TEST REPORT

Report No.	:	WTF24F05106359A4C
Applicant	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer	:	114697
Sample Name	:	Straight umbrella
Sample Model	:	MO8776, MO8779, MU3002, MU3004, MU3006, MO8581, MU7008, MU9001, MU9003
Test Requested	:	Refer to next page (s)
Test Method	:	Refer to next page (s)
Test Conclusion	:	**Pass** (please refer to next pages for details)
Date of Receipt sample	:	2024-05-09 & 2024-06-06 & 2024-06-28 & 2024-08-21 & 2024-10-14
Testing period	:	2024-05-09 to 2024-05-20 & 2024-06-06 to 2024-06-13 & 2024-06-28 to 2024-07-04 & 2024-08-21 to 2024-08-26 & 2024-10-14 & 2024-10-18
Date of Issue	:	2024-10-21
Test Result	:	Refer to next page (s)
Note	:	As specified by client, only test the designated sample.

Prepared By:
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Signed for and on behalf of
Waltek Testing Group (Foshan) Co., Ltd.

Swing.Liang

WTF24F05106359A4C

Summary

Item No.	Test Requested	Test Conclusion
1	Determination of Lead content in the submitted sample in accordance with REACH regulation Annex XVII Entries 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628	**Pass**
2	Determination of Cadmium content in the submitted sample in accordance with REACH regulation Annex XVII Entries 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011, No. 835/2012 and (EU) 2016/217	**Pass**
3	Determination of specified Phthalates content according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009	**Pass**
4	Determination of specified Polycyclic Aromatic Hydrocarbons (PAHs) content in submitted sample in accordance with Entries 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU) No 1272/2013.	**Pass**
5	Determine the specified AZO Colorants contents in the submitted sample in according to the Entries 43 in Annex XVII of the REACH Regulation (EC) No.1907/2006 and the Amendment Regulation (EC) No.552/ 2009 & No.126/ 2013 (previously restricted under Directive 2002/61/EC).	**Pass**
6	As requested by the applicant, to test Colour Fastness to Rubbing in the submitted sample.	**Pass**
7	As requested by the applicant, to determine the Pentachlorophenol and its salts and esters (PCP)content in the submitted sample with reference to Regulation (EU)2019/1021 and its amendment(EU) 2020/784&(EU)2020/1203&(EU)2020/1204&(EU)2021/115& (EU)2021/277&(EU)2022/2291& (EU) 2023/1608.	**Pass**
8	As requested by the applicant, determination of the released formaldehyde content in submitted sample	**Pass**

Sample photo:

1. MO8776

2. MO8779

3. MU3002

4. MU3004

5. MU9003

6. MU9001

	
7. MU3006	**8. MO8581**
	/
9. MU7008	

Test Results:

1) Lead (Pb)

Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.1	No.2	
Lead(Pb)	2	ND	93	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.3+No.4+No.7	No.5	
Lead(Pb)	2	ND*	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.6	No.8	
Lead(Pb)	2	ND	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.9+No.10	No.11	
Lead(Pb)	2	ND*	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.12+No.13+No.16	No.14	
Lead(Pb)	2	ND*	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.15	No.17	
Lead(Pb)	2	ND	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.18+No.19+No.20	No.21	
Lead(Pb)	2	ND*	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.22	No.23	
Lead(Pb)	2	ND	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.24	No.25+No.29+No.34	
Lead(Pb)	2	ND	436*	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.26	No.27	
Lead(Pb)	2	ND	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.28	No.30	
Lead(Pb)	2	ND	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.31	No.32+No.42+No.48	
Lead(Pb)	2	ND	ND*	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.33	No.35+No.36+No.40	
Lead(Pb)	2	29	ND*	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.37	No.38	
Lead(Pb)	2	60	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.39	No.41+No.46+No.47	
Lead(Pb)	2	ND	ND*	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.43+No.54	No.44(R4)+No.45(R4)+ No.49(R4)	
Lead(Pb)	2	24*	ND*	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.51+No.52	No.53(R1)	
Lead(Pb)	2	ND*	ND	500
Conclusion	--	**Pass**	**Pass**	--

Test Item	LOQ (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		No.50+No.55	
Lead(Pb)	2	ND*	500
Conclusion	--	**Pass**	--

Note:
(1) mg/kg = milligram per kilogram
(2) ND = Not Detected (lower than LOQ)
(3) LOQ = Limit of quantitation
(4) Limit of Lead was quoted from REACH regulation Annex XVII Item 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628.
(5) "*" = Results are calculated by the minimum weight of mixed components.

