



Test Report No. 64.164.24.03236.01C
Rev. 00
Dated 2024-07-16

Applicant: Cixi Donggong Electric Appliance Co.,Ltd.

Address: Guanhaiwei Industrial Zone(East),Cixi,Zhejiang

Sample Description: Wire reel

Model No.: See annex 01

Sample Received Date: 2024-06-26,

Test Period: From 2024-06-26 to 2024-07-16

Purpose of examination: Verification of RoHS (Restriction of Hazardous Substances) directive 2011/65/EU and its amendment (EU) 2015/863 on submitted samples

Test Result: Refer to following page(s)

Remark: The result relates only to the items tested.

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch
TÜV SÜD Group

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Reviewed by:

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Designated Reviewer

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Disclaimer Measurement Uncertainty: Unless otherwise agreed upon, pass or fail verdicts are given based on the measured values without consideration of measurement uncertainties. Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as pass or fail.

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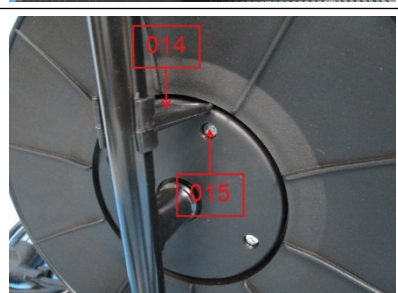
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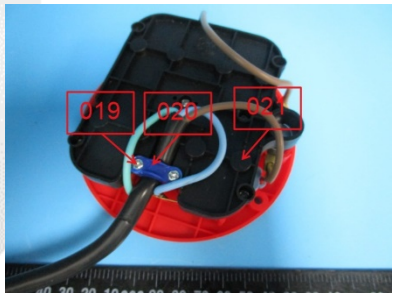
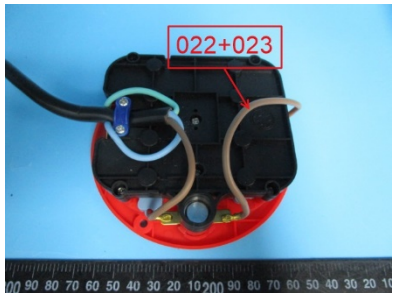
SUMMARY OF TEST RESULTS

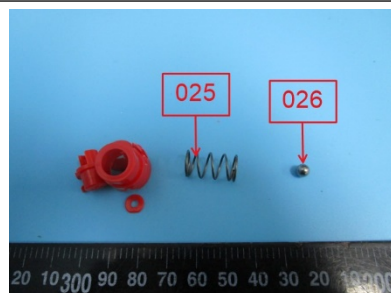
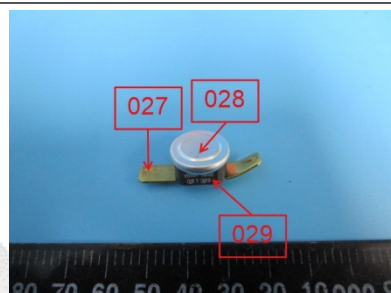
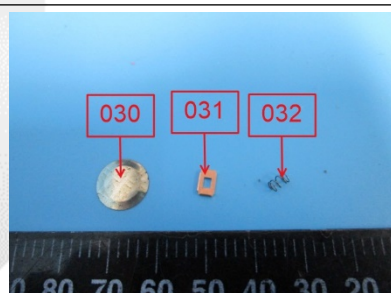
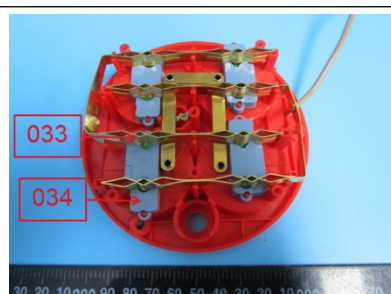
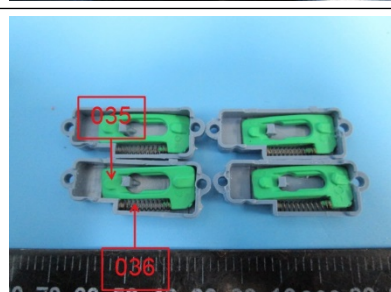
No.	Test Requested	Conclusion	Remarks
1.	Heavy Metal (Pb, Cd, Hg and Cr VI) Content	PASS	/
2.	Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) Content	PASS	/
3.	Phthalates (DEHP, BBP, DBP and DIBP) Content	PASS	/



