



中国认可
国际互认
检测
TESTING
CNAS L6478



TEST REPORT

Report No...... : WTF23F04080369C
Applicant..... : Mid Ocean Brands B.V.
Address..... : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer..... : 111441
Sample Name..... : Electric bottle opener
Sample Model..... : MO7369
Date of Receipt sample..... : 2023-04-17
Testing period..... : 2023-04-17 to 2023-04-28
Date of Issue..... : 2023-05-04
Test Result..... : Refer to next page (s)

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, Shunde District, Foshan, Guangdong, China

Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

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

Swing Liang

Swing.Liang



Report No.: WTF23F04080369C

Test Requested : In accordance with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863.

Test Method : 1) With reference to IEC 62321-2:2021, disassembly, disjunction and mechanical sample preparation
2) With reference to IEC 62321-3-1:2013, screening - Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry
3) With reference to IEC 62321-4:2013+AMD1:2017 CSV, determination of Mercury by ICP-OES
4) With reference to IEC 62321-5:2013, determination of Lead and Cadmium by ICP-OES
5) With reference to IEC 62321-7-2: 2017 and IEC 62321-7-1: 2015, determination of Hexavalent Chromium by UV-Vis
6) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS
7) With reference to IEC 62321-8:2017, determination of Phthalates content by GC-MS.

Test Conclusion : **Pass** (Based on the performed tests on the submitted samples, the results comply with the RoHS Directive 2011/65/EU and its amendment (EU) No. 2015/863)

WALTEK



Report No.: WTF23F04080369C

Sample Photo(s):



WALTEK

**Test Results:****1. Lead, Mercury, Cadmium, Hexavalent Chromium, PBBs and PBDEs**

Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
1	Black plastic shell	BL	BL	BL	BL	BL	NA
2	Transparent plastic adhesive label with white printing	BL	BL	BL	BL	BL	NA
3	Silvery metal spring	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
4	Silvery metal sheet	BL	BL	BL	BL	--	NA
5	Black fibrous tape	BL	BL	BL	BL	BL	NA
6	Solder	BL	BL	BL	BL	--	NA
7	Black plastic sleeve	BL	BL	BL	BL	BL	NA
8	Black plastic sheet	BL	BL	BL	BL	BL	NA
9	Black plastic sheet	BL	BL	BL	BL	BL	NA
10	White plastic sheet with silvery plating	BL	BL	BL	BL	BL	NA
11	Black soft plastic sheet	BL	BL	BL	BL	BL	NA
12	Silvery metal spring	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
13	Silvery metal spring	BL	BL	BL	BL	--	NA
14	White plastic piece	BL	BL	BL	BL	BL	NA
15	Beige plastic sleeve	BL	BL	BL	BL	BL	NA
16	Silvery metal axle	BL	BL	BL	BL	--	NA
17	Silvery metal axle	BL	BL	BL	BL	--	NA
18	Silvery metal strip with black plating	BL	BL	BL	BL	--	NA
19	White plastic ring	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
20	Beige plastic sheet	BL	BL	BL	BL	BL	NA
21	White plastic sleeve	BL	BL	BL	BL	BL	NA
22	White plastic gear	BL	BL	BL	BL	BL	NA
23	White plastic gear	BL	BL	BL	BL	BL	NA
24	Blue plastic gear	BL	BL	BL	BL	BL	NA
25	White plastic gear	BL	BL	BL	BL	BL	NA
26	White plastic gear	BL	BL	BL	BL	BL	NA
27	Silvery metal shell	BL	BL	BL	BL	--	NA
28	Silvery metal strip	BL	BL	BL	BL	--	NA
29	Coppery metal sleeve	BL	BL	BL	BL	--	NA
30	Black magnetic core	BL	BL	BL	BL	--	NA
31	Brown capacitor	BL	BL	BL	BL	BL	NA
32	Silvery metal sheet	BL	BL	BL	BL	--	NA
33	Solder	BL	BL	BL	BL	--	NA
34	Beige plastic shell	BL	BL	BL	BL	BL	NA
35	Silvery metal contactor	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
36	Silvery metal gasket	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
37	Coppery metal sheet	BL	BL	BL	BL	--	NA
38	Coppery metal sleeve	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
39	Black carbon brush	BL	BL	BL	BL	BL	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
40	Golden metal sheet	BL	BL	BL	BL	--	NA
41	Black heat-shrinkable tube	BL	BL	BL	BL	BL	NA
42	Silvery metal pin	BL	BL	BL	BL	--	NA
43	Silvery metal axle	BL	BL	BL	BL	--	NA
44	Silvery silicone steel sheet	BL	BL	BL	BL	BL	NA
45	Copperty metal sheet	BL	BL	BL	BL	--	NA
46	Green coating	BL	BL	BL	BL	BL	NA
47	Copperty varnished wire	BL	BL	BL	BL	BL	NA
48	Black glue	BL	BL	BL	BL	BL	NA
49	Brown plastic ring	BL	BL	BL	BL	BL	NA
50	White plastic ring	BL	BL	BL	BL	BL	NA
51	Black plastic ring	BL	BL	BL	BL	BL	NA
52	Silvery metal ring	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
53	White plastic ring	BL	BL	BL	BL	BL	NA
54	Silvery metal gasket with black plating	BL	BL	BL	BL	--	NA
55	Silvery metal sheet	BL	BL	BL	BL	--	NA
56	Green PCB	BL	BL	BL	BL	BL	NA
57	Silvery-copperty metal contactor	BL	BL	BL	BL	--	NA
58	Solder	BL	BL	BL	BL	--	NA
59	Silvery metal sheet	BL	BL	BL	BL	--	NA



