

**Attestation on testing a marking system on  
chromaticity co-ordinates, luminance factor  $\beta$  and resistance to chemicals  
for usage on manoeuvring areas**

<b>Attestation number: DSGS-02</b>	
<b>Applicant:</b>	SWARCO LIMBURGER LACKFABRIK GmbH Robert-Bosch-Straße 17, D - 65582 Diez
<b>Concern:</b>	Testing of BAST (Bundesanstalt für Straßenwesen, German Federal Highway Research Institute) tested marking systems on chromaticity co-ordinates, luminance factor $\beta$ and resistance to chemicals according to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018). The marking materials are being produced by the applicant.
<p>This is to attest that the BAST tested marking systems mentioned in the attachment below achieve the requirements regarding chromaticity co-ordinates, luminance factor <math>\beta</math> and resistance to chemicals according to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018).</p> <p>International requirements according to ICAO and EASA are also achieved (aside from the chromaticity co-ordinates for the colours Sky Blue and Grass Green). Supporting documents are available and can be ordered from the applicant or from DSGS if necessary.</p>	

Kassel, 02/11/2018, last changed at 24/11/2021



-----  
Dr. Claudia Drewes

**DEUTSCHE STUDIENGESELLSCHAFT  
FÜR STRASSENMARKIERUNGEN e.V.**  
-Prüfdienst-  
Simmershäuser Str. 101a · 34125 Kassel  
Tel. 05 61/810 25 99 · Fax 05 61/810 25 98

This attestation includes one page plus an attachment of twenty-six pages and may only be circulated or published unshortened.

**Attachment**

The following marking systems with marking materials produced by SWARCO LIMBURGER LACKFABRIK GmbH are licensed under the attestation number DSGS-02 dated 24/11/2021:

**Table 1a** Water based paints non-reflective

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
1	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	300	RAL 9016 traffic white	2006 1DW 01.04 2013 1DW 07.14 2018 1VW 06.16 2020 1DW 05.06 2020 1VW 05.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	1)
2	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	300	RAL 1023 traffic yellow	2006 1DW 01.04 2013 1DW 07.14 2018 1VW 06.16 2020 1DW 05.06 2020 1VW 05.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	1)
3	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	300	RAL 2009 traffic orange	2006 1DW 01.04 2013 1DW 07.14 2018 1VW 06.16 2020 1DW 05.06 2020 1VW 05.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	1)
4	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	300	RAL 3020 traffic red	2006 1DW 01.04 2013 1DW 07.14 2018 1VW 06.16 2020 1DW 05.06 2020 1VW 05.07	DSGS: D8625, D8706	producer overview dated 09/03/2021	1)
5	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	300	RAL 5015 sky blue	2006 1DW 01.04 2013 1DW 07.14 2018 1VW 06.16 2020 1DW 05.06 2020 1VW 05.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	1), 2)
6	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	300	RAL 6010 grass green	2006 1DW 01.04 2013 1DW 07.14 2018 1VW 06.16 2020 1DW 05.06 2020 1VW 05.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	1), 3)
7	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	300	RAL 9017 traffic black	2006 1DW 01.04 2013 1DW 07.14 2018 1VW 06.16 2020 1DW 05.06 2020 1VW 05.07	DSGS: D8706	producer overview dated 09/03/2021	1)
8	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	400	RAL 9016 traffic white	2013 1DW 07.15	DSGS: D8608, D8706	producer overview dated 09/03/2021	
9	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	400	RAL 1023 traffic yellow	2013 1DW 07.15	DSGS: D8608, D8706	producer overview dated 09/03/2021	

**Table 1a** Water based paints non-reflective (continued)

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
10	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	400	RAL 2009 traffic orange	2013 1DW 07.15	DSGS: D8608, D8706	producer overview dated 09/03/2021	
11	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	400	RAL 3020 traffic red	2013 1DW 07.15	DSGS: D8625, D8706	producer overview dated 09/03/2021	
12	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	400	RAL 5015 sky blue	2013 1DW 07.15	DSGS: D8608, D8706	producer overview dated 09/03/2021	2)
13	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	400	RAL 6010 grass green	2013 1DW 07.15	DSGS: D8608, D8706	producer overview dated 09/03/2021	3)
14	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	400	RAL 9017 traffic black	2013 1DW 07.15	DSGS: D8706	producer overview dated 09/03/2021	
15	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	600	RAL 9016 traffic white	97 1W 12.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	
16	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	600	RAL 1023 traffic yellow	97 1W 12.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	
17	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	600	RAL 2009 traffic orange	97 1W 12.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	
18	07/07/2016	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	600	RAL 3020 traffic red	97 1W 12.07	DSGS: D8625, D8706	producer overview dated 09/03/2021	
19	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	600	RAL 5015 sky blue	97 1W 12.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	2)
20	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	600	RAL 6010 grass green	97 1W 12.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	3)
21	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz		x	without	---	---	600	RAL 9017 traffic black	97 1W 12.07	DSGS: D8706	producer overview dated 09/03/2021	

