Declaration of Performance
No. 5910.5017.001.20220422

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 5910 High Intensity Prismatic Grade + 5017 Eco Solvent digital printing ink (all colours) for the use with ORALITE Eco Solvent Digital Traffic Sign Printer + 5061 transparent Film

2. Intended use/es:

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

Retroreflective sign face material based on micro prismatic 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. System/s of AVCP: **1**

6 a) Harmonised standard: - *not applicable*

Notified body/ies: - *not applicable*

6 b) European Assessment Document:

Number	Date of issue
EAD 12001-01-0106	September 2016

European Technical Assessment:

Number	Date of issue
ETA-19/0082	08.04.2019

CE	**Declaration of Performance** **No. 5910.5017.001.20220422**	ORAFOL®

Technical Assessment Body:

Technický a skúšobný ústav stavebný, n. o.
Building Testing and Research Institute
Studená 3, 821 04 Bratislava, Slovak Republic

Notified body/ies:

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

Notified body/ies:

Number: **1358**
Name: **VUD**, Veľký Diel 3323, 010 08 Žilina, Slovak Republic

Certificate *No.: 1358 – CPD – 0171*

7. Declared performance/s:

Main features	Description	Performance
Daylight chromaticity and luminance factors	**CR 2**	**Attachment 1** **Table 2**
Coefficient of retroreflection	**RA 2**	**Attachment 1** **Table 1**
Symmetry of retroreflection	**< 2,5 : 1**	**Attachment 1**
Durability		
Impact resistance	**Fulfilled**	**Attachment 2**
Resistance to weathering (artificial weathering / three years natural weathering)	**CR 1**	**Attachment 3** **Table 3** **Table 4**

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

Posted on Webpage:

https://www.orafol.com

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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, 22.04.2022 — i.A.

[place and date of issue] — *[signature]*

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Attachment 1

Table 1: Specific Coefficient of Retroreflection R_A (Unit: $cd \cdot m^{-2} \cdot lx^{-1}$) for traffic signs in new condition: Class RA2 according to DIN EN 12899-1

Geometry		Colour							
α	β_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[1)]	0,2[1)]	1,5	2,5
	+ 30°	2,5	1,5	0,4[1)]	0,3[1)]	#	#	1	1,2
	+ 40°	1,5	1	0,3[1)]	0,2[1)]	#	#	#	0,7

# 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	> 0,27
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 ≤ β ≤ 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 ≤ β ≤ 0,18

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Attachment 2

Symmetry of retroreflection

The ratio of the maximum and minimum specific reflection values when rotating by ε with discrete steps, taking into account a preferred direction, is not greater than 2.5: 1.

Attachment 3

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 4

Table 3: Specific Coefficient of Retroreflection R_A (Unit: $cd \cdot m^{-2} \cdot lx^{-1}$) for traffic signs in after weathering: Class RA2 according to DIN EN 12899-1

Geometry		Colour							
α	β_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

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	> 0,27
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	$0,03 \le \beta \le 0,09$
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	$0,11 \le \beta \le 0,18$