Part No.	Part Description	Result of XRF					Result of Wet Chemical Testing (mg/kg)
		Cd	Pb	Hg	Cr	Br	
60	Yellow plastic wire covering	BL	BL	BL	BL	BL	NA
61	Red plastic wire covering	BL	BL	BL	BL	BL	NA
62	Pink plastic wire covering	BL	BL	BL	BL	BL	NA
63	Black plastic wire covering	BL	BL	BL	BL	BL	NA
64	Silvery metal wire	BL	BL	BL	BL	--	NA
65	Silvery metal screw	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
66	Silvery metal screw	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
67	Silvery metal screw	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
68	Silvery metal screw with black plating	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
69	Black plastic sheet	BL	BL	BL	BL	BL	NA
70	Silvery metal sheet	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative
71	Silvery metal screw	BL	BL	BL	IN	--	Cr ⁶⁺ : Negative

Remark:

- (1) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for Cr⁶⁺) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1: 2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < IN < (130+3\sigma) \leq OL$	$LOD < IN < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < IN < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < IN < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < IN$	$BL \leq (700-3\sigma) < IN$	$BL \leq (500-3\sigma) < IN$
Br	$BL \leq (300-3\sigma) < IN$	--	$BL \leq (250-3\sigma) < IN$

BL= Below Limit

OL= Over Limit

LOD = Limit of Detection

-- = Not Regulated

- (2) "IN" expresses the inconclusive region, and further chemical testing to confirm whether it complies with the requirement of RoHS Directive.



Report No.: WTF23F04080369C

- (3) The XRF screening test for RoHS elements – the reading may be different to the actual content in the sample be of non-uniformity composition.
- (4) mg / kg =milligram per kilogram=ppm, $\mu\text{g}/\text{cm}^2$ = Micrograms per square centimetre.
- (5) NA = Not Applicable, as the XRF screening test result was below the limit or as the XRF screening directly determine that test result was over the limit, it was not need to conduct the wet chemical testing.
- (6) LOQ = Limit of quantitation.

Test Items	Pb	Cd	Hg	Cr ⁶⁺		PBB	PBDE
Units	mg/kg	mg/kg	mg/kg	mg/kg	$\mu\text{g}/\text{cm}^2$	mg/kg	mg/kg
LOQ	2	2	2	8	0.1	5	5

The LOQ for single compound of PBBs and PBDEs is 5mg/kg, LOQ of Cr⁶⁺ for polymer and composite sample is 8mg/kg and LOQ of Cr⁶⁺ for metal sample is 0.1 $\mu\text{g}/\text{cm}^2$.