**Table 1b** Water based paints reflective type I

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
22	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	SWARCOLUX P 21 T14 M25	SWARCO	300	RAL 9016 traffic white	2006 1DW 01.04	DSGS: D8608, D8706	producer overview dated 09/03/2021	
23	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	SWARCOFLEX 100 - 600 T14 M25	SWARCO	300	RAL 9016 traffic white	2013 1DW 07.14	DSGS: D8608, D8706	producer overview dated 09/03/2021	
24	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 M30	SWARCO	300	RAL 9016 traffic white	2020 1DW 05.06	DSGS: D8706	producer overview dated 09/03/2021	
25	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 1023 traffic yellow	2020 1VW 05.07	DSGS: D8706	producer overview dated 09/03/2021	1)
26	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 2009 traffic orange	2020 1VW 05.07	DSGS: D8706	producer overview dated 09/03/2021	1)
27	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 3020 traffic red	2020 1VW 05.07	DSGS: D8706	producer overview dated 09/03/2021	1)
28	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 5015 sky blue	2020 1VW 05.07	DSGS: D8706	producer overview dated 09/03/2021	1), 4)
29	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 6010 grass green	2020 1VW 05.07	DSGS: D8706	producer overview dated 09/03/2021	1), 3)
30	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 9017 traffic black	2020 1VW 05.07	DSGS: D8706	producer overview dated 09/03/2021	1), 5)
31	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	SWARCOFLEX 100 - 600 T14 M25	SWARCO	400	RAL 9016 traffic white	2013 1DW 07.15	DSGS: D8608, D8706	producer overview dated 09/03/2021	
32	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 1023 traffic yellow	2018 1VW 06.16	DSGS: D8706	producer overview dated 09/03/2021	
33	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 2009 traffic orange	2018 1VW 06.16	DSGS: D8706	producer overview dated 09/03/2021	
34	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 3020 traffic red	2018 1VW 06.16	DSGS: D8706	producer overview dated 09/03/2021	

**Table 1b** Water based paints reflective type I (continued)

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-re-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
35	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 5015 sky blue	2018 1VW 06.16	DSGS: D8706	producer overview dated 09/03/2021	4)
36	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 6010 grass green	2018 1VW 06.16	DSGS: D8706	producer overview dated 09/03/2021	3)
37	04/06/2021	water based paint	LIMBOROUTE LW48F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 9017 traffic black	2018 1VW 06.16	DSGS: D8706	producer overview dated 09/03/2021	5)

**Table 1c** Water based paints reflective type II

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-re-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
38	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz	x		II	MEGALUX-BEADS 600 - 1400 T14 K25	SWARCO	600	RAL 9016 traffic white	97 1W 12.07	DSGS: D8608, D8706	producer overview dated 09/03/2021	6)

**Table 2a** High-solid paints non-reflective

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
39	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	300	RAL 9016 traffic white	2020 1DS 05.10	DSGS: D8608	producer overview dated 09/03/2021	
40	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	300	RAL 1023 traffic yellow	2020 1DS 05.10	DSGS: D8608	producer overview dated 09/03/2021	
41	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	300	RAL 2009 traffic orange	2020 1DS 05.10	DSGS: D8608	producer overview dated 09/03/2021	
42	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	300	RAL 3020 traffic red	2020 1DS 05.10	DSGS: D8625	producer overview dated 09/03/2021	
43	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	300	RAL 5015 sky blue	2020 1DS 05.10	DSGS: D8608	producer overview dated 09/03/2021	2)
44	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	300	RAL 6010 grass green	2020 1DS 05.10	DSGS: D8608	producer overview dated 09/03/2021	3)
45	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	300	RAL 9017 traffic black	2020 1DS 05.10	DSGS: D8625	producer overview dated 09/03/2021	
46	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	400	RAL 9016 traffic white	2007 1DS 08.11 2009 1DS 03.11 2010 1DS 07.03 2012 1DS 01.06	DSGS: D8608	producer overview dated 09/03/2021	
47	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	400	RAL 1023 traffic yellow	2007 1DS 08.11 2009 1DS 03.11 2010 1DS 07.03 2012 1DS 01.06	DSGS: D8608	producer overview dated 09/03/2021	
48	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	400	RAL 2009 traffic orange	2007 1DS 08.11 2009 1DS 03.11 2010 1DS 07.03 2012 1DS 01.06	DSGS: D8608	producer overview dated 09/03/2021	
49	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	400	RAL 3020 traffic red	2007 1DS 08.11 2009 1DS 03.11 2010 1DS 07.03 2012 1DS 01.06	DSGS: D8625	producer overview dated 09/03/2021	
50	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	400	RAL 5015 sky blue	2007 1DS 08.11 2009 1DS 03.11 2010 1DS 07.03 2012 1DS 01.06	DSGS: D8608	producer overview dated 09/03/2021	2)
51	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	400	RAL 6010 grass green	2007 1DS 08.11 2009 1DS 03.11 2010 1DS 07.03 2012 1DS 01.06	DSGS: D8608	producer overview dated 09/03/2021	3)

