with heat)

## Area of Use

Designed to make fleet applications easier by reducing the incidence of bubbles. Provides printability, conformability over corrugations and rivets and long-term removability (with heat).

## Physical and Chemical Properties

<b>Thickness*</b> (without liner and adhesive)	5-mil
<b>Temperature resistance</b>	Adhered to aluminum, -58°F to 203°F
<b>Suitable Fire Extinguishing Media</b>	Water spray mist, dry extinguishing agent, carbon dioxide, foam
<b>Fire Rating</b>	ASTM # 84-07 Class "A"
<b>Adhesive Power*</b> (FINAT TM-1, after 24h, average)	Adhered to stainless steel: 3.8 lb/in Adhered to acrylic coating: 3.9 lb/in
<b>Tensile Strength</b> (DIN EN ISO 527)	Along: Min.10 MPa Across: Min. 10 MPa
<b>Shelf life**</b>	2 years
<b>Minimum life expectancy***</b> (based on accepted Application procedures on vertical surfaces)	7 years (unprinted)
<b>Minimum Application temperature</b>	+59°F
<b>Available lengths</b>	150' (50-yard), 30' (10-yard)
<b>Available widths</b>	15" (punched) 24", 30", 48", 54" (available in white only), 60" (available in white only)
<b>Recommended Laminates</b>	ORAGUARD® Series 290, 290GF, 293
<b>Recommended Application Tapes</b>	ORATAPE® Series HT55, MT95, MT72
<b>Print Compatibility</b>	Latex, Solvent, Eco-Solvent, UV Curable & Screen Printing: ORALITE® 5018 Screen Printing Ink is recommended

For best results, utilize ORAFOL ICC profiles available at [www.orafolamericas.com](http://www.orafolamericas.com) and allow solvent-based inks to dry for at least 24 hours (48-72 hours preferred) at 70°F before cutting the graphic to the ink or applying a laminate.

\* 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](http://www.orafolamericas.com)

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

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## Product Data

ORALITE® Series 5650RA meets the following ASTM D 4956 specifications for Type I, Class 1 retroreflective sheeting.

Observation Angle	Minimum coefficient of retroreflection (R) cd/ft <sup>2</sup> (cd · lx <sup>-1</sup> · m <sup>-2</sup> )				Daytime Luminance Factor (Y%)	
	0.2°		0.5°		Minimum	Maximum
Entrance Angle	-4°	30°	-4°	30°		
white 010	70	30	30	15	27	
yellow 020	50	22	25	13	15	45
orange 035	25	7	13	4	10	30
red 030	14	6	7.5	3	2.5	15
green 060	9	3.5	4.5	2.2	3	12
blue 050	4	1.7	2	0.8	1	10
brown 080	1	0.3	0.3	0.2	1	9

## Color Specification Limits (Daytime)\*

	1		2		3		4	
	x	y	x	y	x	y	x	y
white 010	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329
yellow 020	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472
orange 035	0.558	0.352	0.636	0.364	0.570	0.429	0.506	0.404
red 030	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346
green 060	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771
blue 050	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216
brown 080	0.430	0.340	0.610	0.390	0.550	0.450	0.430	0.390

## Color Specification Limits (Nighttime)\*

	1		2		3		4	
	x	y	x	y	x	y	x	y
white 010	no requirement							
yellow 020	0.513	0.487	0.500	0.470	0.545	0.425	0.572	0.425
orange 035	0.595	0.405	0.565	0.405	0.613	0.355	0.643	0.355
red 030	0.650	0.348	0.620	0.348	0.712	0.255	0.735	0.265
green 060	0.007	0.570	0.200	0.500	0.322	0.590	0.193	0.782
blue 050	0.033	0.370	0.180	0.370	0.230	0.240	0.091	0.133
brown 080	0.595	0.405	0.540	0.405	0.570	0.365	0.643	0.355

\*The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with CIE Standard Illuminant D65.



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## 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 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.



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