

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

Attestation number: DSGS-02

Applicant: SWARCO LIMBURGER LACKFABRIK GmbH
Robert-Bosch-Straße 17, D - 65582 Diez

Concern: Testing of BASt (Bundesanstalt für Straßenwesen, German Federal Highway Research Institute) tested marking systems on chromaticity co-ordinates, luminance factor β 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.

This is to attest that the BASt tested marking systems mentioned in the attachment below achieve the requirements regarding chromaticity co-ordinates, luminance factor β and resistance to chemicals according to "Hinweise für Markierungen auf Flugbetriebsflächen", Ausgabe 2018 ("Instructions for markings on manoeuvring areas", edition 2018).

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.

Kassel, 02/11/2018, changed on 04/06/2021



Dr. Claudia Drewes

**DEUTSCHE STUDIENGESELLSCHAFT
FÜR STRASSENMARKIERUNGEN e.V.**

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



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Attachment

The following marking systems with marking materials produced by SWARCO LIMBURGER LACKFABRIK GmbH are licensed under the attestation number DSGS-02 dated 04/06/2021:

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	LIMBORROUTE 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	LIMBORROUTE 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	LIMBORROUTE 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	LIMBORROUTE 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	LIMBORROUTE 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	LIMBORROUTE 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	LIMBORROUTE 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	LIMBORROUTE 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	LIMBORROUTE LW48F Flugplatz		x	without	---	---	400	RAL 1023 traffic yellow	2013 1DW 07.15	DSGS; D8608, D8706	producer overview dated 09/03/2021	



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

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	East-No.	proof of chromatocytometry 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	

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Table 1b Water based paints reflective type I

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bast-No.	proof of chromatity-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- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	East-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)



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Table 1c Water based paints reflective type II

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Best-No.	proof of chromaticity-coordinates and p-value	proof of resistance to chemicals	comments
38	23/10/2015	water based paint	LIMBOROUTE LW48F Flugplatz	x		II	MEGALLUX-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)



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Table 2a High-solid paints non-reflective

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	East-No.	proof of chromatcity-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 chromatography 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 IDS 08.11 2009 IDS 03.11 2010 IDS 07.03 2012 IDS 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 IDS 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 IDS 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 IDS 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 IDS 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 IDS 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 IDS 01.10 2012 1VS 01.09	DSGS: D8625	producer overview dated 09/03/2021	



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Table 2b High-solid 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	Basst-No.	proof of chromaticity-coordinates and p-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 Typ I 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 Typ I T14 M30	SWARCO	400	RAL 9016 traffic white	2012 1DS 01.06	DSGS: D8608	producer overview dated 09/03/2021	



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Table 2b High-solid paints reflective type II

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Best-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
65	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)
66	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)
67	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)
68	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)
69	05/07/2016	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)
70	05/07/2016	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)
71	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
72	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	
73	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	
74	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	
75	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	
76	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)
77	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)
78	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	
79	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	
80	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	
81	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	
82	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	
83	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)
84	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)



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

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	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
85	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	
86	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	
87	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)
88	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)
89	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)
90	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)
91	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)
92	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-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
93	09/10/2015	2-component high-solid paint	LIMBORROUTE 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	
94	04/06/2021	2-component high-solid paint	LIMBORROUTE 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	
95	04/06/2021	2-component high-solid paint	LIMBORROUTE 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	
96	04/06/2021	2-component high-solid paint	LIMBORROUTE 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	
97	04/06/2021	2-component high-solid paint	LIMBORROUTE 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	
98	04/06/2021	2-component high-solid paint	LIMBORROUTE 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)
99	04/06/2021	2-component high-solid paint	LIMBORROUTE 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)
100	04/06/2021	2-component high-solid paint	LIMBORROUTE 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)
101	09/10/2015	2-component high-solid paint	LIMBORROUTE 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	
102	09/10/2015	2-component high-solid paint	LIMBORROUTE 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	



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

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bas.-No.	proof of chromatity-coordinates and β -value	proof of resistance to chemicals	comments
103	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	
104	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)
105	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)
106	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)
107	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)
108	05/07/2016	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)
109	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)
110	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)
111	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)
112	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)



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Table 4a Cold spray plastics non-reflective

