



**BUREAU
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TEST REPORT

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DATE : August 16, 2021
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Applicant:

NINGBO ZHANJING OPTICAL INSTRUMENTS CO.,LTD

1 XIONGJIA STREET LANGXIA STREET, YUYAO CITY, ZHEJIANG PROVINCE, CHINA

Date of Submission: 2021-04-26
Test Period: 2021-04-26 to 2021-07-23

Sample Description:	Astronomical telescope		
Sample Status :	Intact		
Manufacturer:	/	Buyer:	/
Style No.(s):	31035	PO No.:	/
Country of Origin:	/	Country of Destination:	/

Test Item(s): Details see attached page(s).

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
Compliance Test - Heavy Metals, Flame Retardants Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments	PASS
Compliance Test - Phthalate Test - (EU) 2015/863 amending Annex II to Directive 2011/65/EU	PASS

Note: The tested part of the sample was specified by client.
The composite testing was performed as per client's request.
The test conclusion was given based on the results of tested part.

REMARK

If there are questions or concerns on this report, please contact the following persons:

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BUREAU VERITAS TESTING TECHNICAL SERVICE (ZHEJIANG) CO.,LTD



PREPARED BY : _____ MARY _____

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Photo of the Submitted Sample



24211160150



TEST RESULT

Compliance Test - Heavy Metals, Flame Retardants Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments

Test Method : See Appendix.

See Analytes and their corresponding Maximum Allowable Limit in Appendix

-			Result					Conclusion
Parameter			Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs & PBDEs	
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item	Description	Location	-	-	-	-	-	-
Tested components of 31035								
1	Silvery metal screw	Inside	<500	ND	ND	ND	NA	PASS
2	Silvery metal sheet	Inside	ND	ND	ND	ND	NA	PASS
3	Silvery metal screw	Inside	ND	ND	ND	ND	NA	PASS
4	Silvery metal block	Part	ND	ND	ND	ND	NA	PASS
5	Blue transparent soft plastic sheet	Part	ND	ND	ND	ND	ND	PASS
6	Black metal gasket	Part	ND	ND	ND	ND	NA	PASS
7	Silvery metal block	Part	ND	ND	ND	ND	NA	PASS
8	Black metal sheet	Part	ND	ND	ND	ND	NA	PASS
9	Black metal block	Part	ND	ND	ND	ND	NA	PASS
10	Silvery metal block	Part	ND	ND	ND	ND	NA	PASS
11	Silvery metal gasket	Part	ND	ND	ND	ND	NA	PASS
12	Silvery metal screw	Part	<500	ND	ND	ND	NA	PASS
13	Black plastic block	Part	ND	ND	ND	ND	ND*	PASS
14	Silvery metal block	Part	ND	ND	ND	ND	NA	PASS
15	Black metal spring	Part	<500	ND	ND	ND	NA	PASS
16	Silvery metal block	Part	<500	ND	ND	ND	NA	PASS
17	Silvery metal block	Part	ND	ND	ND	ND	NA	PASS
18	Silvery metal nut	Part	ND	ND	ND	ND	NA	PASS
19	Silvery metal ring	Part	ND	ND	ND	ND	NA	PASS
20	Black rubber ring ^{R1}	Part	ND	ND	ND	ND	ND	PASS
21	Transparent soft plastic ring	Part	ND	ND	ND	ND	ND	PASS
22	Silvery metal	Part	ND	ND	ND	ND	NA	PASS
23	Golden metal block	Part	ND	ND	ND	ND	NA	PASS
24	Black metal block	Part	ND	ND	ND	ND	NA	PASS
25	Transparent hot melt glue	Part	ND	ND	ND	ND	ND	PASS
26	Black plastic cover	Part	ND	ND	ND	ND	ND	PASS
27	Black silicone ring	Part	ND	ND	ND	ND	ND	PASS
28	Black plastic block	Part	ND	ND	ND	ND	ND	PASS
29	Transparent glass	Part	ND	ND	ND	ND	NA	PASS
30	Black plastic tube	Part	ND	ND	ND	ND	ND	PASS



