



**Declaration of Performance  
No. 5810.001.20220208**



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 5810 High Intensity Grade**

**ORALITE 5810 High Intensity Grade + 5071-070 Lettering film (black)**

**ORALITE 5810 High Intensity Grade + 5061 coloured film (yellow, red, blue, green, brown and white)**

**ORALITE 5810 High Intensity Grade + 5018 Screen printing ink (yellow, red, blue, green, black)**

**ORALITE 5810 High Intensity Grade + 5019i UV digital printing ink (all colours) for use with UV Digital Traffic Sign Printer + 5061 transparent film**

**ORALITE 5810 High Intensity Grade + 5019 UV digital printing ink (all colours) for use with UV Digital Traffic Sign Printer + 5061 transparent film**

**ORALITE 5810 High Intensity Grade + 5090 anti-dew film (yellow, red, blue)**

**ORALITE 5810 High Intensity Grade + 5061 coloured film + 5090 anti-dew film (yellow, red, blue)**

**ORALITE 5810 High Intensity Grade + 5095 anti-graffiti film (yellow, red, blue)**

**ORALITE 5810 High Intensity Grade + 5061 coloured film + 5095 anti-graffiti Film (yellow, red, blue)**

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

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E-Mail: [info@orafol.de](mailto:info@orafol.de)  
Internet: [www.orafol.com](http://www.orafol.com)

4. Authorised representative – *not relevant*

5. System/s of AVCP: 1



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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 – 2009 / 035*

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

European Technical Assessment: - *not applicable*

Technical Assessment Body: - *not applicable*

Notified body/ies: - *not applicable*

7. Declared performance/s:

Main features	Description	Performance
<b>Daylight chromaticity and luminance factors</b>	EN12899-1 4.1.1.3 (Table 2)	<b>CR 2 Attachment 1 Table 1</b>
<b>Coefficient of retroreflection</b>	EN12899-1 4.1.1.4 (Table 4)	<b>RA 2 Attachment 1 Table 2</b>
<b>Durability</b>		
Impact resistance	EN12899-1 4.1.2.1	<b>Fulfilled Attachment 2</b>
Resistance to weathering (artificial weathering / three years natural weathering)	EN12899-1 4.1.1.5	<b>CR 1 Attachment 3 Table 3 Table 4</b>



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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

*[place and date of issue]*

i.A.

*[signature]*



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**Attachment 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 RA2 according to DIN EN 12899-1**

Geometry		Colour							
$\alpha$	$\beta_1$ ( $\beta_2 = 0$ )	White	Yellow	Red	Green	Blue	Brown	Orange	Grey
0,2°	+ 5°	250	170	45	45	20	12	100	125
	+ 30°	150	100	25	25	11	8,5	60	75
	+ 40°	110	70	15	12	8	5	29	55
0,33°	+ 5°	180	120	25	21	14	8	65	90
	+ 30°	100	70	14	12	8	5	40	50
	+ 40°	95	60	13	11	7	3	20	47
2°	+ 5°	5	3	1	0,5	0,2 <sup>1)</sup>	0,2 <sup>1)</sup>	1,5	2,5
	+ 30°	2,5	1,5	0,4 <sup>1)</sup>	0,3 <sup>1)</sup>	#	#	1	1,2
	+ 40°	1,5	1	0,3 <sup>1)</sup>	0,2 <sup>1)</sup>	#	#	#	0,7

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

<sup>1)</sup> 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 $\beta$
	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	> 0,27
Yellow	0,494	0,505	0,470	0,480	0,513	0,437	0,545	0,454	> 0,16
Red	0,735	0,265	0,700	0,250	0,610	0,340	0,660	0,340	> 0,03
Green	0,110	0,415	0,170	0,415	0,170	0,500	0,110	0,500	> 0,03
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	> 0,14
Grey	0,305	0,315	0,335	0,345	0,325	0,355	0,295	0,325	$0,11 \leq \beta \leq 0,18$



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**Attachment 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.

**Attachment 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 RA2 according to DIN EN 12899-1**

Geometry		Colour							
$\alpha$	$\beta_1$ ( $\beta_2 = 0$ )	White	Yellow	Red	Green	Blue	Brown	Orange	Grey
0,33°	+ 5°	144	96	20	16,8	11,2	6,4	52	72
0,33°	+ 30°	80	56	11,2	9,6	6,4	4	32	40

# 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 $\beta$
	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	> 0,27
Yellow	0,545	0,454	0,487	0,423	0,427	0,483	0,465	0,534	> 0,16
Red	0,735	0,265	0,674	0,236	0,569	0,341	0,655	0,345	> 0,03
Green	0,007	0,703	0,248	0,409	0,177	0,362	0,026	0,399	> 0,03
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	> 0,14
Grey	0,350	0,360	0,300	0,310	0,285	0,325	0,335	0,375	$0,11 \leq \beta \leq 0,18$