

CheckCode:616124 Report No.:C202010120309-1E

Applicant:Jiangsu Luoke Electric Group Co., Ltd.Address:No.55, Palm Road, Zhonglou Development Zone, Changzhou City, Jiangsu
Province

The following sample information was submitted and identified by/on the behalf of the client
Name:Name:StatorDate of Receipt:Oct. 16, 2020Test Request:Please refer to following page(s).Test Result:Please refer to following page(s).Conclusion:Please refer to following page(s).

Chen Zhimin Xinging Edited by Reviewed by Approved by Huang King Kun Seal of: **GUANGZHOU GRG METROLOGY & TEST CO., LTD.** Issue date:Oct.22,2020

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GUANGZHOU GRG METROLOGY & TEST CO., LTD.

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No.	Test Item	Client and Regulation Requirements	Conclusion
1	RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU	Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DEHP, BBP, DBP, DIBP	Comply

Sample description:

Sample No.	Description
1	Dk-grey metal silicon steel sheet
2	White fiber thread (On No.1)
3	Red-brown coating (On No.1)
4	Silvery metal wire (Base of No.3)
5	Copper-colored coating (On No.1)
6	Copper-colored metal wire (Base of No.5)
7	White translucent plastic sheet (In No.3)
8	White plastic shell (On No.1)
9	White fiber tube (On No.8)
10	Silvery metal terminal (In No.8)
11	White fiber jacket with red printing (On No.1)
12	White fiber jacket with black printing (On No.1)
13	White fiber jacket (On No.1)
14	Translucent plastic sheet (In No.13)
15	White fiber jacket (In No.14)
16	Copper-colored metal wire (In No.15)
17	Translucent plastic shell (On No.11)
18	Beige translucent plastic shell (In No.17)
19	Silvery-grey metal part (In No.18)
20	White plastic shell (In No.1)
21	White plastic strip (In No.20)



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Test Methods:			
Test Item(s)	Test method	Measuring instrument	Client's Limit
Lead (Pb)	IEC 62321-5:2013	ICP-OES/AAS	600 mg/kg
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES	60 mg/kg
Mercury (Hg)	IEC 62321-4:2013 +AMD1:2017	ICP-OES	600 mg/kg
	IEC 62321-7-2:2017	UV-Vis	600 mg/kg
Hexavalent Chromium [Cr(VI)]	IEC 62321-7-1:2015	UV-Vis	/
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS	600 mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS	600 mg/kg
Bis(2-ethylhexyl) phthalate (DEHP)	IEC 62321-8:2017	GC-MS	600 mg/kg
Butyl benzyl phthalate (BBP)	IEC 62321-8:2017	GC-MS	600 mg/kg
Dibutyl phthalate (DBP)	IEC 62321-8:2017	GC-MS	600 mg/kg
Diisobutyl phthalate (DIBP)	IEC 62321-8:2017	GC-MS	600 mg/kg

Test result(s):

Test Item)	Sample		Unit	MDI	
lest tem	1	4	6	Onit	MDL	
Lead (Pb)	N.D.	25	22	mg/kg	2	
Cadmium (Cd)	N.D.	N.D.	N.D.	mg/kg	2	
Mercury (Hg)	N.D.	N.D.	N.D.	mg/kg	2	
Hexavalent Chromium [Cr(VI)]	N.D.	N.D.	N.D.	µg/cm²	0.10	

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Test Item		Sample	Ś	Unit	MDL
lest nem	10	16	19	Unit	
Lead (Pb)	63	39	67	mg/kg	2
Cadmium (Cd)	N.D.	N.D.	N.D.	mg/kg	2
Mercury (Hg)	N.D.	N.D.	N.D.	mg/kg	2
Hexavalent Chromium [Cr(VI)]	N.D.	N.D.	N.D.	µg/cm ²	0.10

Tast Kom		San	nple		11	MDL
Test Item	2	3	5	7	Unit	
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Hexavalent Chromium [Cr(VI)]	N.D.	N.D.	N.D.	N.D.	mg/kg	8