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-			Result					Conclusion
Parameter			Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs & PBDEs	
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item	Description	Location	-	-	-	-	-	-
31	Black plastic with white printed	Part	ND	ND	ND	ND	ND	PASS
32	Transparent soft plastic cover	Part	ND	ND	ND	ND	ND	PASS
33	Transparent plastic sheet	Part	ND	ND	ND	ND	ND	PASS
34	Black silicone ring	Part	ND	ND	ND	ND	ND	PASS
35	Black plastic block	Part	ND	ND	ND	ND	ND	PASS
36	Silvery metal block	Part	ND	ND	ND	ND	NA	PASS
37	Black metal screw	Inside	ND	ND	ND	ND	NA	PASS
38	Black plastic sheet	Part	ND	ND	ND	ND	ND	PASS
39	Beige cloth	Part	ND	ND	ND	ND	ND	PASS
40	Silvery metal sheet	Part	ND	ND	ND	ND	NA	PASS
41	Silvery metal	Part	ND	ND	ND	ND	NA	PASS
42	Black plastic cover	Part	ND	ND	ND	ND	ND*	PASS
43	Black plastic block	Part	ND	ND	ND	ND	ND	PASS
44	Black soft plastic tube ^{R2}	Tube	ND	ND	ND	ND	ND	PASS
45	Black metal wire ^{R1}	Wire	ND	ND	ND	ND	NA	PASS
46	Silvery metal screw ^{R1}	Inside	ND	ND	ND	ND	NA	PASS
47	Red metal block	Part	ND	ND	ND	ND	NA	PASS
48	Silvery metal shaft	Part	ND	ND	ND	ND	NA	PASS
49	Black plastic block	Part	ND	ND	ND	ND	PBDEs 530*	PASS
50	Silvery metal with blue coating	Part	ND	ND	ND	ND	NA	PASS
51	Silvery metal with orange coating	Part	ND	ND	ND	ND	NA	PASS
52	Dark blue plastic cover	Part	ND	ND	ND	ND	ND	PASS
53	Dark blue plastic sheet	Part	ND	ND	ND	ND	ND	PASS
54	Dark blue plastic block	Part	ND	ND	ND	ND	ND	PASS
55	Black rubber ^{R1}	Part	ND	ND	ND	ND	ND	PASS
56	Silvery plastic block	Part	ND	ND	ND	ND	ND	PASS
57	Black metal sheet	Part	ND	ND	ND	ND	NA	PASS
58	White plastic sheet	Part	ND	ND	ND	ND	ND	PASS
59	Black plastic cover	Part	ND	ND	ND	ND	ND	PASS
60	Silvery plastic tube	Part	ND	ND	ND	ND	ND	PASS
61	Translucent glass	Part	ND	ND	ND	ND	NA	PASS
62	Beige adhesive plastic	Part	ND	ND	ND	ND	ND	PASS
63	Black plastic	Part	ND	ND	ND	ND	PBDEs 387*	PASS
65	White foam	Part	ND	ND	ND	ND	ND	PASS
66	Black plastic	Part	ND	ND	ND	ND	ND	PASS
67	Black plastic sheet	Part	ND	ND	ND	ND	ND	PASS
68	Dark blue plastic block	Part	ND	ND	ND	ND	ND	PASS
69	Dark blue plastic block	Part	ND	ND	ND	ND	ND	PASS
70	Dark blue plastic block	Part	ND	ND	ND	ND	ND	PASS
71	Silvery metal tube	Part	ND	ND	ND	ND	NA	PASS



-			Result					
Parameter			Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs & PBDEs	Conclusion
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item	Description	Location	-	-	-	-	-	-
72	Black plastic	Part	ND	ND	ND	ND	ND	PASS
73	Silvery metal rivet	Part	ND	ND	ND	ND	NA	PASS
74	White paper sheet with black printed	Part	ND	ND	ND	ND	ND	PASS