**Table 2a** High-solid paints non-reflective (continued)

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
52	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	400	RAL 9017 traffic black	2007 1DS 08.11 2009 1DS 03.11 2010 1DS 07.03 2012 1DS 01.06	DSGS: D8625	producer overview dated 09/03/2021	
53	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	600	RAL 9016 traffic white	2012 1DS 01.10	DSGS: D8608	producer overview dated 09/03/2021	
54	23/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	600	RAL 1023 traffic yellow	2012 1VS 01.09	DSGS: D8608	producer overview dated 09/03/2021	
55	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	600	RAL 2009 traffic orange	2012 1DS 01.10 2012 1VS 01.09	DSGS: D8608	producer overview dated 09/03/2021	
56	05/07/2016	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	600	RAL 3020 traffic red	2012 1DS 01.10 2012 1VS 01.09	DSGS: D8625	producer overview dated 09/03/2021	
57	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	600	RAL 5015 sky blue	2012 1DS 01.10 2012 1VS 01.09	DSGS: D8608	producer overview dated 09/03/2021	2)
58	23/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	600	RAL 6010 grass green	2012 1DS 01.10 2012 1VS 01.09	DSGS: D8608	producer overview dated 09/03/2021	3)
59	06/07/2016	high-solid paint	LIMBOROUTE K282F Flugplatz		x	without	---	---	600	RAL 9017 traffic black	2012 1DS 01.10 2012 1VS 01.09	DSGS: D8625	producer overview dated 09/03/2021	



**Table 2b** High-solid paints reflective type I

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-re-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
60	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle Typ I T14 M30	SWARCO	300	RAL 9016 traffic white	2020 1DS 05.10	DSGS: D8703	producer overview dated 09/03/2021	
61	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle TypI T14 M30	SWARCO	400	RAL 9016 traffic white	2007 1DS 08.11	DSGS: D8608	producer overview dated 09/03/2021	
62	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	SWARCOFLEX 100 - 600 T14 M25	SWARCO	400	RAL 9016 traffic white	2009 1DS 03.11	DSGS: D8608	producer overview dated 09/03/2021	
63	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	SWARCOLUX P21 T14 M25	SWARCO	400	RAL 9016 traffic white	2010 1DS 07.03	DSGS: D8608	producer overview dated 09/03/2021	
64	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle TypI T14 M30	SWARCO	400	RAL 9016 traffic white	2012 1DS 01.06	DSGS: D8608	producer overview dated 09/03/2021	
65	24/11/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 1023 traffic yellow	2021 1VS 05.08	DSGS: D8717	producer overview dated 09/03/2021	
66	24/11/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 2009 traffic orange	2021 1VS 05.08	DSGS: D8717	producer overview dated 09/03/2021	
67	24/11/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 3020 traffic red	2021 1VS 05.08	DSGS: D8717	producer overview dated 09/03/2021	
68	24/11/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 5015 sky blue	2021 1VS 05.08	DSGS: D8717	producer overview dated 09/03/2021	4)
69	24/11/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 6010 grass green	2021 1VS 05.08	DSGS: D8717	producer overview dated 09/03/2021	3)
70	24/11/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	400	RAL 9017 traffic black	2021 1VS 05.08	DSGS: D8717	producer overview dated 09/03/2021	5)

**Table 2b** High-solid paints reflective type II

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
71	01/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz	x		II	Flughafenperle Typ II T14 M25	SWARCO	600	RAL 9016 traffic white	2012 1DS 01.10	DSGS: D8608	producer overview dated 09/03/2021	6)
72	23/10/2015	high-solid paint	LIMBOROUTE K282F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 1023 traffic yellow	2012 1VS 01.09	DSGS: D8608	producer overview dated 09/03/2021	6)
73	04/06/2021	high-solid paint	LIMBOROUTE K282F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 2009 traffic orange	2012 1VS 01.09	DSGS: D8703	producer overview dated 09/03/2021	6)
74	05/07/2016	high-solid paint	LIMBOROUTE K282F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 3020 traffic red	2012 1VS 01.09	DSGS: D8625	producer overview dated 09/03/2021	6)
75	06/07/2016	high-solid paint	LIMBOROUTE K282F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 5015 sky blue	2012 1VS 01.09	DSGS: D8625	producer overview dated 09/03/2021	4), 6)
76	06/07/2016	high-solid paint	LIMBOROUTE K282F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 6010 grass green	2012 1VS 01.09	DSGS: D8625	producer overview dated 09/03/2021	3), 6)
77	06/07/2016	high-solid paint	LIMBOROUTE K282F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 9017 traffic black	2012 1VS 01.09	DSGS: D8625	producer overview dated 09/03/2021	5), 6)

