



**Declaration of Performance
No. 5510.001.20220208**



according to:

COMMISSION DELEGATED REGULATION (EU) No 574/2014 of 21 February 2014 amending Annex III to Regulation (EU) No 305/2011 of the European Parliament and of the Council on the model to be used for drawing up a declaration of performance on construction products

1. Unique identification code of the product-type:

ORALITE 5510 Engineer Grade

ORALITE 5510 Engineer Grade + 5071-070 Lettering film (black)

ORALITE 5510 Engineer Grade + 5018 Screen printing ink (yellow, red, blue, green)

ORALITE 5510 Engineer Grade + 5018 Screen printing ink (black)

2. Intended use/es:

Retroreflective sheeting for use in the manufacture of traffic signs and traffic control equipment

Retroreflective sign face material based on glass-beads technology for the manufacturing of fixed vertical road traffic signs

3. Manufacturer:

Orafol Europe GmbH
Orafolstrasse 1
16515 Oranienburg

Telephone: +49 3301 864 - 0
E-Mail: info@orafol.de
Internet: www.orafol.com

4. Authorised representative – *not relevant*

5. 5. System/s of AVCP: **1**

6 a) Harmonised standard:

EN 12899-1:2007 : *Fixed, vertical road traffic signs - Part 1: fixed signs*

Notified body/ies:

Number: **0913**

Name: **StrAus-Zert**; Fleyer Straße 204; 58097 Hagen

Certificate No.: **0913 – CPD – 2015 / 001**

6 b) European Assessment Document: - *not applicable*

European Technical Assessment: - *not applicable*

Technical Assessment Body: - *not applicable*

Notified body/ies: - *not applicable*



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7. Declared performance/s:

Main features	Description	Performance
Daylight chromaticity and luminance factors	EN 12899-1 4.1.1.3 (Table 2)	CR 2 Attachment 1 Table 1
Coefficient of retroreflection	EN 12899-1 4.1.1.4 (Table 3)	RA 1 Attachment 1 Table 2
Durability		
Impact resistance	EN 12899-1 4.1.2.1	Fulfilled Attachment 2
Resistance to weathering (artificial weathering / three years natural weathering)	EN 12899-1 4.1.1.5	CR 1 Attachment 3 Table 3 Table 4

8. Appropriate Technical Documentation and/or Specific Technical Documentation:

Posted on Webpage:

<https://www.orafol.com>

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

i.A. Dipl.-Ing. Jürgen Ewald

Global Regulatory Affairs Manager

[Name and function]

Oranienburg, 08.02.2022

i.A.

[place and date of issue]

[signature]



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Attachement 1

Table 1: Specific Coefficient of Retroreflection R_A (Unit: $\text{cd} \cdot \text{m}^{-2} \cdot \text{lx}^{-1}$) for traffic signs in new condition: Class RA1 according to DIN EN 12899-1

Geometry		Colour						
α	β_1 ($\beta_2 = 0$)	White	Yellow	Red	Green	Blue	Brown	Orange
0,2°	+ 5°	70	50	14,5	9	4	1	25
	+ 30°	30	22	6	3,5	1,7	0,3 ¹⁾	10
	+ 40°	10	7	2	1,5	0,5	#	2,2
0,33°	+ 5°	50	35	10	7	2	0,6	20
	+ 30°	24	16	4	3	1	0,2 ¹⁾	8
	+ 40°	9	6	1,8	1,2	#	#	2,2
2°	+ 5°	5	3	1	0,5	#	#	1,2
	+ 30°	2,5	1,5	0,5	0,3 ¹⁾	#	#	0,5
	+ 40°	1,5	1	0,5	0,2 ¹⁾	#	#	#

Indicates "Value greater than zero but not significant or applicable"

¹⁾ Values less than 0,5 are not evaluated

Table 2: Daylight chromaticity coordinates and luminance factors for traffic signs in new condition: Class CR 2 according to DIN EN 12899-1

Colour	Chromaticity Coordinates								Luminance Factor β
	1		2		3		4		
	x	y	x	y	x	y	x	y	
White	0,305	0,315	0,335	0,345	0,325	0,355	0,295	0,325	> 0,35
Yellow	0,494	0,505	0,470	0,480	0,513	0,437	0,545	0,454	> 0,27
Red	0,735	0,265	0,700	0,250	0,610	0,340	0,660	0,340	> 0,05
Green	0,110	0,415	0,170	0,415	0,170	0,500	0,110	0,500	> 0,04
Blue	0,130	0,090	0,160	0,090	0,160	0,140	0,130	0,140	> 0,01
Brown	0,455	0,397	0,523	0,429	0,479	0,373	0,558	0,394	$0,03 \leq \beta \leq 0,09$
Orange	0,610	0,390	0,535	0,375	0,506	0,404	0,570	0,429	> 0,17



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Attachement 2

Impact resistance: The requirement for impact resistance depends on DIN EN 12899-1. Outside a circle with a radius of 6 mm from the center of the impact circle, no cracks or delamination from any substrate.

Attachement 3

Table 3: Specific Coefficient of Retroreflection R_A (Unit: $\text{cd} \cdot \text{m}^{-2} \cdot \text{lx}^{-1}$) for traffic signs in after weathering: Class RA1 according to DIN EN 12899-1

Geometry		Colour						
α	β_1 ($\beta_2 = 0$)	White	Yellow	Red	Green	Blue	Brown	Orange
0,33°	+ 5°	40	28	8	5,6	1,6	0,48	16
0,33°	+ 30°	19,2	12,8	3,2	2,4	0,8	0,16	6,4

Indicates "Value greater than zero but not significant or applicable"

Table 4: Daylight chromaticity coordinates and luminance factors for traffic signs after weathering: Class CR 1 according to DIN EN 12899-1

Colour	Chromaticity Coordinates								Luminance Factor β
	1		2		3		4		
	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	> 0,35
Yellow	0,545	0,454	0,487	0,423	0,427	0,483	0,465	0,534	> 0,27
Red	0,735	0,265	0,674	0,236	0,569	0,341	0,655	0,345	> 0,05
Green	0,007	0,703	0,248	0,409	0,177	0,362	0,026	0,399	> 0,04
Blue	0,078	0,171	0,150	0,220	0,210	0,160	0,137	0,038	> 0,01
Brown	0,455	0,397	0,523	0,429	0,479	0,373	0,558	0,394	$0,03 \leq \beta \leq 0,09$
Orange	0,610	0,390	0,535	0,375	0,506	0,404	0,570	0,429	> 0,17