Note / Key :

ND = Not detected “>” = Greater than “<” = Less than
 NR = Not requested mg/kg = milligram(s) per kilogram = ppm = part(s) per million
 Detection Limit: See Appendix. NA = Not applicable EX= Exempted

Remark :

- The testing approach is listed in table of Appendix.
- * denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- Only selected example(s) is (are) indicated on the photograph(s) in Comment.
 R1=Second Submission
 R2=Third Submission



TEST RESULT

Compliance Test - Phthalate Test – (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : Reference to IEC 62321-8: 2017.

Maximum Allowable Limit : 0.1% (Each)

Parameter	CAS No.	Unit	MDL	Result			
				5+21	13+26+ 28	20 ^{R1}	25
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS

Parameter	CAS No.	Unit	MDL	Result			
				27	30+31+ 33	32	35+38+ 42
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.017	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS

Parameter	CAS No.	Unit	MDL	Result			
				39	43+49+ 52	44 ^{R2}	53+54+ 56
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS

Parameter	CAS No.	Unit	MDL	Result			
				55 ^{R1}	58	59+60+ 63	62
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	0.019	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS



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Parameter	CAS No.	Unit	MDL	Result			
				65	66+67+ 68	69+70+ 72	74
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS

Parameter	CAS No.	Unit	MDL	Result			
				34			
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND			
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND			
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND			
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND			
Conclusion	-	-	-	PASS			

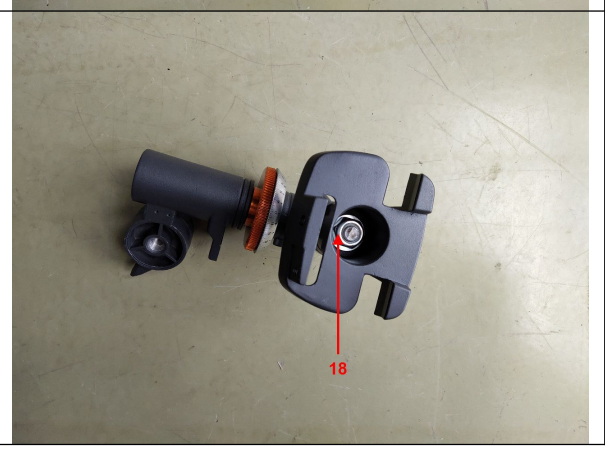
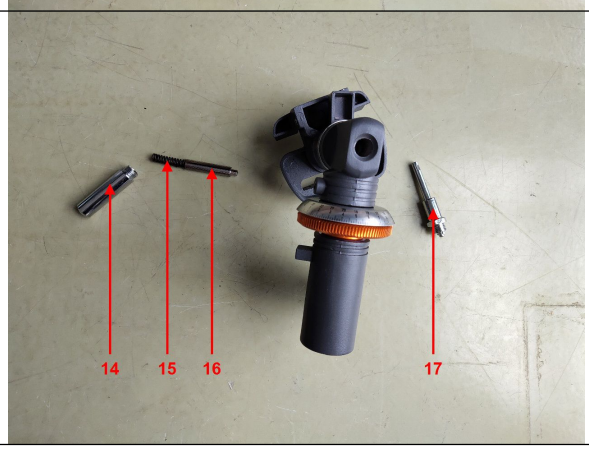
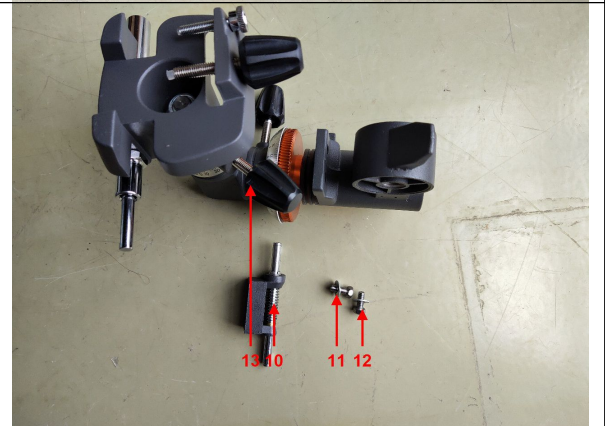
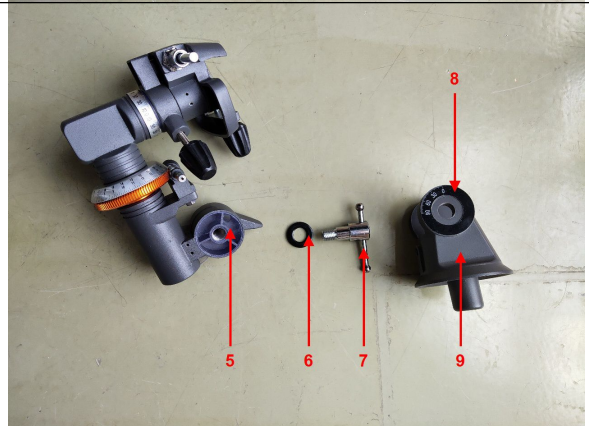
Note: mg/kg= milligram per kilogram % = percentage 1 mg/kg = 0.0001%
MDL = Method Detection Limit ND = Not Detected (< MDL) “-“ = Not Regulated