**Table 3a** 2-component high-solid paints non-reflective

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
78	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	300	RAL 9016 traffic white	2005 1DS 07.17 2020 1DS 04.10	DSGS: D8608	producer overview dated 09/03/2021	
79	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	300	RAL 1023 traffic yellow	2020 1VS 05.08	DSGS: D8608	producer overview dated 09/03/2021	
80	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	300	RAL 2009 traffic orange	2020 1VS 05.08	DSGS: D8608	producer overview dated 09/03/2021	
81	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	300	RAL 3020 traffic red	2020 1VS 05.08	DSGS: D8625	producer overview dated 09/03/2021	
82	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	300	RAL 5015 sky blue	2020 1VS 05.08	DSGS: D8608	producer overview dated 09/03/2021	2)
83	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	300	RAL 6010 grass green	2020 1VS 05.08	DSGS: D8608	producer overview dated 09/03/2021	3)
84	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	300	RAL 9017 traffic black	2020 1VS 05.08	DSGS: D8625	producer overview dated 09/03/2021	
85	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	400	RAL 9016 traffic white	2005 1DS 04.07 2007 1DS 08.10	DSGS: D8608	producer overview dated 09/03/2021	
86	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	400	RAL 1023 traffic yellow	2005 1DS 04.07 2007 1DS 08.10	DSGS: D8608	producer overview dated 09/03/2021	
87	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	400	RAL 2009 traffic orange	2005 1DS 04.07 2007 1DS 08.10	DSGS: D8608	producer overview dated 09/03/2021	
88	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	400	RAL 3020 traffic red	2005 1DS 04.07 2007 1DS 08.10	DSGS: D8625	producer overview dated 09/03/2021	
89	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	400	RAL 5015 sky blue	2005 1DS 04.07 2007 1DS 08.10	DSGS: D8608	producer overview dated 09/03/2021	2)
90	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	400	RAL 6010 grass green	2005 1DS 04.07 2007 1DS 08.10	DSGS: D8608	producer overview dated 09/03/2021	3)

**Table 3a** 2-component high-solid paints non-reflective (continued)

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
91	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	400	RAL 9017 traffic black	2005 1DS 04.07 2007 1DS 08.10	DSGS: D8625	producer overview dated 09/03/2021	
92	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	600	RAL 9016 traffic white	2005 1DS 05.07 2006 1DS 02.08 2013 1DS 08.05 2018 1DS 05.04	DSGS: D8608	producer overview dated 09/03/2021	
93	23/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	600	RAL 1023 traffic yellow	2005 1DS 05.07 2006 1DS 02.08 2013 1DS 08.05 2012 1VS 01.12 2018 1DS 05.04	DSGS: D8608	producer overview dated 09/03/2021	7)
94	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	600	RAL 2009 traffic orange	2005 1DS 05.07 2006 1DS 02.08 2013 1DS 08.05 2012 1VS 01.12 2018 1DS 05.04	DSGS: D8608	producer overview dated 09/03/2021	7)
95	06/07/2016	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	600	RAL 3020 traffic red	2005 1DS 05.07 2006 1DS 02.08 2013 1DS 08.05 2012 1VS 01.12 2018 1DS 05.04	DSGS: D8625	producer overview dated 09/03/2021	7)
96	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	600	RAL 5015 sky blue	2005 1DS 05.07 2006 1DS 02.08 2013 1DS 08.05 2012 1VS 01.12 2018 1DS 05.04	DSGS: D8608	producer overview dated 09/03/2021	2), 7)
97	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	600	RAL 6010 grass green	2005 1DS 05.07 2006 1DS 02.08 2013 1DS 08.05 2012 1VS 01.12 2018 1DS 05.04	DSGS: D8608	producer overview dated 09/03/2021	3), 7)
98	06/07/2016	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz		x	without	---	---	600	RAL 9017 traffic black	2005 1DS 05.07 2006 1DS 02.08 2013 1DS 08.05 2012 1VS 01.12 2018 1DS 05.04	DSGS: D8625	producer overview dated 09/03/2021	7)