2) Cadmium (Cd)
Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.1	No.2
Cadmium(Cd)	2	ND	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.3+No.4+No.7	No.5
Cadmium(Cd)	2	ND*	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.12+No.13+No.16	No.14
Cadmium(Cd)	2	ND*	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.15	No.18+No.19+No.20
Cadmium(Cd)	2	ND	ND*
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.21	No.22
Cadmium(Cd)	2	ND	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.24	No.25+No.29+No.34
Cadmium(Cd)	2	ND	ND*
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.27	No.28
Cadmium(Cd)	2	ND	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.30	No.31
Cadmium(Cd)	2	ND	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.33	No.37
Cadmium(Cd)	2	12	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.38	No.39
Cadmium(Cd)	2	ND	ND
Conclusion	--	**Pass**	**Pass**

Test Item	LOQ (mg/kg)	Results (mg/kg)	
		No.43+No.54	No.53(R1)
Cadmium(Cd)	2	ND*	ND
Conclusion	**--**	**Pass**	**Pass**

Note:

(1) mg/kg = milligram per kilogram

(2) ND = Not Detected (lower than LOQ)

(3) LOQ = Limit of quantitation

(4) Limit of Cadmium according to REACH regulation Annex XVII Item 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011 and No. 835/2012 and (EU) 2016/217.

Category	Limit (mg/kg)
Wet paint	100
Surface coating	1000
Plastic	100
Metal parts of jewellery and hair accessories	100

(5) "*" = Results are calculated by the minimum weight of mixed components.

3) Phthalates

Test Method: With reference to EN14372:2004, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Test Items	LOQ (%)	Results (%)		Limit (%)
		No.1	No.2	
Benzyl butyl phthalate (BBP)	0.005	ND	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND	0.031	
Dibutyl phthalate (DBP)	0.005	ND	0.010	
Diisobutyl phthalate (DIBP)	0.005	ND	ND	
Diisodecyl phthalate (DIDP)	0.01	ND	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND	ND	
Conclusion	--	**Pass**	**Pass**	--

Test Items	LOQ (%)	Results (%)		Limit (%)
		No.3+No.4+No.7	No.5	
Benzyl butyl phthalate (BBP)	0.005	ND*	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND*	ND	
Dibutyl phthalate (DBP)	0.005	ND*	ND	
Diisobutyl phthalate (DIBP)	0.005	ND*	ND	
Diisodecyl phthalate (DIDP)	0.01	ND*	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND*	ND	
Conclusion	--	**Pass**	**Pass**	--

Test Items	LOQ (%)	Results (%)		Limit (%)
		No.12+No.13+No.16	No.14	
Benzyl butyl phthalate (BBP)	0.005	ND*	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND*	ND	
Dibutyl phthalate (DBP)	0.005	ND*	ND	
Diisobutyl phthalate (DIBP)	0.005	ND*	ND	
Diisodecyl phthalate (DIDP)	0.01	ND*	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND*	ND	
Conclusion	--	**Pass**	**Pass**	--

Test Items	LOQ (%)	Results (%)		Limit (%)
		No.18+No.19+No.20	No.21	
Benzyl butyl phthalate (BBP)	0.005	ND*	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND*	ND	
Dibutyl phthalate (DBP)	0.005	ND*	ND	
Diisobutyl phthalate (DIBP)	0.005	ND*	ND	
Diisodecyl phthalate (DIDP)	0.01	ND*	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND*	ND	
Conclusion	--	**Pass**	**Pass**	--

Test Items	LOQ (%)	Results (%)		Limit (%)
		No.22	No.24	
Benzyl butyl phthalate (BBP)	0.005	ND	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND	ND	
Dibutyl phthalate (DBP)	0.005	ND	ND	
Diisobutyl phthalate (DIBP)	0.005	ND	ND	
Diisodecyl phthalate (DIDP)	0.01	ND	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND	ND	
Conclusion	--	**Pass**	**Pass**	--

Test Items	LOQ (%)	Results (%)		Limit (%)
		No.25+No.29+No.34	No.33	
Benzyl butyl phthalate (BBP)	0.005	ND*	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	0.012*	ND	
Dibutyl phthalate (DBP)	0.005	ND*	ND	
Diisobutyl phthalate (DIBP)	0.005	ND*	ND	
Diisodecyl phthalate (DIDP)	0.01	ND*	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND*	ND	
Conclusion	--	**Pass**	**Pass**	--

Test Items	LOQ (%)	Results (%)		Limit (%)
		No.37	No.43+No.54	
Benzyl butyl phthalate (BBP)	0.005	ND	ND*	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	0.011	0.016*	
Dibutyl phthalate (DBP)	0.005	ND	0.018*	
Diisobutyl phthalate (DIBP)	0.005	ND	ND*	
Diisodecyl phthalate (DIDP)	0.01	ND	ND*	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND	ND*	
Di-n-octyl phthalate (DNOP)	0.005	ND	ND*	
Conclusion	--	**Pass**	**Pass**	--

Test Items	LOQ (%)	Results (%)	Limit (%)
		No.53(R1)	
Benzyl butyl phthalate (BBP)	0.005	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND	
Dibutyl phthalate (DBP)	0.005	ND	
Diisobutyl phthalate (DIBP)	0.005	ND	
Diisodecyl phthalate (DIDP)	0.01	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND	
Conclusion	--	**Pass**	--

Note:

DBP= Dibutyl phthalate BBP= Benzyl butyl phthalate DEHP= Bis-(2-ethylhexyl)- phthalate
DINP= Di-isononyl phthalate DNOP= Di-n-octyl phthalate DIDP= Di-isodecyl phthalate
DIBP= Diisobutyl phthalate

(1) % = percentage by weight
(2) ND = Not Detected or lower than limit of quantitation
(3) LOQ = Limit of quantitation
(4) "<" = less than
(5) The above limit was quoted according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & No. 2018/2005 (formerly known as Directive 2005/84/EC) for phthalate content in toys and child care articles.
(6) "*" = Results are calculated by the minimum weight of mixed components.

4) Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: With reference to AFPS GS 2019:01 PAK method, analysis was performed by Gas Chromatographic Mass Spectrometry (GC-MS).

Test Items	Unit	Results		LOQ	Limit
		No.1	No.2		
Benzo(a)anthracene (BaA)	mg/kg	ND	ND	0.2	1.0
Chrysene (CHR)	mg/kg	ND	ND	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND	ND	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND	ND	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND	ND	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND	ND	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND	ND	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND	ND	0.2	1.0
Conclusion	--	**Pass**	**Pass**	--	--

Test Items	Unit	Results		LOQ	Limit
		No.3+No.4+No.7	No.5		
Benzo(a)anthracene (BaA)	mg/kg	ND*	ND	0.2	1.0
Chrysene (CHR)	mg/kg	ND*	ND	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND*	ND	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND*	ND	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND*	ND	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND*	ND	0.2	1.0
Conclusion	--	**Pass**	**Pass**	--	--

Test Items	Unit	Results		LOQ	Limit
		No.12+No.13+No.16	No.14		
Benzo(a)anthracene (BaA)	mg/kg	ND*	ND	0.2	1.0
Chrysene (CHR)	mg/kg	ND*	ND	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND*	ND	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND*	ND	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND*	ND	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND*	ND	0.2	1.0
Conclusion	--	**Pass**	**Pass**	--	--

Test Items	Unit	Results		LOQ	Limit
		No.18+No.19+No.20	No.21		
Benzo(a)anthracene (BaA)	mg/kg	ND*	ND	0.2	1.0
Chrysene (CHR)	mg/kg	ND*	ND	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND*	ND	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND*	ND	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND*	ND	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND*	ND	0.2	1.0
Conclusion	--	**Pass**	**Pass**	--	--

Test Items	Unit	Results		LOQ	Limit
		No.22	No.24		
Benzo(a)anthracene (BaA)	mg/kg	ND	ND	0.2	1.0
Chrysene (CHR)	mg/kg	ND	ND	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND	ND	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND	ND	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND	ND	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND	ND	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND	ND	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND	ND	0.2	1.0
Conclusion	--	**Pass**	**Pass**	--	--

Test Items	Unit	Results		LOQ	Limit
		No.25+No.29+No.34	No.33		
Benzo(a)anthracene (BaA)	mg/kg	ND*	ND	0.2	1.0
Chrysene (CHR)	mg/kg	ND*	ND	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND*	ND	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND*	ND	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND*	ND	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND*	ND	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND*	ND	0.2	1.0
Conclusion	--	**Pass**	**Pass**	--	--

Test Items	Unit	Results		LOQ	Limit
		No.37	No.43+No.54		
Benzo(a)anthracene (BaA)	mg/kg	ND	ND*	0.2	1.0
Chrysene (CHR)	mg/kg	ND	ND*	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND	ND*	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND	ND*	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND	ND*	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND	ND*	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND	ND*	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND	ND*	0.2	1.0
Conclusion	--	**Pass**	**Pass**	--	--

Test Items	Unit	Results	LOQ	Limit
		No.53(R1)		
Benzo(a)anthracene (BaA)	mg/kg	ND	0.2	1.0
Chrysene (CHR)	mg/kg	ND	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND	0.2	1.0
Conclusion	--	**Pass**	--	--

Note:

(1) ND = Not Detected or lower than limit of quantitation

(2) mg/kg=milligram per kilogram=ppm

(3) LOQ = Limit of quantitation

(4) As per Entries 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU) No 1272/2013, Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 1 mg/kg (0,0001 % by weight of this component) of any of the listed PAHs.

(5) As per Entries 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU) No 1272/2013, Toys, including activity toys, and childcare articles, shall not be placed on the market, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 0,5 mg/kg (0,00005 % by weight of this component) of any of the listed PAHs.

(6) “*” = Results are calculated by the minimum weight of mixed components.

5) AZO

Test Method: With reference to BS EN ISO 14362-1：2017 and BS EN ISO 14362-3：2017, analysis was performed by Gas Chromatographic Mass Spectrometry (GC-MS)