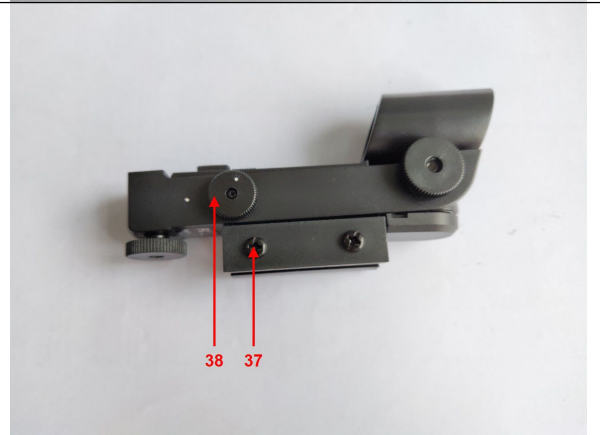
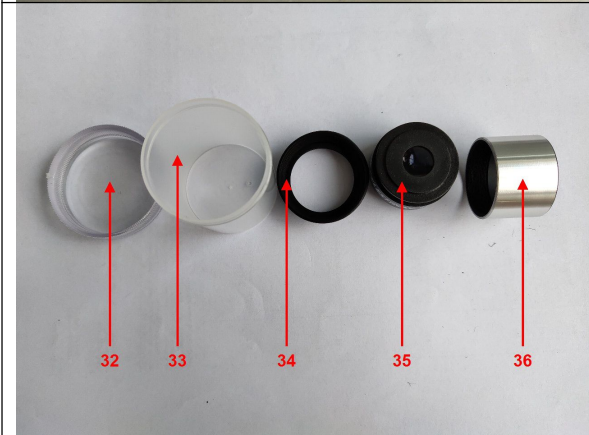
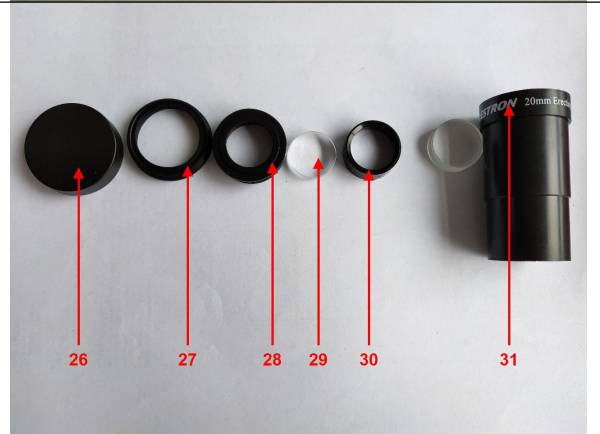
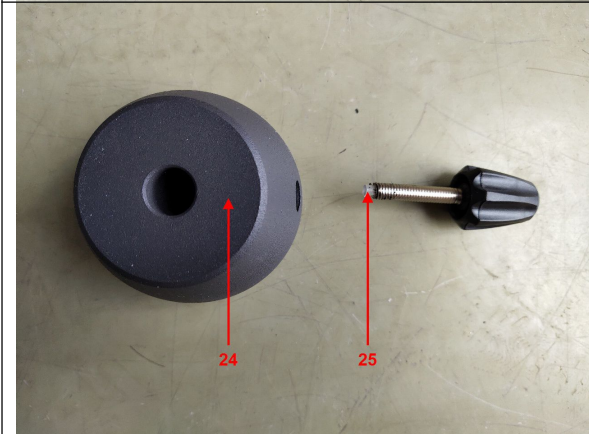
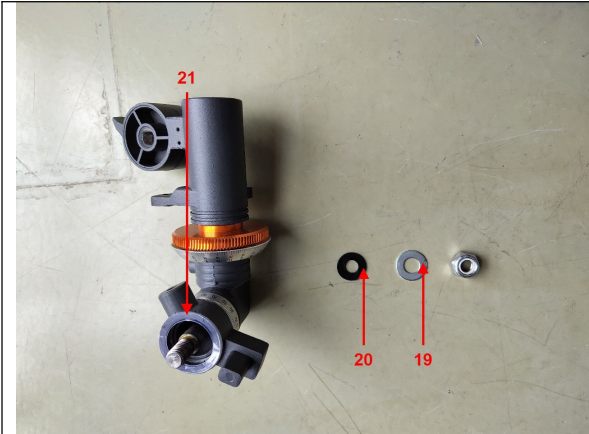
R1=Second Submission