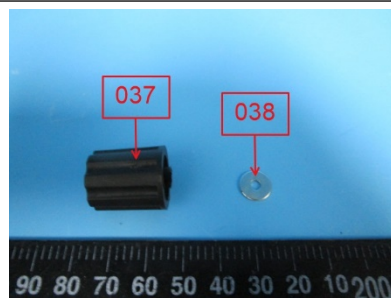
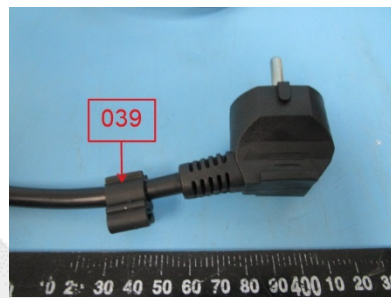
1. TESTED SUBJECT DESCRIPTION

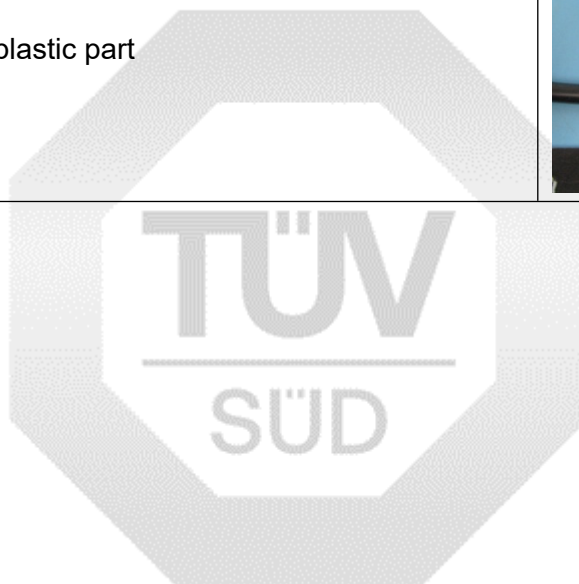
Sample Number	Tested Material Description	Photo
001	Black soft plastic cable jacket	
002	Blue soft plastic wire jacket	
003	Brown soft plastic wire jacket	
004	Yellow/green soft plastic wire jacket	
005	Coppery metal wire	
006	Black soft plastic plug	
007	Silvery metal pin	
008	Black plastic holder	
009	Silvery metal plate	
010	Black soft plastic handle	
011	Black plastic frame	
012	Black coating	
013	Silvery metal frame without coating	
014	Black plastic part	
015	Silvery metal screw	

Sample Number	Tested Material Description	Photo
016	Silvery metal clip	
017	Red plastic frame	
018	Silvery metal pin	
019	Silvery metal screw	
020	Blue plastic part	
021	Black plastic frame	
022	Brown soft plastic wire jacket	
023	Coppery metal wire	
024	Red plastic button	

Sample Number	Tested Material Description	Photo
025	Silvery metal spring	
026	Silvery metal ball	
027	Golden metal terminal	
028	Silvery metal cover	
029	Black plastic shell	
030	Silvery metal plate	
031	Copper/silvery metal part	
032	Silvery metal spring	
033	Golden metal sheet	
034	Light blue plastic frame	
035	Green plastic part	
036	Silvery metal spring	

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Sample Number	Tested Material Description	Photo
037	Black plastic part	
038	Silvery metal gasket	
039	Black plastic part	



2. TEST RESULTS

2.1. SCREENING TEST

Test method: With reference to EN 62321-1:2013, EN IEC 62321-2:2021, EN 62321-3-1:2014 and EN 62321-8:2017. For Heavy Metals and Flame Retardants, analyzed by Energy Dispersive X-ray Fluorescence Spectrometers (XRF); for phthalates, analyzed by Gas Chromatography and Mass Spectrometry (GC-MS).

