



TEST REPORT

Reference No	: -	WTF18F05110460A1C
Applicant	+ :	Mid Ocean Brands B.V.
Address	-211	Unit 201 2/F., Laford Centre, 838 Lai Chi Kok Road, Cheung Sha Wa Kowloon, Hong Kong
Manufacturer	مارون	114276
Sample Name	٠,	Zipper puller with light
Model No	Ú.	MO9396
Test Requested	÷	In accordance with the RoHS Directive 2011/65/EU
Test Method	e v	 With Reference to IEC 62321-2:2013, disassembly, disjointment and mechanical sample preparation With Reference to IEC 62321-3-1:2013, screening - Lead, mercury cadmium, total chromium and total bromine by X-ray fluorescence spectrometry With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES With reference to IEC 62321-5:2013, determination of Lead and Cadmium by ICP-OES With reference to IEC 62321-7-2:2017 and IEC 62321-7-1:2015, determination of Hexavalent Chromium by UV-Vis With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS
Test Conclusion	3	Based on the performed tests on the submitted samples, the results comply with the RoHS Directive 2011/65/EU
Date of Receipt sample		2018-05-04 & 2018-05-17
Date of Test	:	2018-05-05 to 2018-05-18
Date of Issue		2018-05-23
Test Result	Ŋ	Please refer to next page (s)
reproduced, except in full, with	hout	ort refer only to the sample(s) tested, this test report cannot be prior written permission of the company. The report would be invalid tute and the signatures of compiler and approver.

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Compiled by:

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Sheenhan.Li / Project Engineer

TRE Disto Zhang / Lab Manager

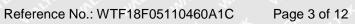


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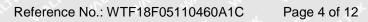
Test Results:

Part No.	Part Description	Result	of XRF	Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS
et	TEX ITEX STEEL WITE OF	Cd	BL		LEX.
	The Ave Ave Ave Av	Pb	BL	alter nite white	Mr. M
1	Silvery metal ring	Hg	BL	NA	Comply
	TIL MUTT MUT MUT MUT MILE	Cr	BL	TEX LIEX LIEX	NITE WILL
72,		Br	BL	Mr. Mr. M. A	
	et alie alie and and	Cd	BL	at let let	Et LIE
m.	In In	Pb	BL	alie will mar was	2112
2	Red plastic shell	Hg	BL	NA	Comply
Wry.	mer me m. m.	Cr	BL	TE SLIEN MITE WALL	Mr. a
	the set set set	Br	BL ^m	14, 24, 2	*
I.E.	WILL MUE AND AND AND	Cd	BL	* TEX TEX STEE	WITE WA
		Pb	BL	ing the thing.	20. 11.
3	Red rubber button	Hg	BL	NA NA	Comply
- In	111, 111,	Cr	BL	CITE WILL WILL WI	
	t tet itet ill mill	Br W	BL		et let
WILL	Mer. Mr. Mr.	Cd	BL	THE SITE WITH WALL	Comply
	at at a steel	Pb	BL	nuist NA	
4	Transparent plastic sheet	Hg	BL		
		Cr	BL		
EX	TEX SLIER WILL WAS	Br	BL	at at at	
12	20 20 3	Cd	BL	NITE WALL WAL V	Comply
	Solder	Pb	BL	2, 2,	
5		Hg	BL	NA NA	
	at let tet tet	Cr	BL	10, 20, 20, 2	
		Br	BL	the self steet steet	
71		Cd	BL N	in the Miles	12,
TEX	TER I DE	Pb	BL	I BY TEX	TEX
6	Silvery metal sheet	Hg	BL	NA NA	Comply
	LEK LEK LIEK ALTER AND	Cr	BL		
	ri wer me me	Br	→ BL→	TEX LIFE WILL !	ייי אריי
	a st st set set	Cd	BL	M. M. M.	1
	write white war, war	Pb	BL	EX TEX TEX	E. WILL
7	Silvery metal cover of switch	Hg	BL	Cr ⁶⁺ : Negative	Comply
TEX	LIET ALTER MITE MAIL	Cr	IN	· * at at	TEX
	m m m	→ Br →	BL	it with while	Mr. M
.+	LET TEX ITEX LITER OF	Cd	BL		in the second
	ur, mur, mur, my	Pb	BL	ITEK STIER STIER	UNLI WAL
8	Silvery metal sheet of switch	Hg	BL	Cr ⁶⁺ : Negative	Comply
,	TEL MITTE WALL WALL WITH	Cr	IN	LET TEX TEX	
11/2	77	Br	BL	in mir mur in	21,