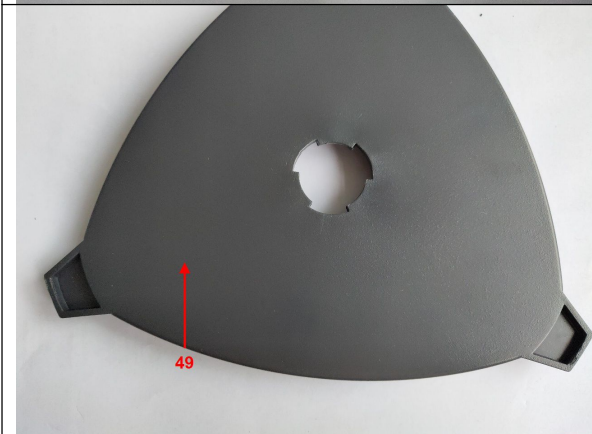
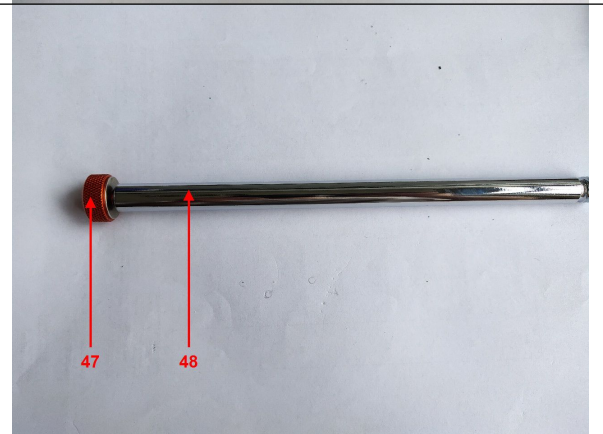
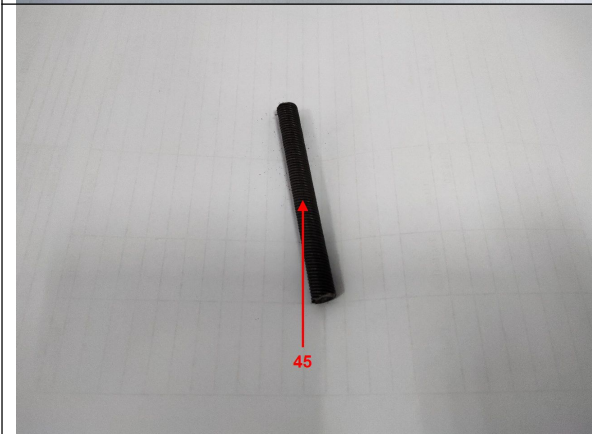
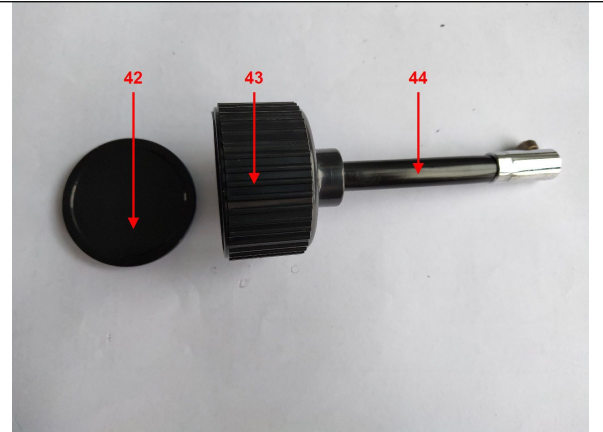
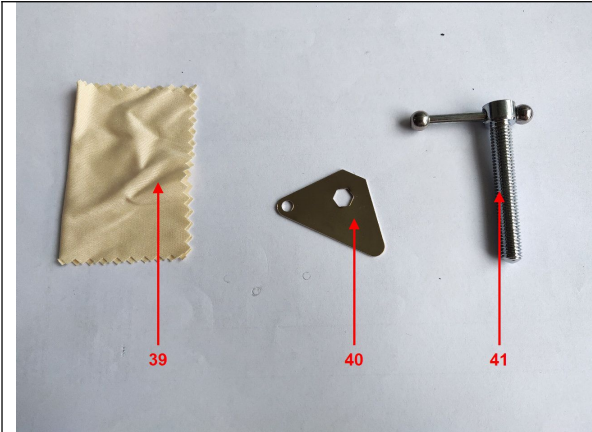
R2=Third Submission