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Cr	Hg	Pb	Br	DEHP	BBP	DBP	DIBP
001	BL	BL	BL	BL	BL	Inc. ^(a)	Inc. ^(a)	Inc. ^(a)	Inc. ^(a)
002	BL	BL	BL	BL	BL	BL	BL	BL	BL
003	BL	BL	BL	BL	BL	BL	BL	BL	BL
004	BL	BL	BL	BL	BL	BL	BL	BL	BL
005	BL	BL	BL	BL	NA	NA	NA	NA	NA
006	BL	BL	BL	BL	BL	BL	BL	BL	BL
007	BL	BL	BL	BL	NA	NA	NA	NA	NA
008	BL	BL	BL	BL	Inc. ^(a)	BL	BL	BL	BL
009	BL	BL	BL	BL	NA	NA	NA	NA	NA
010	BL	BL	BL	BL	BL	BL	BL	BL	BL
011	BL	BL	BL	BL	BL	BL	BL	BL	BL
012	BL	BL	BL	BL	BL	BL	BL	BL	BL
013	BL	BL	BL	BL	NA	NA	NA	NA	NA
014	BL	BL	BL	BL	BL	BL	BL	BL	BL
015	BL	Inc. ^(a)	BL	BL	NA	NA	NA	NA	NA
016	BL	BL	BL	BL	NA	NA	NA	NA	NA
017	BL	BL	BL	BL	Inc. ^(a)	BL	BL	BL	BL
018	BL	BL	BL	BL	NA	NA	NA	NA	NA
019	BL	BL	BL	BL	NA	NA	NA	NA	NA
020	BL	BL	BL	BL	BL	BL	BL	BL	BL
021	BL	BL	BL	BL	Inc. ^(a)	BL	BL	BL	BL
022	BL	BL	BL	BL	BL	BL	BL	BL	BL
023	BL	BL	BL	BL	NA	NA	NA	NA	NA
024	BL	BL	BL	BL	BL	BL	BL	BL	BL
025	BL	BL	BL	BL	NA	NA	NA	NA	NA
026	BL	Inc. ^(a)	BL	BL	NA	NA	NA	NA	NA
027	BL	BL	BL	BL	NA	NA	NA	NA	NA
028	BL	BL	BL	BL	NA	NA	NA	NA	NA

Sample No.	Heavy Metals and Flame Retardants					Phthalates			
	Cd	Cr	Hg	Pb	Br	DEHP	BBP	DBP	DIBP
029	BL	BL	BL	BL	Inc. ^(a)	BL	BL	BL	BL
030	BL	BL	BL	BL	NA	NA	NA	NA	NA
031	BL	BL	BL	BL	NA	NA	NA	NA	NA
032	BL	BL	BL	BL	NA	NA	NA	NA	NA
033	BL	BL	BL	BL	NA	NA	NA	NA	NA
034	BL	BL	BL	BL	BL	BL	BL	BL	BL
035	BL	BL	BL	BL	Inc. ^(a)	BL	BL	BL	BL
036	BL	BL	BL	BL	NA	NA	NA	NA	NA
037	BL	BL	BL	BL	BL	BL	BL	BL	BL
038	BL	BL	BL	BL	NA	NA	NA	NA	NA
039	BL	BL	BL	BL	BL	BL	BL	BL	BL

Note:

- “BL” denotes below limit
- “OL” denotes over limit
- “Inc.” denotes inconclusive
- “NA” denotes not applicable
- “(a)” denotes further confirmation test was conducted, results are listed in 2.2, 2.3.

— XRF screening limits in mg/kg for regulated elements in various matrices

ELEMENT	POLYMER		
	BL	INCONCLUSIVE	OL
Cd	$X \leq (70-3\sigma)$	$(70-3\sigma) < X < (130+3\sigma)$	$X \geq (130+3\sigma)$
Pb	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Hg	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Br	$X \leq (300-3\sigma)$	$X > (300-3\sigma)$	NA
Cr	$X \leq (700-3\sigma)$	$X > (700-3\sigma)$	NA

ELEMENT	METAL		
	BL	INCONCLUSIVE	OL
Cd	$X \leq (70-3\sigma)$	$(70-3\sigma) < X < (130+3\sigma)$	$X \geq (130+3\sigma)$
Pb	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Hg	$X \leq (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X \geq (1300+3\sigma)$
Cr	$X \leq (700-3\sigma)$	$X > (700-3\sigma)$	NA

