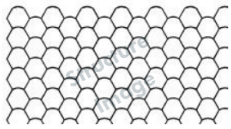
ORALITE® 5960

High Intensity Prismatic Construction Grade

Reflective Properties

Cell structure:



Reflective Technology: Prismatic , Reflectivity classes: RA2, Reflective film structure: C, Reflection norm: ORALITE® 5960 - Tabelle 1 (DIN 67520:2008-11 RA2; Aufbau C), ORALITE® 5960 - Tabelle 2, ORALITE® 5960 - Tabelle 3 (DIN 6171-1: 2011-11), ORALITE® 5960 - Tabelle 4 (ASTM D4956 (Typ IV))

Areas of Application

- Traffic signs
- Construction sites
- Advertising & signage
- Traffic & transportation

Colours

ORALITE® 5960 is available in the following colours: White (F010), Yellow (F020), Orange (F035), Red (F030), Blue (F050), Green (F060), Brown (F080), Yellow-Green fluorescent (F029), Orange fluorescent (F038)

Total thickness

- 0.295 mm (Standard colours, average value, without protective liner)
- 0.385 mm (fluorescent colours, average value, without protective paper)

Front material

Acrylic film

Liner

One-sided silicon-coated PP film

Adhesive

Solvent-polyacrylate, permanent, White

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Technical properties

RESISTANCE

Resistance to cleaning agents	No change	adhered on aluminium | 8 h in detergent solution (0.5 % household cleaner) at room temperature and 65 °C
Durability	5 Year(s)	unprinted, with professional processing, with vertical outdoor weathering, central European normal climate
Shelf Life	1 Year(s)	in original packaging, at 20 °C and 50 % relative humidity
Temperature resistance	Minimum temperature -56 °C Maximum temperature 82 °C	adhered on aluminium

ADHESIVE PROPERTIES

Adhesive power	15 N/25 mm	after 24 h, on stainless steel | Average value, FINAT TM 1

PROCESSING

Recommended printing procedure	Digital print with UV-curing inks, Screen printing	
Application temperature	Minimum temperature 10 °C	

Table 1 - Specific coefficient of retroreflection R' in cd / (lx m²) (New condition; DIN 67520: 2008-11 RA2; Design C)

Observation Angle		0.2°			0.33°			2°		
Entrance angle		5°	30°	40°	5°	30°	40°	5°	30°	40°
White	(010)	250	150	110	180	100	95	5	2.5	1.5
Yellow	(020)	170	100	70	122	70	64	3	1.5	1
Orange	(040)	100	60	29	65	40	20	1.5	1.0	#
Red	(030)	45	25	15	25	14	13	1.0	0.4	0.3
Green	(050)	45	25	12	21	12	11	0.5	0.3	0.2
Blue	(060)	20	11	8	14	8	7	0.2	#	#

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Observation Angle	0.2°			0.33°			2°		
Entrance angle	**5°**	**30°**	**40°**	**5°**	**30°**	**40°**	**5°**	**30°**	**40°**
Brown (080)	12	8.5	5	8	5	3	0.2	#	#

Table 2 - Specific coefficient of retroreflection R' in cd / (lx m²) (New condition; ASTM D4956 (type IV))

Observation Angle	0.2°		0.5°	
Entrance angle	**-4°**	**30°**	**-4°**	**30°**
White (010)	360	170	150	72
Yellow (020)	270	135	110	54
fl. yellow-green (150)	290	135	120	55
Orange (040)	145	68	60	28
fl. Orange (140)	105	50	45	22
Red (030)	65	30	27	13
Green (050)	50	25	21	10
Blue (060)	30	14	13	6
Brown (080)	18	8.5	7.5	3.5

Table 3 - Chromaticity coordinates (Colour specification limits at daylight; New condition; DIN 6171-1: 2011-11)

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
Orange (040)	0.610	0.390	0.535	0.375	0.506	0.404	0.570	0.429	0.14
Red (030)	0.735	0.265	0.700	0.250	0.610	0.340	0.660	0.340	0.03
Green (050)	0.110	0.415	0.170	0.415	0.170	0.500	0.110	0.500	0.03