**Table 3b** 2-component high-solid paints reflective type I

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-re-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
99	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	SWARCOLUX P21 T14 M25	SWARCO	300	RAL 9016 traffic white	2005 1DS 07.17	DSGS: D8608	producer overview dated 09/03/2021	
100	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 M30	SWARCO	300	RAL 9016 traffic white	2020 1DS 04.10	DSGS: D8703	producer overview dated 09/03/2021	
101	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 1023 traffic yellow	2020 1VS 05.08	DSGS: D8703	producer overview dated 09/03/2021	
102	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 2009 traffic orange	2020 1VS 05.08	DSGS: D8703	producer overview dated 09/03/2021	
103	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 3020 traffic red	2020 1VS 05.08	DSGS: D8703	producer overview dated 09/03/2021	
104	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 5015 sky blue	2020 1VS 05.08	DSGS: D8703	producer overview dated 09/03/2021	4)
105	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 6010 grass green	2020 1VS 05.08	DSGS: D8703	producer overview dated 09/03/2021	3)
106	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 GG30	SWARCO	300	RAL 9017 traffic black	2020 1VS 05.08	DSGS: D8703	producer overview dated 09/03/2021	5)
107	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	Flughafenperle Typ I T14 M30	SWARCO	400	RAL 9016 traffic white	2007 1DS 08.10	DSGS: D8608	producer overview dated 09/03/2021	
108	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		I	SWARCOLUX P21 T14 M25	SWARCO	400	RAL 9016 traffic white	2005 1DS 04.07	DSGS: D8608	producer overview dated 09/03/2021	

**Table 3c** 2-component high-solid paints reflective type II

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
109	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	MEGALUX-BEADS 600-1400 T14 K25	SWARCO	600	RAL 9016 traffic white	2005 1DS 05.07	DSGS: D8608	producer overview dated 09/03/2021	
110	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 M25	SWARCO	600	RAL 9016 traffic white	2006 1DS 02.08	DSGS: D8608	producer overview dated 09/03/2021	8)
111	09/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 M25	SWARCO	600	RAL 9016 traffic white	2013 1DS 08.05	DSGS: D8608	producer overview dated 09/03/2021	8)
112	04/06/2021	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	SWARCOLUX 50 425 - 1400 T14 MK30	SWARCO	600	RAL 9016 traffic white	2018 1DS 05.04	DSGS: D8703	producer overview dated 09/03/2021	6)
113	23/10/2015	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 1023 traffic yellow	2012 1VS 01.12	DSGS: D8608	producer overview dated 09/03/2021	6), 8)
114	06/07/2016	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 2009 traffic orange	2012 1VS 01.12	DSGS: D8625	producer overview dated 09/03/2021	6), 8)
115	06/07/2016	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 3020 traffic red	2012 1VS 01.12	DSGS: D8625	producer overview dated 09/03/2021	6), 8)
116	06/07/2016	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 5015 sky blue	2012 1VS 01.12	DSGS: D8625	producer overview dated 09/03/2021	4), 6), 8)
117	06/07/2016	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 6010 grass green	2012 1VS 01.12	DSGS: D8625	producer overview dated 09/03/2021	3), 6), 8)
118	06/07/2016	2-component high-solid paint	LIMBOROUTE 2-K K809F Flugplatz	x		II	Flughafenperle Typ II T14 GG30	SWARCO	600	RAL 9017 traffic black	2012 1VS 01.12	DSGS: D8625	producer overview dated 09/03/2021	5), 6), 8)

**Table 4a** Cold spray plastics non-reflective

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
119	06/05/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	300	RAL 9016 traffic white	2008 1DY 03.09	DSGS: D8608	producer overview dated 09/03/2021	
120	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	300	RAL 1023 traffic yellow	2020 1DY 09.01 2020 1VY 11.12	DSGS: D8608	producer overview dated 09/03/2021	
121	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	300	RAL 2009 traffic orange	2020 1DY 09.01 2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	
122	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	300	RAL 3020 traffic red	2020 1DY 09.01 2020 1VY 11.12	DSGS: D8625	producer overview dated 09/03/2021	
123	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	300	RAL 5015 sky blue	2020 1DY 09.01 2020 1VY 11.12	DSGS: D8608	producer overview dated 09/03/2021	2), 9)
124	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	300	RAL 6010 grass green	2020 1DY 09.01 2020 1VY 11.12	DSGS: D8608	producer overview dated 09/03/2021	3)
125	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	300	RAL 9017 traffic black	2020 1DY 09.01 2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	
126	06/05/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	400	RAL 9016 traffic white	2008 1DY 03.08	DSGS: D8608	producer overview dated 09/03/2021	
127	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	400	RAL 1023 traffic yellow	2019 1VY 02.15	DSGS: D8608	producer overview dated 09/03/2021	10)
128	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	400	RAL 2009 traffic orange	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	10)
129	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	400	RAL 3020 traffic red	2019 1VY 02.15	DSGS: D8625	producer overview dated 09/03/2021	10)
130	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	400	RAL 5015 sky blue	2019 1VY 02.15	DSGS: D8608	producer overview dated 09/03/2021	2), 9), 10)
131	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	400	RAL 6010 grass green	2019 1VY 02.15	DSGS: D8608	producer overview dated 09/03/2021	3), 10)