- (7) RoHS Requirement

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

- (8) According to IEC 62321-7-1:2015, determined of Cr⁶⁺ on metal sample by boiling water extraction test method, and result is shown as Positive/Negative.

Boiling water extraction:

Negative = Absence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is less than 0.10 $\mu\text{g}/\text{cm}^2$.

Positive = Presence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is greater than 0.13 $\mu\text{g}/\text{cm}^2$.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

- (9) Abbreviation:

“Pb” denotes Lead, “Cd” denotes Cadmium, “Hg” denotes Mercury, “Cr” denotes Chromium, “Cr (VI)” denotes Hexavalent Chromium, “Br” denotes Bromine, “PBBs” denotes Total Polybrominated Biphenyls, “PBDEs” denotes Total Polybrominated Diphenyl Ethers.

2. Phthalates:

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T01	1+7+8+9+10 [△]	ND	ND	ND	ND
T02	2	ND	ND	292	ND
T03	3	--	--	--	--
T04	4	--	--	--	--
T05	5	ND	ND	ND	ND
T06	6	--	--	--	--



Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T07	11	ND	ND	ND	ND
T08	12	--	--	--	--
T09	13	--	--	--	--
T10	14+15+19+21+22 [△]	ND	ND	ND	ND
T11	16	--	--	--	--
T12	17	--	--	--	--
T13	18	--	--	--	--
T14	20+51+53+69 [△]	ND	ND	ND	ND
T15	23+24+25+26+34 [△]	ND	ND	ND	ND
T16	27	--	--	--	--
T17	28	--	--	--	--
T18	29	--	--	--	--
T19	30	--	--	--	--
T20	31+47+56 [△]	ND	ND	ND	ND
T21	32	--	--	--	--
T22	33	--	--	--	--
T23	35	--	--	--	--
T24	36	--	--	--	--
T25	37	--	--	--	--
T26	38	--	--	--	--
T27	39	ND	ND	ND	ND
T28	40	--	--	--	--
T29	41	ND	ND	ND	ND
T30	42	--	--	--	--
T31	43	--	--	--	--
T32	44	ND	ND	ND	ND
T33	45	--	--	--	--
T34	46	ND	ND	ND	ND
T35	48	ND	ND	ND	ND
T36	49	ND	ND	ND	ND
T37	50	ND	ND	ND	ND
T38	52	--	--	--	--
T39	54	--	--	--	--
T40	55	--	--	--	--
T41	57	--	--	--	--
T42	58	--	--	--	--
T43	59	--	--	--	--
T44	60	ND	ND	ND	ND
T45	61	ND	ND	ND	ND
T46	62	ND	ND	ND	ND
T47	63	ND	ND	ND	ND
T48	64	--	--	--	--
T49	65	--	--	--	--
T50	66	--	--	--	--



Report No.: WTF23F04080369C

Serial No.	Part No.	Result (mg/kg)			
		DBP	BBP	DEHP	DIBP
T51	67	--	--	--	--
T52	68	--	--	--	--
T53	70	--	--	--	--
T54	71	--	--	--	--

Note:

- (1) mg/kg = milligram per kilogram= ppm
- (2) ND = Not Detected or lower than limit of quantitation.
- (3) -- = Not Regulated.
- (4) LOQ = Limit of quantitation.