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Colours		1		2		3		4		Luminance factor β
		x	y	x	y	x	y	x	y	
Blue	**(060)**	0.130	0.090	0.160	0.090	0.160	0.140	0.130	0.140	□ 0.01
Brown	**(080)**	0.455	0.397	0.523	0.429	0.479	0.373	0.558	0.394	0.03 – 0.09

Table 4 - Chromaticity coordinates (Colour specification limits at daylight; New condition; ASTM D4956 (type IV))

Colours		1		2		3		4		Luminance factor (Y %)
		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	> 27
Yellow	**(020)**	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472	15 □ Y □ 45
fl. yellow-green	**(150)**	0.387	0.610	0.369	0.546	0.428	0.496	0.460	0.540	> 60
Orange	**(040)**	0.558	0.352	0.636	0.364	0.570	0.429	0.506	0.404	10 □ Y □ 30
fl. Orange	**(140)**	0.583	0.416	0.535	0.400	0.595	0.351	0.645	0.355	> 20
Red	**(030)**	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5 □ Y □ 15
Green	**(050)**	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771	3 □ Y □ 12
Blue	**(060)**	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216	1 □ Y □ 10
Brown	**(080)**	0.430	0.340	0.610	0.390	0.550	0.450	0.430	0.390	1 □ Y □ 9

PRODUCT NOTE

The substrate to be bonded must be free of dust, grease or other contamination, which can affect the adhesiveness of the material. Re-coatings must be completely cured. Application tests with the planned coatings have to be performed in advance to determine the compatibility. For other application areas the user should independently evaluate whether the product is suitable and whether risks may arise from its use. ORALITE® 5960 white can be printed by means of digital or screen printing. The printed material still fulfils the specifications for reflectance values of this ink if the ORAFOL processing instructions are observed. We recommend the ORALITE® 5018 series as the screen printing ink. Clear varnish is not required. The material can also be printed with the ORALITE® UV Digital Sign Printer and the specifically developed UV digital inks ORALITE® 5019. For detailed information please use the processing instructions published by ORAFOL No. 4.3. or contact the responsible employee of the ORAFOL Reflective Solutions Division. Machine direction (0°) cross direction (90°) Any warranty is excluded for applications which are not listed in the Technical Data sheet or which are not performed in accordance with the processing guidelines set out by ORAFOL. The durability of the shields depends on a multitude of factors, such as for example the selection and preparation of the substrate, compliance with the recommended processing guidelines, the geographical application area, the weather conditions as well as the maintenance of the product and the finished shield. ORAFOL does not accept any liability for defects which can be traced back to an unsuitable substrate or inadequate surface preparation. For detailed information, please refer to the warranty document published by ORAFOL. All ORALITE® products are subject to thorough quality control in accordance with ISO 9001:2015 during the entire manufacturing process and traceability is ensured through the roll number.

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IMPORTANT NOTES

Relevant national specifications have to be observed when using films of the ORALITE® series. ORAFOL recommends that you obtain the current specifications from your local authority and ensure that the product complies with them. For further information, please contact ORAFOL directly. All ORALITE® products are subject to thorough quality control during the entire manufacturing process. It is ensured that they are of merchantable quality and free from manufacturing defects. The information published on the ORALITE® products is based on research results which the company considers to be reliable, but which do not constitute a guarantee. In view of the wide range of applications of ORALITE® products and the continuous development of new applications, the buyer should carefully weigh up the suitability and performance of the product for the respective purpose and they bear all risks in connection with such use. All specifications may be changed without advance notice. Any warranty is excluded for applications which are not listed in the Technical Data sheet or which are not performed in accordance with the processing guidelines set out by ORAFOL. The durability of the shields depends on a multitude of factors, such as for example the selection and preparation of the substrate, compliance with the recommended processing guidelines, the geographical application area, the weather conditions as well as the maintenance of the product and the finished shield. ORAFOL does not accept any liability for defects which can be traced back to an unsuitable substrate or inadequate surface preparation. You can find comprehensive information in the warranty document under www.orafol.com. ORALITE® is a trademark of ORAFOL Europe GmbH.

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