**Table 4a** Cold spray plastics non-reflective (continued)

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
132	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	400	RAL 9017 traffic black	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	10)
133	06/05/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	600	RAL 9016 traffic white	2012 1DY 08.10	DSGS: D8608	producer overview dated 09/03/2021	
134	06/05/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	600	RAL 1023 traffic yellow	2012 1DY 08.10	DSGS: D8608	producer overview dated 09/03/2021	
135	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	600	RAL 2009 traffic orange	2012 1DY 08.10	DSGS: D8702	producer overview dated 09/03/2021	
136	07/07/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	600	RAL 3020 traffic red	2012 1DY 08.10	DSGS: D8625	producer overview dated 09/03/2021	
137	06/05/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	600	RAL 5015 sky blue	2012 1DY 08.10	DSGS: D8608	producer overview dated 09/03/2021	2), 9)
138	06/05/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	600	RAL 6010 grass green	2012 1DY 08.10	DSGS: D8608	producer overview dated 09/03/2021	3)
139	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz		x	without	---	---	600	RAL 9017 traffic black	2012 1DY 08.10	DSGS: D8702	producer overview dated 09/03/2021	



**Table 4b** Cold spray plastics reflective type I

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
140	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 M30	SWARCO	300	RAL 9016 traffic white	2020 1DY 09.01	DSGS: D8702	producer overview dated 09/03/2021	
141	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	300	RAL 1023 traffic yellow	2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	
142	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	300	RAL 2009 traffic orange	2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	
143	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	300	RAL 3020 traffic red	2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	
144	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	300	RAL 5015 sky blue	2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	4)
145	04/0/.2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	300	RAL 6010 grass green	2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	3)
146	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	300	RAL 9017 traffic black	2020 1VY 11.12	DSGS: D8702	producer overview dated 09/03/2021	5)
147	04/0/.2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	400	RAL 1023 traffic yellow	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	10)
148	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	400	RAL 2009 traffic orange	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	10)
149	04/0/.2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	400	RAL 3020 traffic red	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	10)
150	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	400	RAL 5015 sky blue	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	4), 10)
151	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	400	RAL 6010 grass green	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	3), 10)
152	04/06/2021	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	400	RAL 9017 traffic black	2019 1VY 02.15	DSGS: D8702	producer overview dated 09/03/2021	5), 10)

**Table 4c** Cold spray plastics reflective type II

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-re-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
153	06/05/2016	cold spray plastic	LIMBOPLAST KSP 120F Flugplatz	x		II	Flughafenperle Typ II T18 M25	SWARCO	600	RAL 9016 traffic white	2012 1DY 08.10	DSGS: D8608	producer overview dated 09/03/2021	6)

**Table 5a** Cold plastics non-reflective

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
154	06/05/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	2000	RAL 9016 traffic white	2011 1DK 04.01	DSGS: D8608	producer overview dated 09/03/2021	11)
155	06/05/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	2000	RAL 1023 traffic yellow	2011 1DK 04.01	DSGS: D8608	producer overview dated 09/03/2021	11)
156	06/05/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	2000	RAL 2009 traffic orange	2011 1DK 04.01	DSGS: D8608	producer overview dated 09/03/2021	11)
157	07/07/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	2000	RAL 3020 traffic red	2011 1DK 04.01	DSGS: D8625	producer overview dated 09/03/2021	11)
158	06/05/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	2000	RAL 5015 sky blue	2011 1DK 04.01	DSGS: D8608	producer overview dated 09/03/2021	2), 11)
159	06/05/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	2000	RAL 6010 grass green	2011 1DK 04.01	DSGS: D8608	producer overview dated 09/03/2021	3), 11)
160	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	2000	RAL 9017 traffic black	2011 1DK 04.01	DSGS: D8700	producer overview dated 09/03/2021	11)
161	06/05/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 9016 traffic white	2002 1DK 05.10 2002 1DK 07.07 2020 1DK 12.17	DSGS: D8608 D8700	producer overview dated 09/03/2021	11)
162	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 1023 traffic yellow	2002 1DK 05.10 2002 1DK 07.07 2019 1VK 03.16 2020 1DK 12.17 2020 1VK 12.18	DSGS: D8608 D8700	producer overview dated 09/03/2021	11)
163	04/0./2021	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 2009 traffic orange	2002 1DK 05.10 2002 1DK 07.07 2019 1VK 03.16 2020 1DK 12.17 2020 1VK 12.18	DSGS: D8608 D8700	producer overview dated 09/03/2021	11)
164	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 3020 traffic red	2002 1DK 05.10 2002 1DK 07.07 2019 1VK 03.16 2020 1DK 12.17 2020 1VK 12.18	DSGS: D8625 D8700	producer overview dated 09/03/2021	11)
165	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 5015 sky blue	2002 1DK 05.10 2002 1DK 07.07 2019 1VK 03.16 2020 1DK 12.17 2020 1VK 12.18	DSGS: D8608 D8700	producer overview dated 09/03/2021	2), 11)