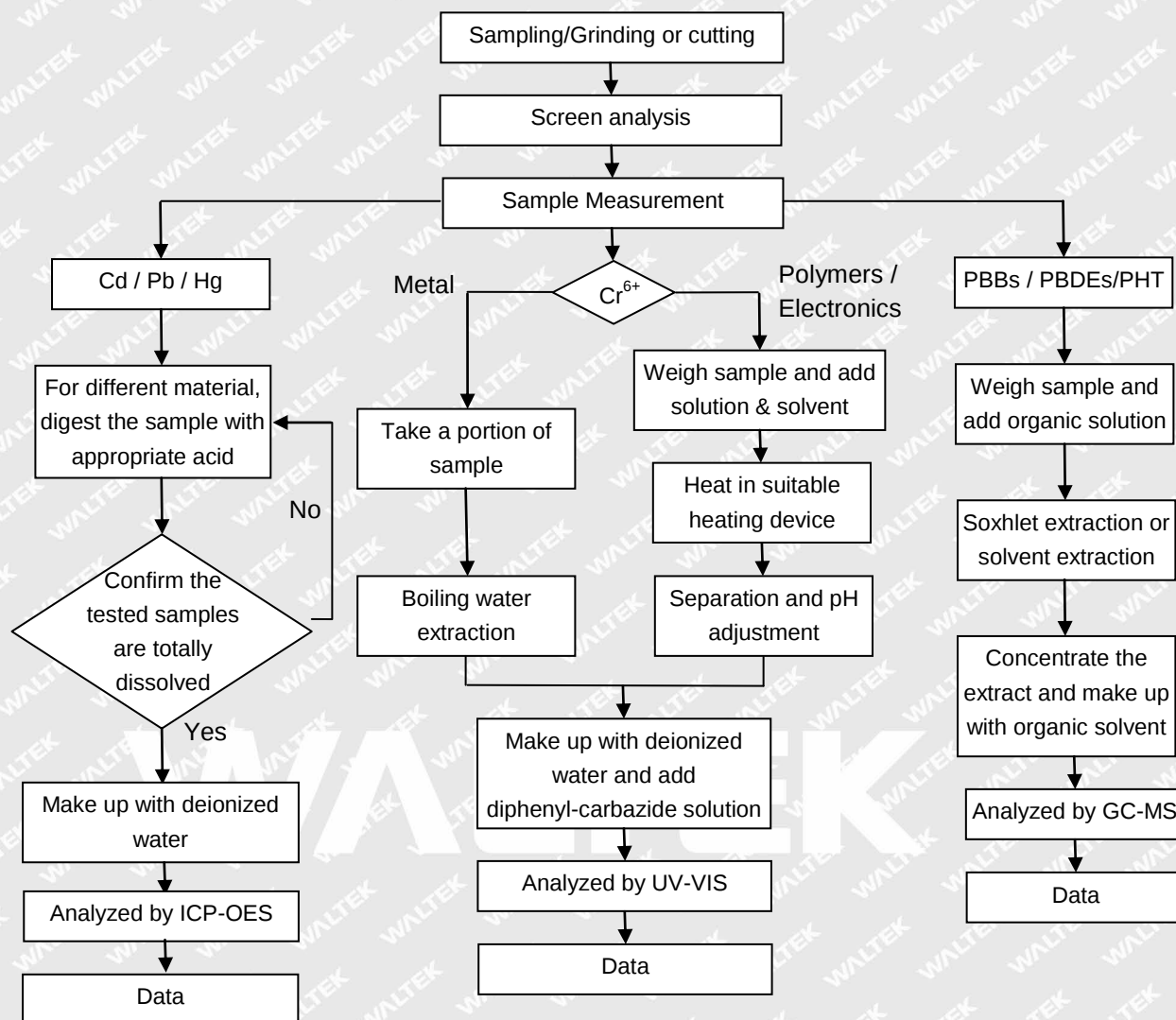
Test Items	DBP	BBP	DEHP	DIBP
Units	mg/kg	mg/kg	mg/kg	mg/kg
LOQ	50	50	50	50

- (5) Abbreviation:
"DBP" denotes Dibutyl phthalate, "BBP" denotes Benzyl butyl phthalate (BBP), "DEHP" denotes Bis(2-ethylhexyl)-phthalate, "DIBP" denotes Diisobutyl phthalate, "PHT" denotes Phthalates.

- (6) RoHS requirement

Restricted Substances	Limits
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di(2-ethylhexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Di-iso-butyl phthalate (DIBP)	0.1% (1000 mg/kg)