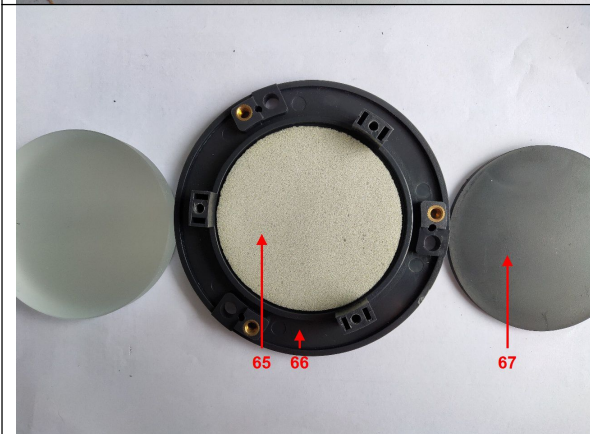
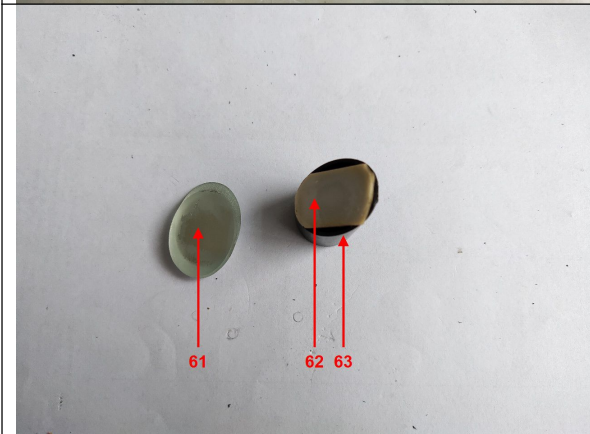
Comment :