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	A	\checkmark	

Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS	
et	TEX ITEX ALTER MITTER IN	Cd	BL		TEX.	
	mr. mr. m. m.	Pb	BL	alter with white	MUT. M	
9	Golden metal button of switch	Hg	BL	NA	Comply	
	File Mari Mari Mari Mari	Cr	BL	TEX TEX TEX	ALTE: MIT	
		Br	BL	Mr. Mr. M. 2		
٠ .	et alie with whi wal	Cd	BL	at at let	EK LIET	
	Vallaus tura namanant alaatia	Pb	BL	White Muli Muli Muli	201	
10	Yellow transparent plastic – adhesive sheet of switch –	Hg	BL	NA	Comply	
	adhesive sheet of switch	Cr	BL	TE SLIER WITE WITE	WILL I	
	at at alt all a	Br	BL _M	24, 24, 25		
JE.	with the Me Me	Cd	L BL	t let let let	الما المالية	
		Pb	BL	Wr. Myr My.	20, 20	
11	Dark grey plastic base of switch	Hg	BL	NA NA	Comply	
	Mr. M. M.	Cr	BL	THE WILL WALL WI		
	t let tet ly other	Br W	BL	27 July 1		
anti.	The Mr Mr M	Cd	BL	TEX LIER OLIER INCI	Comply	
	The state of the s	Pb	IN 0	2012 201 20		
12	Silvery metal pin of switch	Hg	BL	Pb : 486		
		Cr	BL			
	TEX LIEX SLIEN ON	Br	BL	L A A	JEK J	
10	- 14 14 1	Cd	BL	all will will a	Comply	
	Solder	Pb	IN	Pb : 434		
13		Hg	- BL			
		Cr	BL	W. Mr. M. M. M.		
	The street of the street	Br	BL	to the text of	LIER	
2/1		Cd	BL o	in the thin	Comply	
	Chip IC	Pb	BL	the set of		
14		Hg	BL	NA		
		Cr	BL	70, 70,	A .0	
	The write and and	Br	A BLA	TEX TEX STEEL	LITE WALL	
- ""		Cd	BL	My My My M		
	ALTER MILE WALL WALL	Pb	BL	at at let o	EK LIEK	
15	Silvery metal screw	Hg	BL	NA NA	Comply	
	THE THE THE	Cr	BL		- LEX	
	my my m	→ Br →	BL	IE NITER WITE WALL	Whi. M	
J	of the text the	Cd	BL	7/1, 2, 2,	, t	
	VILL MUIT MUT, MUT, MILL M	Pb	BL	TEX TEX TIEX	Comply	
16	Transparent body of LED	Hg	BL	PBBs : ND		
	IEL SITE WITE WALL AND	Cr	BL	PBDEs : ND		
	20, 20, 20	Br	IN	CIE WILL WELL WA		



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Part No.	Part Description	Result of XRF		Result of Wet Chemical Testing (mg/kg)	Conclusion on RoHS	
	THE THE LITER OUTE OF	Cd	BL	1 4 4	Comply	
	mer we me in	Pb	BL	ALTER WITE WALTE		
17	Silvery metal pin of LED	Hg	BL	Cr ⁶⁺ : Negative		
	File Mury Mury Mury Miles	Cr	IN	TEX TEX TIES		
10		Br	BL	in me in a		
	Beige PCB with green coating	Cd	BL	et let let	Comply	
an.		Pb	BL	PBBs : ND PBDEs : ND		
18		Hg	BL			
WILL		Cr	BL			
3		Br	IN IN	14, 14, 2, 1	AL.	
LIE	wife out and any	Cd	BL +	TEX TEX STEE	inlik will	
19	Silvery metal screw	Pb	BL	we we will	Comply	
		Hg	BL	NA NA		
	M1 20 2	Cr	BL	ric wir wir w		
	t tex tex it	Br W	BL		et let	