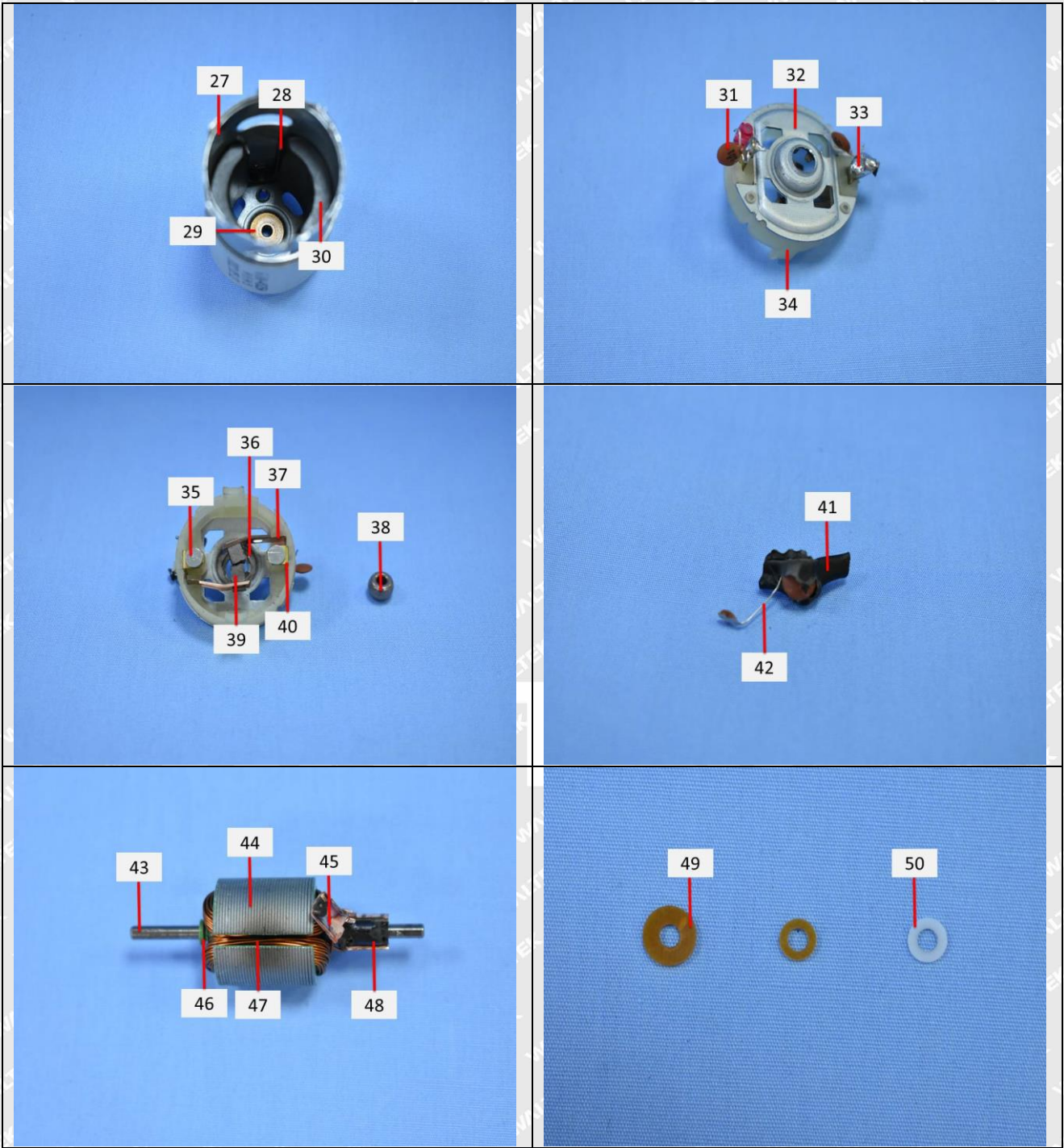
- (7) "△"= As client's requirement, the testing was conducted based on mixed components. Results are calculated by the minimum weight of mixed components.