ELEMENT	COMPLEX MATERIAL		
	BL	INCONCLUSIVE	OL
Cd	$X \leq (50-3\sigma)$	$(50-3\sigma) < X < (150+3\sigma)$	$X \geq (150+3\sigma)$
Pb	$X \leq (500-3\sigma)$	$(500-3\sigma) < X < (1500+3\sigma)$	$X \geq (1500+3\sigma)$
Hg	$X \leq (500-3\sigma)$	$(500-3\sigma) < X < (1500+3\sigma)$	$X \geq (1500+3\sigma)$
Br	$X \leq (250-3\sigma)$	$X > (250-3\sigma)$	NA
Cr	$X \leq (500-3\sigma)$	$X > (500-3\sigma)$	NA

— Screening limits in mg/kg for regulated phthalates in various matrices

PHTHALATES	BL	INCONCLUSIVE
DEHP	$X < 600$	$X \geq 600$
BBP	$X < 600$	$X \geq 600$
DBP	$X < 600$	$X \geq 600$
DIBP	$X < 600$	$X \geq 600$

2.2. HEAVY METAL CONTENT

Test method: With reference to EN 62321-4:2014 /A1:2017, EN 62321-5:2014, EN 62321-7-1:2015 and EN 62321-7-2:2017, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Ultraviolet-visible spectrophotometer (UV-Vis). [Reporting Limit: 2 mg/kg for Cadmium; 10 mg/kg or 0.10 µg/cm² for Hexavalent Chromium, 10 mg/kg for Lead and Mercury.]

Sample No.	Result				
	Total Cadmium	Hexavalent Chromium	Hexavalent Chromium	Total Mercury	Total Lead
015	--	/	Negative	--	--
026	--	/	Negative	--	--
Unit	mg/kg	mg/kg	µg/cm ²	mg/kg	mg/kg
RoHS Requirement	100	1000	Negative [#]	1000	1000

Note:

- “mg/kg” denotes milligram per kilogram
- “µg/cm²” denotes micrograms per square centimeter
- “<” denotes less than
- “Negative” denotes the absorbance value of sample is < 0.10 µg/cm², the sample is considered to be negative for Hexavalent Chromium.
- “#” According to DIRECTIVE 2011/65/EU Article 4(1) and Annex II. While, positive means the presence of CrVI 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) and Annex II.
- “--” denotes tested by XRF, result is listed in 2.1

2.3. POLYBROMINATED BIPHENYLS (PBBs) AND POLYBROMINATED DIPHENYL ETHERS (PBDEs) CONTENT

Test Method: With reference to EN 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting Limit: 5 mg/kg]

Test Item		Result [mg/kg]	RoHS Requirement [mg/kg]
		Sample 008	
PBBs	Monobromobiphenyl	< 5	Sum of PBBs 1000
	Dibromobiphenyl	< 5	
	Tribromobiphenyl	< 5	
	Tetrabromobiphenyl	< 5	
	Pentabromobiphenyl	< 5	
	Hexabromobiphenyl	< 5	
	Heptabromobiphenyl	< 5	
	Octabromobiphenyl	< 5	
	Nonabromobiphenyl	< 5	
	Decabromobiphenyl	< 5	
	Sum of PBBs	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	Sum of PBDEs 1000
	Dibromodiphenyl Ether	< 5	
	Tribromodiphenyl Ether	< 5	
	Tetrabromodiphenyl Ether	< 5	
	Pentabromodiphenyl Ether	< 5	
	Hexabromodiphenyl Ether	< 5	
	Heptabromodiphenyl Ether	< 5	
	Octabromodiphenyl Ether	< 5	
	Nonabromodiphenyl Ether	< 5	
	Decabromodiphenyl Ether	< 5	
	Sum of PBDEs	< 5	

Note:

- “mg/kg” denotes milligram per kilogram
- “<” denotes less than

(Continued)