**Table 5a** Cold plastics non-reflective (continued)

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
166	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 6010 grass green	2002 1DK 05.10 2002 1DK 07.07 2019 1VK 03.16 2020 1DK 12.17 2020 1VK 12.18	DSGS: D8608 D8700	producer overview dated 09/03/2021	3), 11)
167	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 9017 traffic black	2002 1DK 05.10 2002 1DK 07.07 2019 1VK 03.16 2020 1DK 12.17 2020 1VK 12.18	DSGS: D8700	producer overview dated 09/03/2021	11)

**Table 5b** Cold plastics reflective type I

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
168	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 M30	SWARCO	3000	RAL 9016 traffic white	2020 1DK 12.07	DSGS: D8700	producer overview dated 09/03/2021	11)
169	04/0/.2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 1023 traffic yellow	2019 1VK 03.16	DSGS: D8700	producer overview dated 09/03/2021	11)
170	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 2009 traffic orange	2019 1VK 03.16	DSGS: D8700	producer overview dated 09/03/2021	11)
171	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 3020 traffic red	2019 1VK 03.16	DSGS: D8700	producer overview dated 09/03/2021	11)
172	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 5015 sky blue	2019 1VK 03.16	DSGS: D8700	producer overview dated 09/03/2021	4), 11)
173	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 6010 grass green	2019 1VK 03.16	DSGS: D8700	producer overview dated 09/03/2021	3), 11)
174	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 9017 traffic black	2019 1VK 03.16	DSGS: D8700	producer overview dated 09/03/2021	5), 11)

**Table 5c** Cold plastics reflective type II

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-re-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
175	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		II	Flughafenperle Typ II T18 GG30	SWARCO	3000	RAL 1023 traffic yellow	2020 1VK 12.18	DSGS: D8700	producer overview dated 09/03/2021	6), 11)
176	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		II	Flughafenperle Typ II T18 GG30	SWARCO	3000	RAL 2009 traffic orange	2020 1VK 12.18	DSGS: D8700	producer overview dated 09/03/2021	6), 11)
177	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		II	Flughafenperle Typ II T18 GG30	SWARCO	3000	RAL 3020 traffic red	2020 1VK 12.18	DSGS: D8700	producer overview dated 09/03/2021	6), 11)
178	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		II	Flughafenperle Typ II T18 GG30	SWARCO	3000	RAL 5015 sky blue	2020 1VK 12.18	DSGS: D8700	producer overview dated 09/03/2021	4), 6), 11)
179	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		II	Flughafenperle Typ II T18 GG30	SWARCO	3000	RAL 6010 grass green	2020 1VK 12.18	DSGS: D8700	producer overview dated 09/03/2021	3), 6), 11)
180	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		II	Flughafenperle Typ II T18 GG30	SWARCO	3000	RAL 9017 traffic black	2020 1VK 12.18	DSGS: D8700	producer overview dated 09/03/2021	5), 6), 11)

**Table 6a** Roll plastics non-reflective

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
181	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	1500	RAL 9016 traffic white	2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	11)
182	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	1500	RAL 1023 traffic yellow	2020 1VK 11.13 2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	11), 12)
183	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	1500	RAL 2009 traffic orange	2020 1VK 11.13 2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	11), 12)
184	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	1500	RAL 3020 traffic red	2020 1VK 11.13 2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	11), 12)
185	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	1500	RAL 5015 sky blue	2020 1VK 11.13 2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	2), 11), 12)
186	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	1500	RAL 6010 grass green	2020 1VK 11.13 2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	3), 11), 12), 13)
188	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	1500	RAL 9017 traffic black	2020 1VK 11.13 2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	11), 12)
189	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	2000	RAL 9016 traffic white	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	11)
189	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	2000	RAL 1023 traffic yellow	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	11)
190	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	2000	RAL 2009 traffic orange	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	11)
191	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	2000	RAL 3020 traffic red	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	11)
192	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	2000	RAL 5015 sky blue	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	2), 11)
193	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	2000	RAL 6010 grass green	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	3), 11), 13)