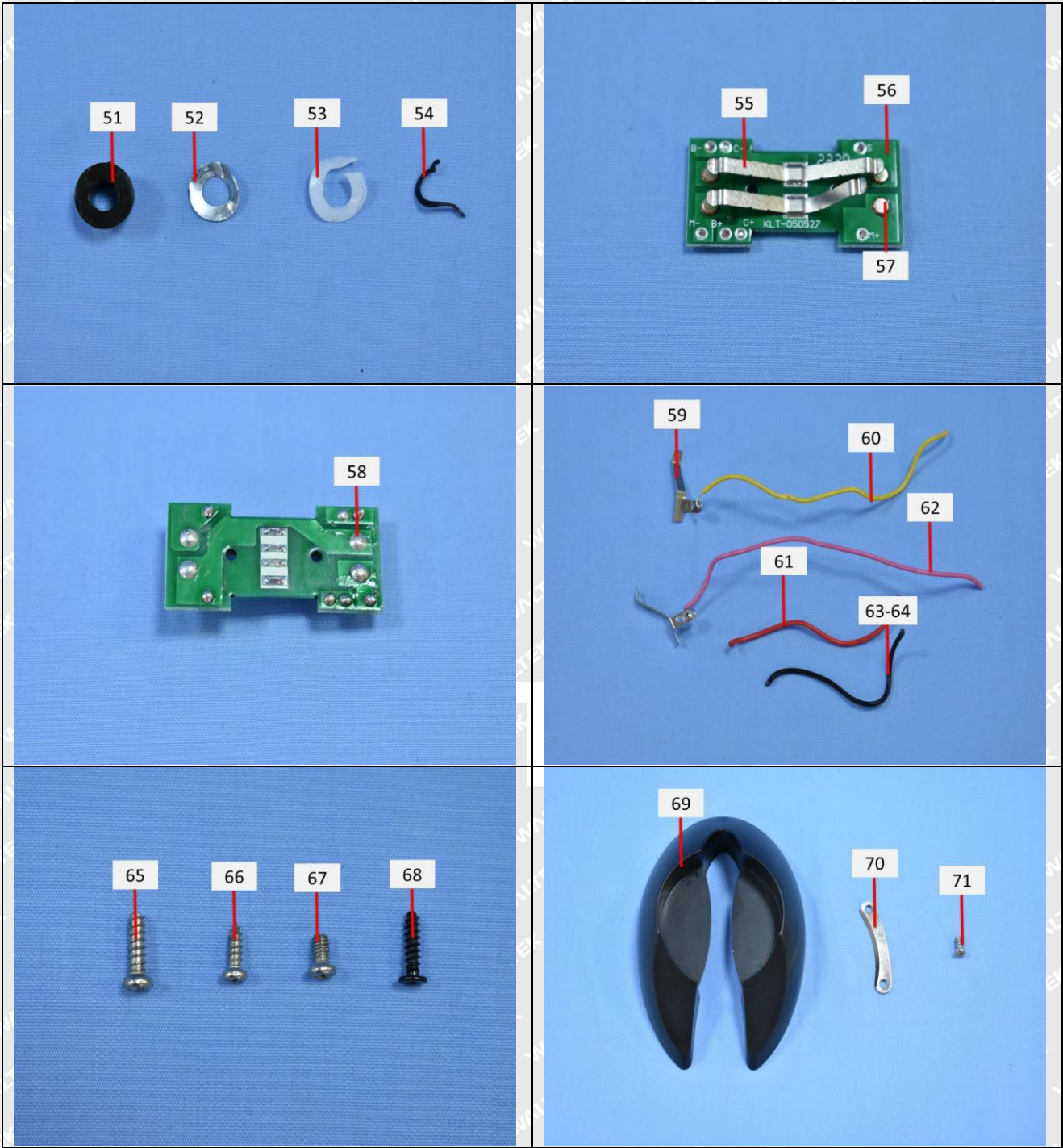
**Measurement Flowchart:**



Photograph(s) of parts tested:









Report No.: WTF23F04080369C

Remarks:

1. The results shown in this test report refer only to the sample(s) tested;
2. This test report cannot be reproduced, except in full, without prior written permission of the company;
3. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver;
4. The Applicant name and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which Waltek hasn't verified;
5. If the report is not stamped with the accreditation recognized seal, it will only be used for scientific research, education, and internal quality control activities, and is not used for the purpose of issuing supporting data to the society.
6. The sample material information (Model No. information) is provided by client, not verified by test laboratory. The samples of reference Model No. are not tested. Test laboratory not responsible for the accuracy, appropriateness, completeness and authenticity of the information provided by client.

===== End of Report =====

WALTEK