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)
				No.32+No.42+No.48
1	4-Aminobiphenyl	92-67-1	30	ND*
2	Benzidine	92-87-5	30	ND*
3	4-chloro-o-Toluidine	95-69-2	30	ND*
4	2-Naphthylamine	91-59-8	30	ND*
5	o-Aminoazotoluene	97-56-3	30	ND*
6	2-Amino-4-nitrotoluene	99-55-8	30	ND*
7	p-Chloroaniline	106-47-8	30	ND*
8	2,4-diaminoanisol	615-05-4	30	ND*
9	4,4’-Diaminodiphenylmethane	101-77-9	30	ND*
10	3,3’-Dichlorobenzidine	91-94-1	30	ND*
11	3,3’-Dimethoxybenzidine	119-90-4	30	ND*
12	3,3’-Dimethylbenzidine	119-93-7	30	ND*
13	3,3’-Dimethyl-4,4’-diaminodiphenylmethane	838-88-0	30	ND*
14	p-cresinin	120-71-8	30	ND*
15	4,4’-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND*
16	4,4’-Oxydianiline	101-80-4	30	ND*
17	4,4’-Thiodianiline	139-65-1	30	ND*
18	o-Toluidine	95-53-4	30	ND*
19	2,4-Toluylendiamine	95-80-7	30	ND*
20	2,4,5 – Trimethylaniline	137-17-7	30	ND*
21	o-anisidine	90-04-0	30	ND*
22	4-aminoazobenzene	60-09-3	30	ND*
23	2,4-Xylidin	95-68-1	30	ND*
24	2,6-Xylidin	87-62-7	30	ND*
Conclusion		--	--	**Pass**

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)
				No.50+No.55
1	4-Aminobiphenyl	92-67-1	30	ND*
2	Benzidine	92-87-5	30	ND*
3	4-chloro-o-Toluidine	95-69-2	30	ND*
4	2-Naphthylamine	91-59-8	30	ND*
5	o-Aminoazotoluene	97-56-3	30	ND*
6	2-Amino-4-nitrotoluene	99-55-8	30	ND*
7	p-Chloroaniline	106-47-8	30	ND*
8	2,4-diaminoanisol	615-05-4	30	ND*
9	4,4'-Diaminodiphenylmethane	101-77-9	30	ND*
10	3,3'-Dichlorobenzidine	91-94-1	30	ND*
11	3,3'-Dimethoxybenzidine	119-90-4	30	ND*
12	3,3'-Dimethylbenzidine	119-93-7	30	ND*
13	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	30	ND*
14	p-cresinin	120-71-8	30	ND*
15	4,4'-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND*
16	4,4'-Oxydianiline	101-80-4	30	ND*
17	4,4'-Thiodianiline	139-65-1	30	ND*
18	o-Toluidine	95-53-4	30	ND*
19	2,4-Toluylendiamine	95-80-7	30	ND*
20	2,4,5 – Trimethylaniline	137-17-7	30	ND*
21	o-anisidine	90-04-0	30	ND*
22	4-aminoazobenzene	60-09-3	30	ND*
23	2,4-Xylidin	95-68-1	30	ND*
24	2,6-Xylidin	87-62-7	30	ND*
Conclusion		--	--	**Pass**

Note:
- ND = Not Detected or lower than limit of quantitation
- mg/kg=Milligram per kilogram
- Limit of quantitation (mg/kg): Each 5mg/kg
- The CAS-numbers 97-56-3 and 99-55-8 are further reduced to CAS-numbers 95-53-4 and 95-80-7.
- AZO colorants that are able to form 4-aminoazobenzene, generate under the condition of this method aniline and 1,4-phenylenediamine. The presence of these colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorant used.
- "*" = Results are calculated by the minimum weight of mixed components.

6) Colour Fastness to Rubbing

Colour Fastness to Rubbing							
(ISO 105-X12: 2016; Size of rubbing finger: 16mm diameter.)							
		No.32	**No.42**	**No.48**	**No.50**	**No.55**	**Client's Limit**
Length	Dry staining	4-5	4-5	4-5	4-5	4-5	2-3
	Wet staining	4-5	4-5	4-5	4-5	4-5	2-3
Width	Dry staining	4-5	4-5	4-5	4-5	4-5	2-3
	Wet staining	4-5	4-5	4-5	4-5	4-5	2-3
Conclusion		**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	--

Note:

(1) Grey Scale Rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.

7) Pentachlorophenol(PCP)

Test method: With reference to In-house Method, analysis was performed by GC-MS.

Test Item	**LOQ (mg/kg)**	**Result (mg/kg)**	**Limit (mg/kg)**
		No.44(R4)+No.45(R4)+ No.49(R4)	
Pentachlorophenol and its salts and esters (PCP)	5	ND*	≤5mg/kg in substances, mixtures or articles
Conclusion	--	**Pass**	--

Note:

(1) mg/kg = milligram per kilogram

(2) ND = Not Detected (lower than LOQ)

(3) LOQ = Limit of quantitation

(4) "*" = Results are calculated by the minimum weight of mixed components.

8) Formaldehyde

Test Method: With reference to EN717-3:1996, analysis was performed by UV-VIS

Test Item	Unit	Result	LOQ	Client's Limit
		No.44(R4)+No.45(R4)+ No.49(R4)		
Formaldehyde (CH_2O)	mg/kg	38*	10	80
Conclusion	--	**Pass**	--	--

Note:

(1) mg/kg =milligram per kilogram=ppm

(2) LOQ = Limit of quantitation

(3) "*"= Results are calculated by the minimum weight of mixed components.