Photograph(s) | Compliance Test for European Parliament and Council Directive 2011/65/EU | :
Photograph depicting Test Item(s)





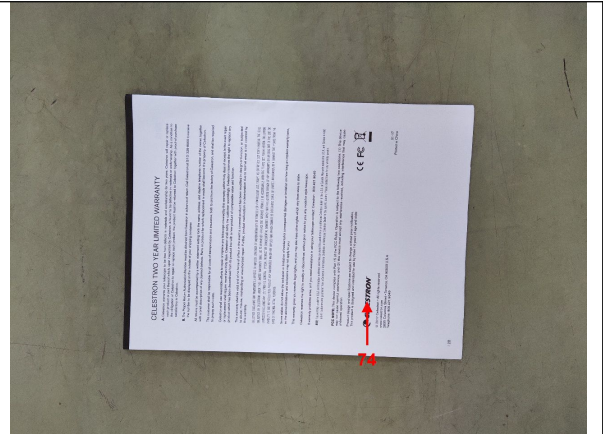






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APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit [Compliance Test for European Parliament and Council Directive 2011/65/EU] :							
No.	Name of Analyte(s)	Detection Limit (mg/kg)				Wet Chemistry	Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF)^[a]					
		Plastic	Metallic / glass / ceramic	Others			
1	Lead (Pb)	100	200	200	10 ^[b]	1 000	
2	Cadmium (Cd)	50	50	50	10 ^[b]	100	
3	Mercury (Hg)	100	200	200	10 ^[c]	1 000	
4	Chromium (Cr)	100	200	200	NA	NA	
5	Chromium VI (Cr VI)	NA	NA	NA	3 ^[g, h] / 10 ^[d] / Sec ^[e, i]	1 000 / Negative ^[i]	
6	Bromine (Br)	200	NA	200	NA	NA	
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 ^[f]	Sum 1 000	
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 ^[f]	Sum 1 000	

NA = Not applicable IEC = International Electrotechnical Commission

[a] Test method with reference to International Standard IEC 62321-3-1: 2013.

[b] Test method with reference to International Standard IEC 62321-5: 2013.

[c] Test method with reference to International Standard IEC 62321-4: 2013+AMD1: 2017 CSV.

[d] Polymers and Electronics - Test method with reference to International Standard IEC 62321-7-2: 2017.

[e] Metal - Test method with reference to International Standard IEC 62321-7-1: 2015.

[f] Test method with reference to International Standard IEC 62321-6: 2015.

[g] Leather - Test method International Standard ISO 17075: 2017.

[h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075: 2017.

[i] Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1).

Testing Approach [Compliance Test for European Parliament and Council Directive 2011/65/EU] :	
The testing approach was with reference to the following document(s).	
1	International Standards IEC 62321-1: 2013 and IEC 62321-2: 2013
2	"RoHS Enforcement Guidance Document Version 1" by EU RoHS Enforcement Authorities Informal Network. (May 2006)
3	"RoHS Regulations - Government Guidance Notes" by United Kingdom Department for Business Innovation & Skills. (February 2011)
4	"Final Report to RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium" by Belgium Federal Public Service Health, Food Chain Safety and Environment. (November 2005)

END



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Appendix
Additional Model

LK-YS175、LK-YS210

Note: The information in this Appendix is provided by client. Since the client was not able to provide the sample of additional Style, above additional Style(s) hasn't been tested, but only based on the guarantee letter provided by the client. Bureau Veritas-CPS takes no responsibility for any mistakes and the problems of product consistency caused by inaccurate and/or invalid information submitted by the client. The client will take the responsibility of all discrepancy and risk.