Test Item		Result [mg/kg]		RoHS Requirement [mg/kg]
		Sample 017+021	Sample 029+035	
PBBs	Monobromobiphenyl	< 5	< 5	Sum of PBBs 1000
	Dibromobiphenyl	< 5	< 5	
	Tribromobiphenyl	< 5	< 5	
	Tetrabromobiphenyl	< 5	< 5	
	Pentabromobiphenyl	< 5	< 5	
	Hexabromobiphenyl	< 5	< 5	
	Heptabromobiphenyl	< 5	< 5	
	Octabromobiphenyl	< 5	< 5	
	Nonabromobiphenyl	< 5	< 5	
	Decabromobiphenyl	< 5	< 5	
	Sum of PBBs	< 5	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	< 5	Sum of PBDEs 1000
	Dibromodiphenyl Ether	< 5	< 5	
	Tribromodiphenyl Ether	< 5	< 5	
	Tetrabromodiphenyl Ether	< 5	< 5	
	Pentabromodiphenyl Ether	< 5	< 5	
	Hexabromodiphenyl Ether	< 5	< 5	
	Heptabromodiphenyl Ether	< 5	< 5	
	Octabromodiphenyl Ether	< 5	< 5	
	Nonabromodiphenyl Ether	< 5	< 5	
	Decabromodiphenyl Ether	< 5	< 5	
	Sum of PBDEs	< 5	< 5	

Note:

- “mg/kg” denotes miligram per kilogram
- “<” denotes less than

2.4. PHTHALATES (DEHP, BBP, DBP and DIBP) CONTENT TEST

Test method: With reference to EN 62321-8:2017, extracted by organic solvent and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting limit: 100 mg/kg]

Test Item	Result [mg/kg]	RoHS Requirement [mg/kg]
	Sample 001	
Di-(2-ethyl-hexyl) Phthalate (DEHP)	515	1000
Butyl-benzyl Phthalate (BBP)	< 100	1000
Di-butyl Phthalate (DBP)	< 100	1000
Di-iso-butyl Phthalate (DIBP)	< 100	1000

Note:

- “mg/kg” denotes miligram per kilogram
- “<” denotes less than

3. REMARK

The chemical testing was performed in TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Chemical lab and the test results were reviewed at TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch.

APPENDIX:

Photos of submitted products



Model lists provided by client:

Wire reel

DG-XWD04,DG-XWDB04,DG-XD04,DG-XDB04,DG-4ZR-25M-D04,DG-4ZR-25M-DB04,DG-4ZR-D04,DG-4ZR-DB04, DG-15M-XDB04
 DG-XLD04,DG-XLDB04,DG-XSD04,DG-XSDB04,DG-4ZR-15M-D04,DG-4ZR-15M-DB04,DG-4ZR-XD01, DG-4ZR-XDB01, DG-XD04A,DG-XDB04A,
 DG-4ZRF-25M-D04,DG-4ZRF-D04,DG-4ZRB-YD01,DG-4ZRF-DB04,DG-4ZRF-25M-DB04,DG-4ZRB-YDB01
 DG-XWF04,DG-XF04,DG-4ZR-25M-F04,DG-4ZR-F04,DG-XLF04,DG-XLFB04,DG-XSF04,DG-XSFB04
 DG-4ZR-15M-F04,DG-4ZR-15M-FB04,DG-4ZR-XYF01,DG-4ZR-XYFB01, DG-DB04X DG-XFB04X
 DG-XW-FB04,DG-X-FB04,DG-H-4ZR-25M-FB04F,DG-4ZR-25M-FB04,DG-4ZR-FB04,DG-H-4ZR-50M-FB04F
 DG-XWH04,DG-XWHB04,DG-XH04,DG-XHB04,DG-4ZR-25M-H04,DG-4ZR-25M-HB04,DG-4ZR-H04,DG-4ZR-HB04
 DG-XLH04,DG-XLHB04,DG-XSH04,DG-XSHB04,DG-4ZR-40M-H04,DG-4ZR-40M-HB04,DG-XWL04,DG-XL04
 DG-4ZR-25M-XYFB04 DG-4ZR-50M-XYFB04 X04A XB04A DG-DP04 DG-DPB04DG-XP04DG-XPB04 DG-XP04-1DG-XPB04-1
 H05RR-F1.0/1.5 H07RN1.0/1.5 H05VV-F1.0/1.5 XH-B-1 AD301 YP03 DG-R2 DG-R2A

-----End of Report-----