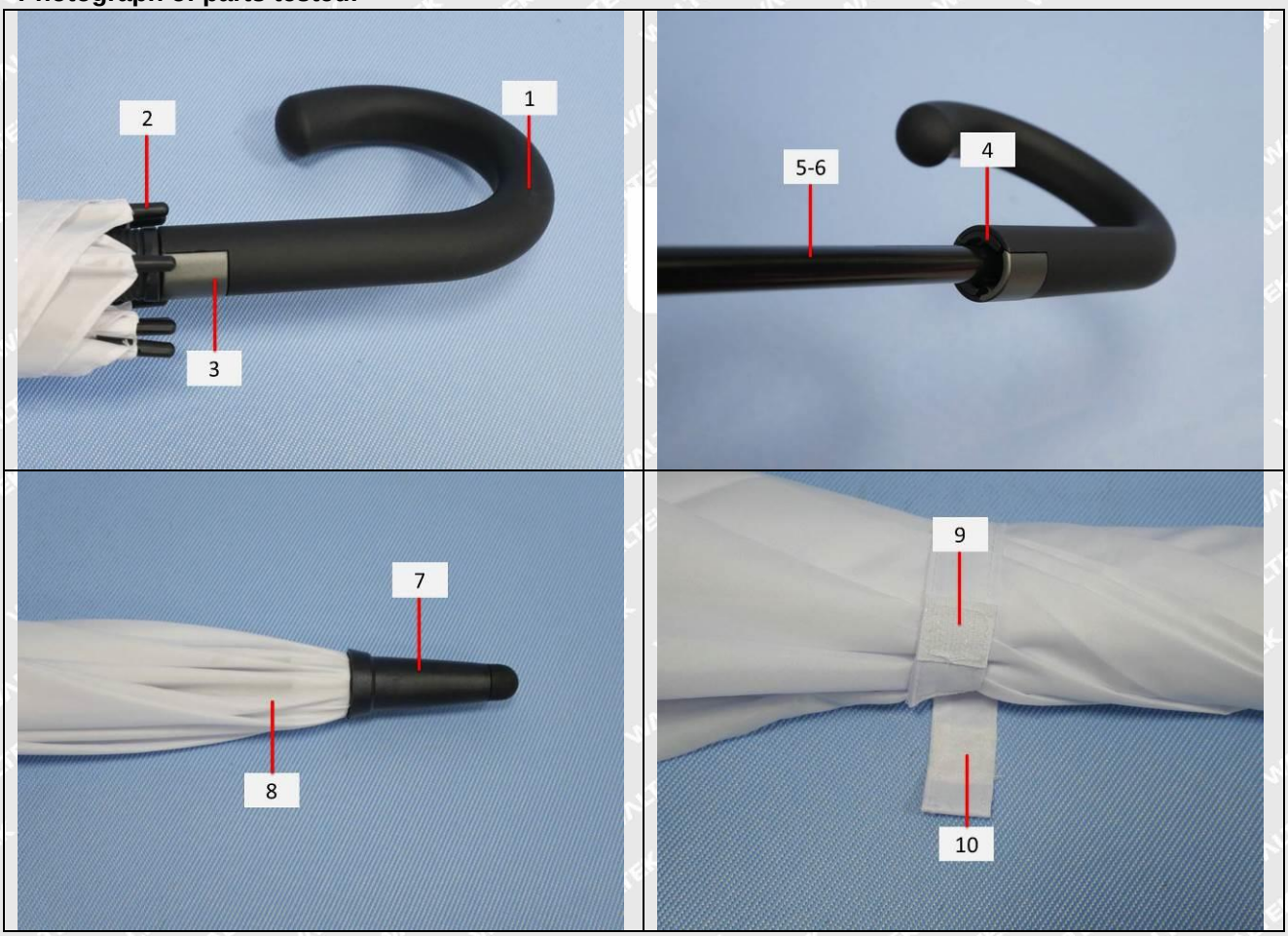
Description for Specimen:

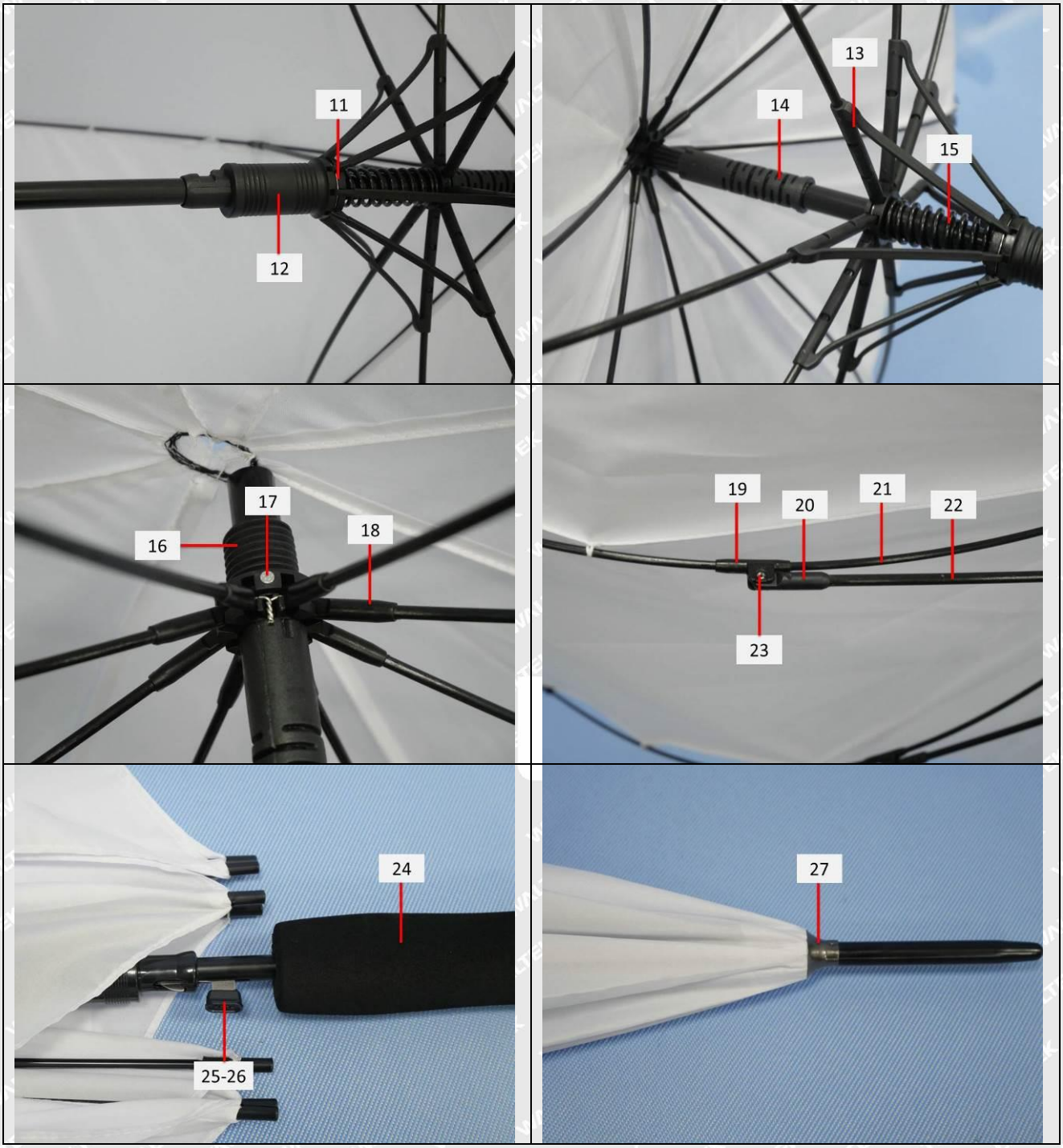
Specimen No.	Specimen Description
1	Black plastic handle
2	Black plastic cap
3	White plastic button with dark green surface
4	Black plastic handle
5	Black coating
6	Silvery metal tube without black coating
7	Black plastic cap
8	White main fabric
9	White plastic hook(VELCRO)
10	White plastic loop(VELCRO)
11	Silvery metal wire
12	Black plastic shell
13	Black plastic shell
14	Black plastic shell
15	Silvery metal spring with black surface
16	Black plastic shell
17	Silvery metal rivet
18	Black plastic buckle

Specimen No.	Specimen Description
19	Black plastic buckle
20	Black plastic buckle
21	Black plastic strip
22	Black plastic strip
23	Silvery metal rivet
24	Black sponge handle
25	Black plastic button
26	Silvery metal sheet
27	Dark silvery metal shell
28	Silvery metal strip with black surface
29	Black plastic part
30	Silvery metal shell with black surface
31	Silvery metal shell with black surface
32	Red main fabric
33	Black plastic tube
34	Black plastic stopper
35	Red plastic hook(VELCRO)
36	Red plastic loop(VELCRO)
37	Black plastic handle
38	Dark silvery metal shell
39	Silvery metal spring with black surface
40	Blue plastic hook(VELCRO)
41	Blue plastic loop(VELCRO)
42	Blue main fabric
43	Black plastic cap
44(R4)	Brown wood handle
45(R4)	Brown wood cap
46	Dark blue plastic hook(VELCRO)
47	Dark blue plastic loop(VELCRO)

Specimen No.	Specimen Description
48	Dark blue main fabric
49(R4)	Brown wood tube
50	Black main fabric
51	Black plastic hook(VELCRO)
52	Black plastic loop(VELCRO)
53(R1)	Transparent soft plastic gasket
54	Black plastic part
55	Black main fabric

Photograph of parts tested:

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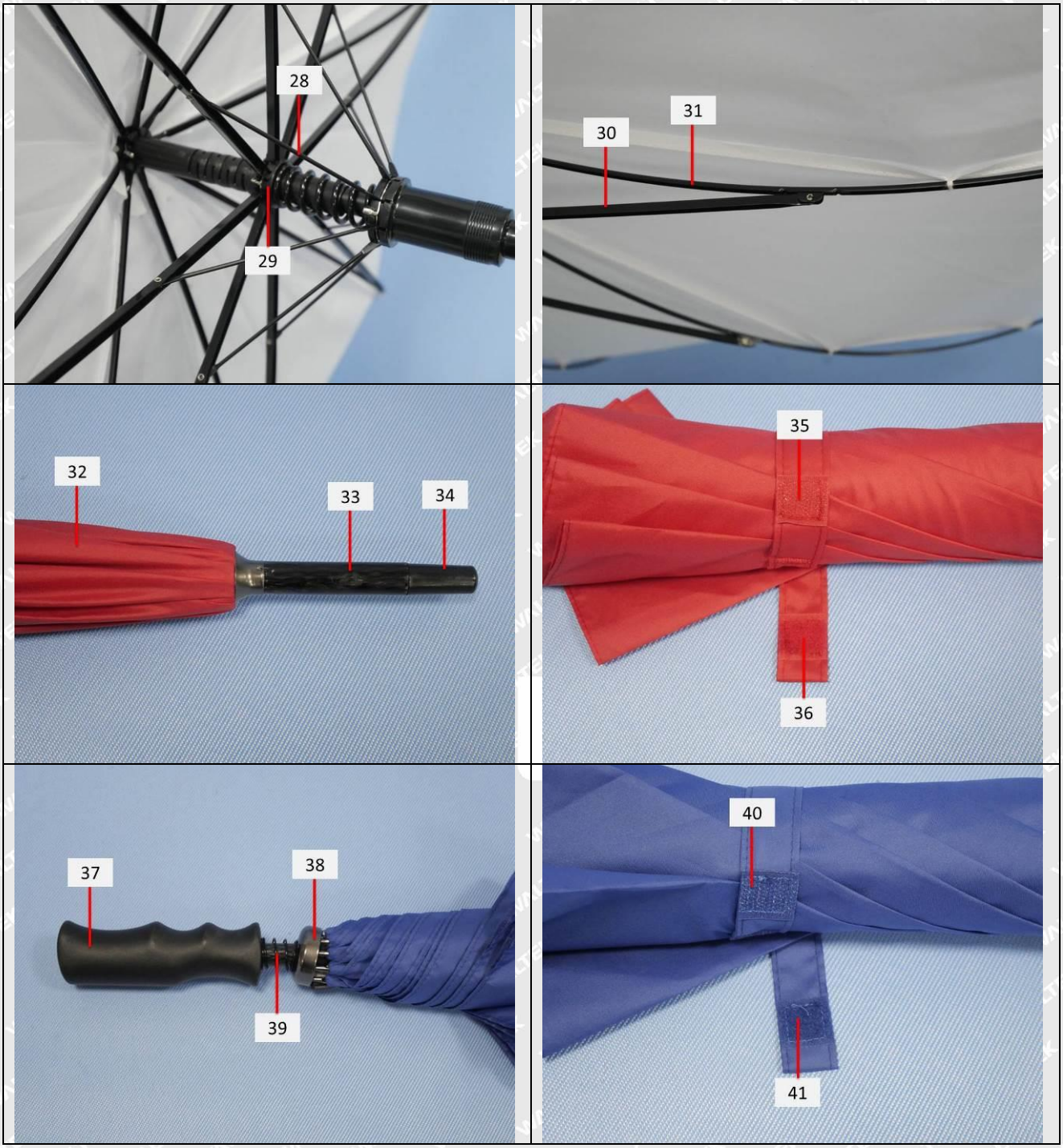
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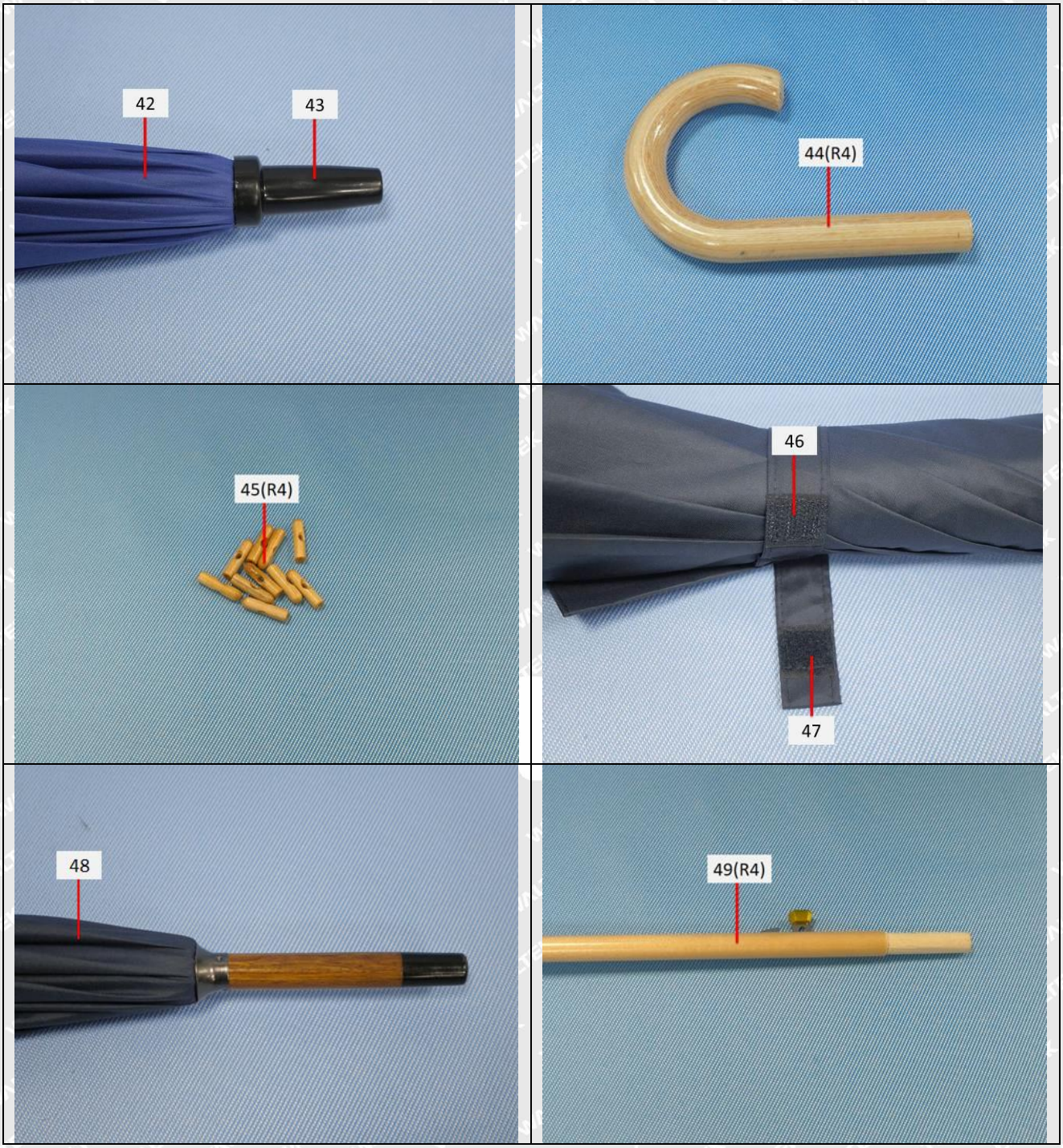
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44(R4)
45(R4)
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49(R4)