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bast-No.	proof of chromatichity-coordinates and β-value	proof of resistance to chemicals	comments
113	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	
114	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	
115	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	
116	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	
117	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)
118	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)
119	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	
120	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	
121	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)
122	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)
123	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)
124	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)
125	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)



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

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bast-No.	proof of chromatichy-coordinates and β-value	proof of resistance to chemicals	comments
126	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)
127	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	
128	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	
129	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	
130	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	
131	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)
132	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)
133	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- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bast-No.	proof of chromatichity-coordinates and p-value	proof of resistance to chemicals	comments
134	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	
135	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	
136	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	
137	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	
138	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)
139	04/01/2021	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)
140	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)
141	04/01/2021	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)
142	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)
143	04/01/2021	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)
144	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)
145	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)
146	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- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
147	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)

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Table 5a Cold plastics non-reflective

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Basst-No.	proof of chromatity-coordinates and β-value	proof of resistance to chemicals	comments
148	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)
149	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)
150	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)
151	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)
152	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)
153	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)
154	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)
155	06/05/2016	cold plastic	LIMBOPLAST D480 F Flugplatz		x	without	---	---	3000	RAL 9016 traffic white	2002 1DK 05.10 2002 1DK 07.07 2019 1VK 03.16 2020 1DK 12.17 2020 1DK 12.18	DSGS: D8608 D8700	producer overview dated 09/03/2021	11)
156	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)
157	04/01/2021	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)
158	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)
159	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- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Best-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
160	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)
161	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)



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Table 5b Cold plastics reflective type I

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Basst-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
162	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)
163	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 1023 traffic yellow	2019 1VK 03.15	DSGS: D8700	producer overview dated 09/03/2021	11)
164	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 2009 traffic orange	2019 1VK 03.15	DSGS: D8700	producer overview dated 09/03/2021	11)
165	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 3020 traffic red	2019 1VK 03.15	DSGS: D8700	producer overview dated 09/03/2021	11)
166	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 5015 sky blue	2019 1VK 03.15	DSGS: D8700	producer overview dated 09/03/2021	4), 11)
167	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 6010 grass green	2019 1VK 03.15	DSGS: D8700	producer overview dated 09/03/2021	3), 11)
168	04/06/2021	cold plastic	LIMBOPLAST D480 F Flugplatz	x		I	Flughafenperle Typ I T18 GG30	SWARCO	3000	RAL 9017 traffic black	2019 1VK 03.15	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- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	Best-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
169	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)
170	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)
171	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)
172	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)
173	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)
174	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- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bast-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
175	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)
176	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)
177	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)
178	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)
179	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)
180	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)
181	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)
182	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)
183	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)
184	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)
185	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)
186	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)
187	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)



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Table 6a Roll plastics non-reflective (continued)

No.	date of issue	kind of marking material	name of marking material	non-reflective	type of marking	name of drop-on material	producer of drop-on material	thickness [µm]	colour	East-No.	proof of chromaticity-coordinates and β-value	proof of resistance to chemicals	comments
188	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		without	---	---	2000	RAL 9017 traffic black	2015 1DK 05.13	DSGS: D8705	producer overview dated 09/03/2021	11)
189	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		without	---	---	3000	RAL 9016 traffic white	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
190	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		without	---	---	3000	RAL 1023 traffic yellow	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
191	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		without	---	---	3000	RAL 2009 traffic orange	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
192	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		without	---	---	3000	RAL 3020 traffic red	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	11)
193	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		without	---	---	3000	RAL 5015 sky blue	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	2), 11)
194	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		without	---	---	3000	RAL 6010 grass green	2020 1DK 10.10	DSGS: D8705	producer overview dated 09/03/2021	3), 11), 13)
195	04/06/2021	cold plastic	ROLLPLASTIK RP 15F Flugplatz		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- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Bast-No.	proof of chromatichy-coordinates and β-value	proof of resistance to chemicals	comments
196	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)
197	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)
198	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)
199	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)
200	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)
201	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)
202	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)
203	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)



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Table 6c Roll plastics reflective type II

No.	date of issue	kind of marking material	name of marking material	re- flective	non-re- flective	type of marking	name of drop-on material	producer of drop-on material	thick- ness [µm]	colour	Best-No.	proof of chromatocity-coordinates and β-value	proof of resistance to chemicals	comments
204	04/06/2021	cold plastic	ROLLPLASTIK RP 13F 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 β 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 β 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 manoeuvring 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 manoeuvring 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.