**Table 6a** Roll plastics non-reflective (continued)

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
194	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	2000	RAL 9017 traffic black	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	11)
195	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	3000	RAL 9016 traffic white	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
196	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	3000	RAL 1023 traffic yellow	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
197	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	3000	RAL 2009 traffic orange	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
198	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	3000	RAL 3020 traffic red	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
199	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	3000	RAL 5015 sky blue	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	2), 11)
200	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	3000	RAL 6010 grass green	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	3), 11), 13)
201	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		x	without	---	---	3000	RAL 9017 traffic black	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)



**Table 6b** Roll plastics reflective type I

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
202	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	Flughafenperle Typ I T18 M30	SWARCO	1500	RAL 9016 traffic white	2020 1DK 11.14	DSGS: D8705	producer overview dated 09/03/2021	11)
203	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	1500	RAL 1023 traffic yellow	2020 1VK 11.13	DSGS: D8705	producer overview dated 09/03/2021	11), 12)
204	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	1500	RAL 2009 traffic orange	2020 1VK 11.13	DSGS: D8705	producer overview dated 09/03/2021	11), 12)
205	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	1500	RAL 3020 traffic red	2020 1VK 11.13	DSGS: D8705	producer overview dated 09/03/2021	11), 12)
206	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	1500	RAL 5015 sky blue	2020 1VK 11.13	DSGS: D8705	producer overview dated 09/03/2021	4), 11), 12)
207	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	1500	RAL 6010 grass green	2020 1VK 11.13	DSGS: D8705	producer overview dated 09/03/2021	3), 11), 12)
208	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	1500	RAL 9017 traffic black	2020 1VK 11.13	DSGS: D8705	producer overview dated 09/03/2021	5), 11), 12)
209	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		I	SWARCO SOLIDPLUS 100 212 - 850 T18 M35	SWARCO	2000	RAL 9016 traffic white	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	11)

**Table 6c** Roll plastics reflective type II

No.	date of issue	kind of marking material	name of marking material	re-reflective	non-re-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
210	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz	x		II	SWARCO SOLIDPLUS 10 425 - 1400 T18 MK30	SWARCO	3000	RAL 9016 traffic white	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	6), 11)

comments:

- 1) Under the number 2020 1VW 05.07 there is a confirmation from BASt (Bundesanstalt für Straßenwesen, German Federal Highway Research Institute) about the testing of a marking system on the turntable wear simulator. The measurement results meet the requirements of the "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany). This confirmation is therefore rated as equivalent to a BASt test certificate.
- 2) For non-reflective blue markings there are no requirements for chromaticity co-ordinates and luminance factor  $\beta$  according to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany) as well as ICAO and EASA.
- 3) According to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany) the RAL colour 6010 grass green is recommended though the colour is not within the colour box given by ICAO and EASA.
- 4) According to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany) the RAL colour 5015 sky blue is recommended though the colour is not within the colour box given by ICAO and EASA.
- 5) For reflective black markings there are no requirements for chromaticity co-ordinates and luminance factor  $\beta$  according to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany) as well as ICAO and EASA.
- 6) According to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany) basically there should be applied only thin layer markings type I on surfaces with rolling aircrafts. This product is a type II marking system.
- 7) The marking system has achieved the roll over class T 4 (slowly drying) according to BASt Test certificate No. 2012 1VS 01.12 and is not suitable for applications on maneuvering surfaces in use.
- 8) The marking system has achieved the roll over class T 4 (slowly drying) according to BASt Test certificate and is not suitable for applications on maneuvering surfaces in use.
- 9) The visual comparison of the sample probe with a RAL-card K5 classic semi matt RAL 5015 sky blue showed that the sample probe was slightly brighter.
- 10) Under the number 2019 1VY 02.15 there is a confirmation from BASt (Bundesanstalt für Straßenwesen, German Federal Highway Research Institute) about the testing of a marking system on the turntable wear simulator. The measurement results meet the requirements of the "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany). This confirmation is therefore rated as equivalent to a BASt test certificate.
- 11) According to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany) basically there should be applied only thin layer markings type I on surfaces with rolling aircrafts. This product is a thick layer marking system.
- 12) Under the number 2020 1VK 11.13 there is a confirmation from BASt (Bundesanstalt für Straßenwesen, German Federal Highway Research Institute) about the testing of a marking system on the turntable wear simulator. The measurement results meet the requirements of the "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018, Germany). This confirmation is therefore rated as equivalent to a BASt test certificate.
- 13) The visual comparison of the sample probe with a RAL-card K5 classic semi matt RAL 6010 grass green showed that the sample probe was slightly brighter.