Tast Kom		San	nple		Unit	MDL
Test Item	8	9	11	12	Unit	
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Hexavalent Chromium [Cr(VI)]	N.D.	N.D.	N.D.	N.D.	mg/kg	8

Tool Horn		San	nple		Unit.	MDL
Test Item	13	14	15	17	Unit	
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	mg/kg	2
Hexavalent Chromium [Cr(VI)]	N.D.	N.D.	N.D.	N.D.	mg/kg	8



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Test Horn		Sample	\$¥	11	MDL
Test Item	18	20	21	Unit	
Lead (Pb)	N.D.	N.D.	N.D.	mg/kg	2
Cadmium (Cd)	N.D.	N.D.	N.D.	mg/kg	2
Mercury (Hg)	N.D.	N.D.	N.D.	mg/kg	2
Hexavalent Chromium [Cr(VI)]	N.D.	N.D.	N.D.	mg/kg	8

Toot How		San	nple		<u>(</u>	
Test Item	2	3	5	7	Unit	MDL
Sum of PBBs	N.D.	N.D.	N.D.	N.D.	mg/kg	
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Sum of PBDEs	N.D.	N.D.	N.D.	N.D.	mg/kg	
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50



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Taat Kam		San	nple	5	Linit	MDL
Test Item	2	3	5	7	Unit	
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50

Test Hom		San	nple		Unit	MDI
Test Item	8	9	11	12		MDL
Sum of PBBs	N.D.	N.D.	N.D.	N.D.	mg/kg	
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Sum of PBDEs	N.D.	N.D.	N.D.	N.D.	mg/kg	(
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50



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Test Hom		San	nple		Unit	MDL
Test Item	8	9	11	12		
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50

Toot Hom		San	nple			
Test Item	13	14	15	17	Unit	MDL
Sum of PBBs	N.D.	N.D.	N.D.	N.D.	mg/kg	
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Sum of PBDEs	N.D.	N.D.	N.D.	N.D.	mg/kg	
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	mg/kg	50



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Test Item		Sample			
Test Item	18	20	21	Unit	MDL
Sum of PBBs	N.D.	N.D.	N.D.	mg/kg	
Monobromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Dibromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Tribromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Pentabromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Hexabromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Heptabromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Octabromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Nonabromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Decabromobiphenyl	N.D.	N.D.	N.D.	mg/kg	50
Sum of PBDEs	N.D.	N.D.	N.D.	mg/kg	
Monobromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Dibromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Tribromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Octabromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50
Decabromodiphenyl ether	N.D.	N.D.	N.D.	mg/kg	50

Toot Hom		San	nple		Unit	MDL
Test Item	2	3	5	7		
Bis(2-ethylhexyl) phthalate (DEHP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50



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Test Item		San	nple	\$)	Unit	MDI	
Test Item	2	3	5	7	Unit	MDL	
Dibutyl phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50	
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50	

Test Item		San	nple		Unit	MDL
	8	9) 11	12		
Bis(2-ethylhexyl) phthalate (DEHP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibutyl phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50

Test Item		San	nple		Unit	MDL
	13	14	15	17		
Bis(2-ethylhexyl) phthalate (DEHP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Dibutyl phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	mg/kg	50

Test Item		Sample		Unit	MDL
Test tiell	18	20	21	Unit	WIDL
Bis(2-ethylhexyl) phthalate (DEHP)	N.D.	N.D.	N.D.	mg/kg	50
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	mg/kg	50
Dibutyl phthalate (DBP)	N.D.	N.D.	N.D.	mg/kg	50
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	mg/kg	50



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Remark: 1)

- 1) mg/kg = ppm
- 2) MDL = Method Detection Limit
- 3) "N.D." = Not Detected (Below Method Detection Limit)
- 4) For metal sample
 - a. The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than 0.10 µg/cm²).The sample coating is considered a non- Cr(VI) based coating.
 - b. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μ g/cm².The sample coating is considered to contain Cr(VI).
 - c. The result between 0.10 μ g/cm² and 0.13 μ g/cm² is considered to be inconclusive. Unavoidable coating variations may influence the determination.



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Test Process for Pb / Cd / Hg



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Test Process for Cr (VI) (metal / plating)



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