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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 ≤ (70-3σ) < IN < (130+3σ) ≤ OL	BL ≤ $(70-3\sigma)$ < IN < $(130+3\sigma)$ ≤ OL	LOD < IN < (150+3σ) ≤ OL
Pb	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL ≤ (700-3σ) < IN < (1300+3σ) ≤ OL	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Hg	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	$BL \le (700-3\sigma) < IN < (1300+3\sigma) \le OL$	BL ≤ (500-3σ) < IN < (1500+3σ) ≤ OL
Cr	BL ≤ (700-3σ) < IN	BL ≤ (700-3σ) <in< td=""><td>BL ≤ (500-3σ) < IN</td></in<>	BL ≤ (500-3σ) < IN
Br	BL ≤ (300-3σ) < IN	Et Write Murie Muri M	BL ≤ (250-3σ) < 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.
- (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) ppm = mg / kg, based on the dry weight of tested sample.
- (5) ND = Not Detected, less than the value of Method Detection Limit.
- (6) NA = Not Applicable, as the XRF screening test result was below the limit, it was not need to conduct the wet chemical testing.
- (7) MDL= Method Detection Limit in wet chemical test.

	Test Items	Pb	Cd	Hg	Cr ⁶⁺		PBB	PBDE
	Units	mg/kg	mg/kg	mg/kg	mg/kg	μg/cm ²	mg/kg	mg/kg
5	MDL	2.50	2	2	2	0.1	5	5 5

The MDL for single compound of PBBs and PBDEs is 5mg/kg, MDL of Cr⁶⁺ for polymer and composite sample is 2mg/kg and MDL of Cr⁶⁺ for metal sample is 0.1µg/cm².

(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 0.10ug/cm².

Positive = Presence of Cr⁶⁺ coating, the detected concentration in boiling water extraction solution is greater than 0.13ug/cm².

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.

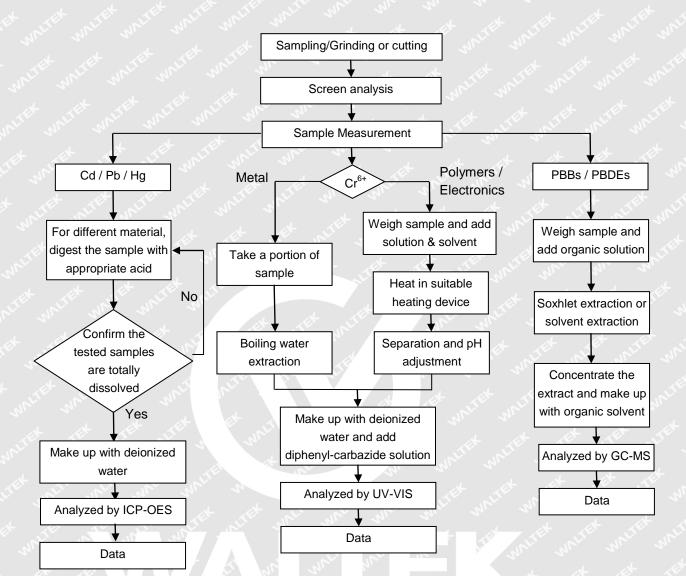
(9) The testing standard "IEC 62321-7-2:2017" does not been accredited by CNAS.

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Measurement Flowchart:

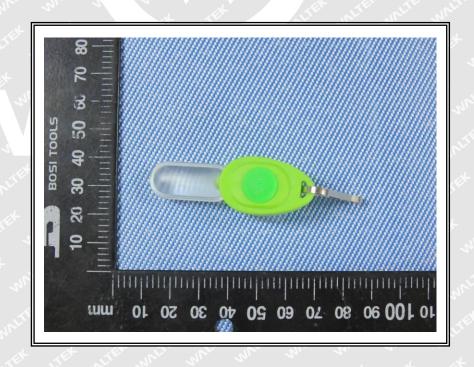


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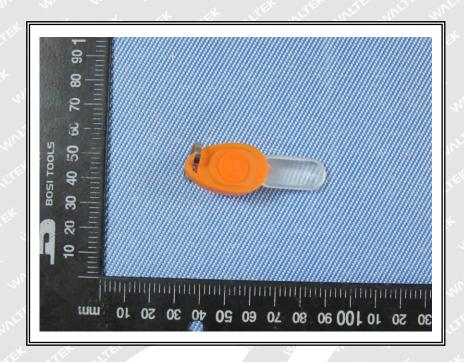
Test Sample Photo:

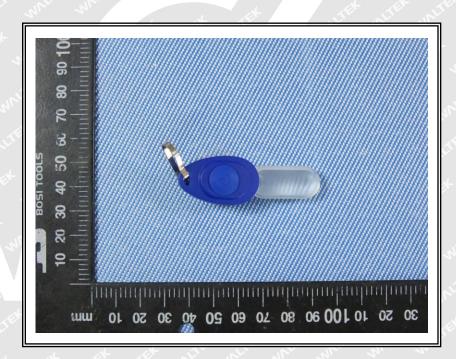


Product pictures provided by client(untested):

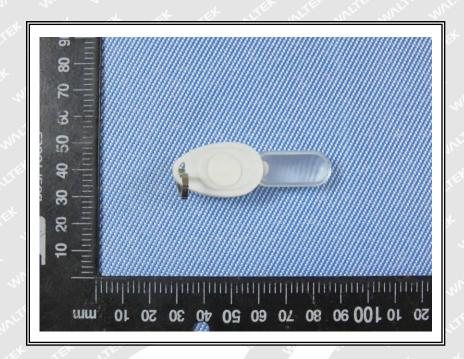


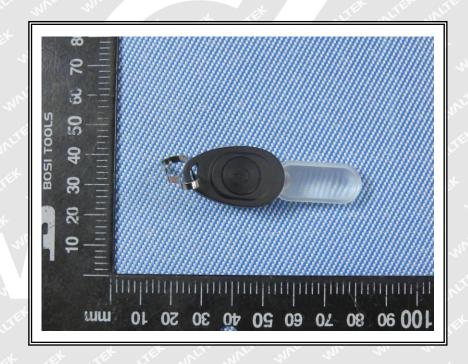






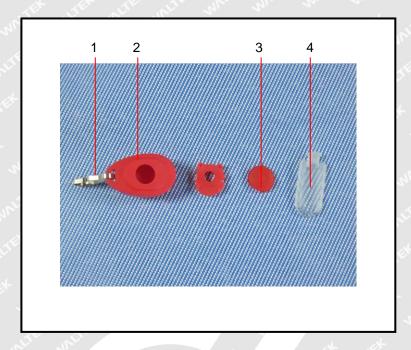


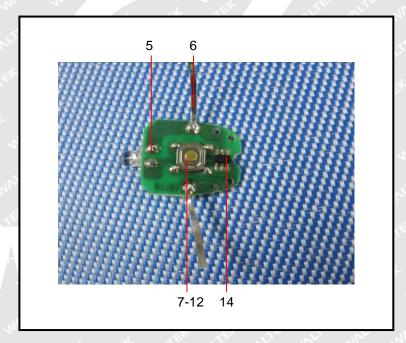




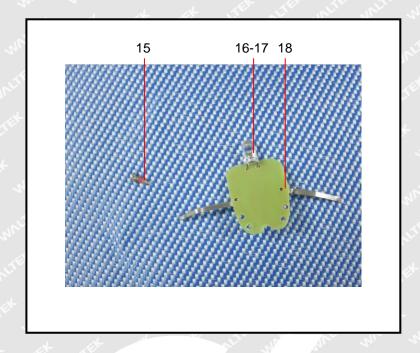
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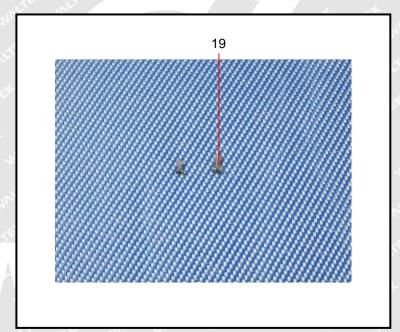
Photograph of parts tested:



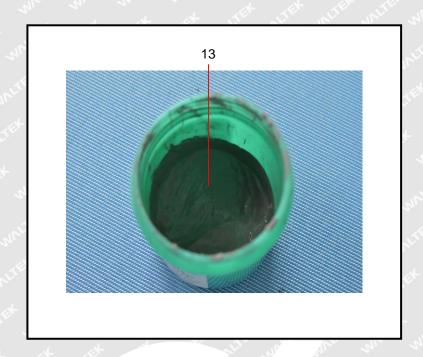












===== End of Report =====

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