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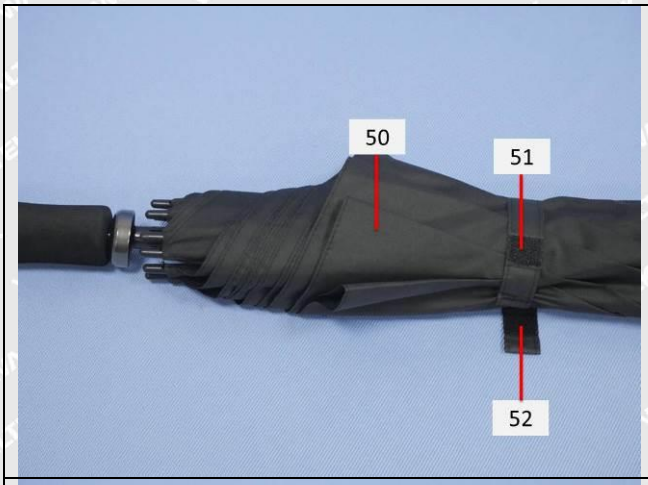
<td> 
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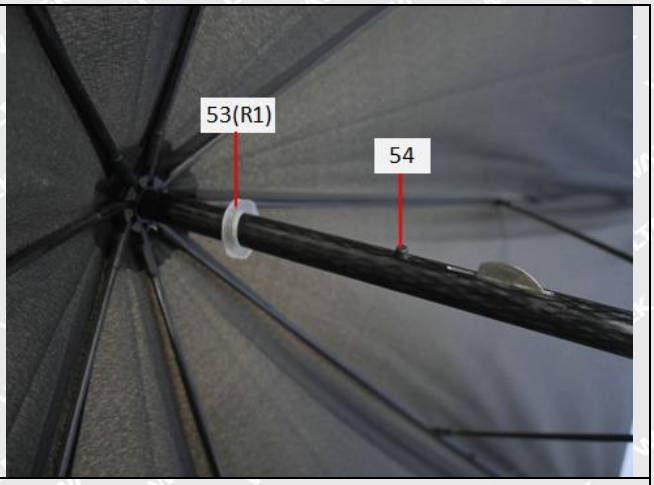
<td> 
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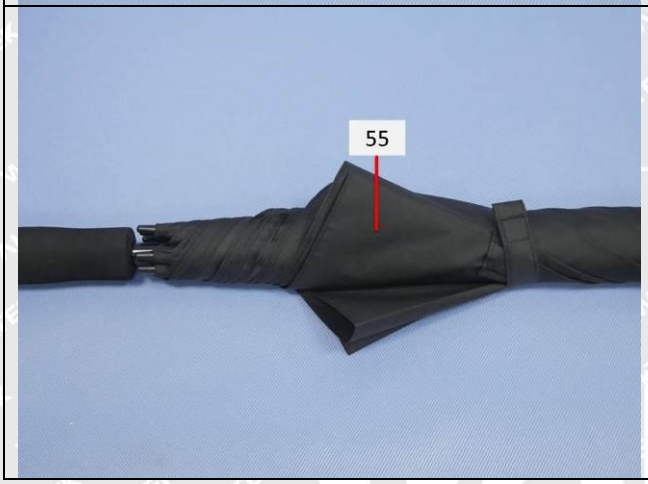
<td> 
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====== End of Report ======