
RoHS Test Report

Report No. : AGC07686230401-008

SAMPLE NAME : Battery Storage Connectors

MODEL NAME : Energy Storage Connectors and Cable Harness

APPLICANT : RENHAO WEIYE TECHNOLOGY(WUHAN) CO., LTD

STANDARD(S) : Please refer to the following page(s).

DATE OF ISSUE : Apr. 28, 2023

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Report No.: AGC07686230401-008

Applicant : RENHAO WEIYE TECHNOLOGY(WUHAN) CO., LTD
Address : No.555, Wenhua Avenue, Hongshan District 430070, Wuhan City, Hubei, China
Test Site : 6/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China

Report on the submitted sample(s) said to be:

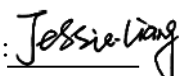
Sample Name : Battery Storage Connectors
Model : Energy Storage Connectors and Cable Harness
Manufacturer : Dongguan Dosin Precision Industry Co., Ltd
Address : No 2, Xizheng 2nd Road, Shajiao, Humen Town, Dongguan, 523936 Guangdong
Supplier : Renhotec
Sample Received Date : Apr. 10, 2023
Testing Period : Apr. 10, 2023 to Apr. 17, 2023
Test Requested : Selected test(s) as requested by client.

Test Requested:

2011/65/EU (RoHS) and its amendment directive (EU) 2015/863
- Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs, DBP, BBP, DEHP, DIBP

Conclusion

Pass

Approved by : 
Liangdan, Jessie.Liang
Technical Director

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Report Revise Record

Report Version	Issued Date	Valid Version	Notes
/	Apr. 28, 2023	Valid	Initial release

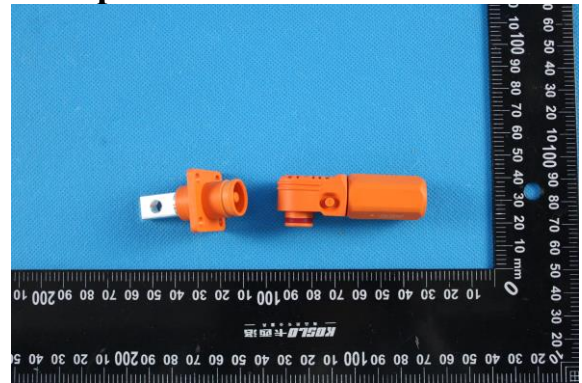
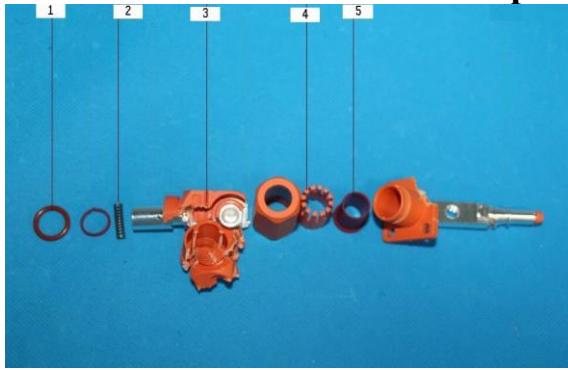
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The photo of the sample



The photo of AGC07686230401-008 is for use only with the original report.

Test Point Description

Test point	Test module	Test parts	Test point description
4.Battery Storage Connectors Model : Energy Storage Connectors and Cable Harness			
1	---	---	Red silicone ring
2	---	---	Metal spring
3	---	---	Orange plastic
4	---	---	Orange plastic buckle
5	---	---	Red silicone plug

Note: "---" = The test point exists alone in the sample and is not attached to the test module or test parts.

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Test Results:

Note: N.D.=Not Detected (less than method detection limit), MDL = Method Detection Limit, 1mg/kg=0.0001%

2011/65/EU (RoHS) and its amendment directive (EU) 2015/863
- Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs, DBP, BBP, DEHP, DIBP

Test Item	Test Method/ Instrument	MDL	Maximum Limit
Lead (Pb)	IEC 62321-3-1:2013/ XRF	/	1000mg/kg
Cadmium (Cd)		/	100mg/kg
Mercury (Hg)		/	1000mg/kg
Total Chromium		/	/
Total Bromine		/	/
Chemistry Method			
Lead (Pb)	IEC 62321-5:2013/ ICP-OES	2mg/kg	1000mg/kg
Cadmium (Cd)	IEC 62321-5:2013/ ICP-OES	2mg/kg	100mg/kg
Mercury (Hg)	IEC 62321-4: 2013+A1:2017/ ICP-OES	2mg/kg	1000mg/kg
Non-metal: Hexavalent Chromium (Cr ⁶⁺)	IEC 62321-7-2:2017/ UV-Vis	8mg/kg	1000mg/kg
Metal: Hexavalent Chromium (Cr ⁶⁺)	IEC 62321-7-1:2015/ UV-Vis	0.1µg/cm²	/
Polybrominated Biphenyls (PBBs) -Monobromobiphenyl (MonoBB) -Dibromobiphenyl (DiBB) -Tribromobiphenyl (TriBB) -Tetrabromobiphenyl (TetraBB) -Pentabromobiphenyl (PentaBB) -Hexabromobiphenyl (HexaBB) -Heptabromobiphenyl (HeptaBB) -Octabromobiphenyl (OctaBB) -Nonabromodiphenyl (NonaBB) -Decabromodiphenyl (DecaBB)	IEC 62321-6:2015/ GC-MS	Single 5mg/kg	Sum 1000mg/kg
PolybrominatedDiphenylethers (PBDEs) -Monobromodiphenyl 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)	IEC 62321-6:2015/ GC-MS	Single 5mg/kg	Sum 1000mg/kg
Di-iso-butyl phthalate (DIBP)	IEC 62321-8:2017/ GC-MS	50mg/kg	1000mg/kg
Dibutyl phthalate (DBP)		50mg/kg	1000mg/kg
Butylbenzyl phthalate (BBP)		50mg/kg	1000mg/kg
Di-(2-ethylhexyl) Phthalate (DEHP)		50mg/kg	1000mg/kg

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Test point	Test Item	X-ray Fluorescence Spectrometry (XRF) mg/kg	Wet Chemistry Method mg/kg	Conclusion
1	Pb	BL	/	Conformity
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr ⁶⁺)	BL	/	
	Br	BL	/	
			/	
	DIBP	N/A	N.D.	
	DBP	N/A	N.D.	
	BBP	N/A	N.D.	
	DEHP	N/A	N.D.	
2	Pb	BL	/	Conformity
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr ⁶⁺)	IN	N.D.	
	Br	N/A	/	
			/	
	DIBP	N/A	/	
	DBP	N/A	/	
	BBP	N/A	/	
	DEHP	N/A	/	
3	Pb	BL	/	Conformity
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr ⁶⁺)	BL	/	
	Br	BL	/	
			/	
	DIBP	N/A	N.D.	
	DBP	N/A	N.D.	
	BBP	N/A	N.D.	
	DEHP	N/A	N.D.	
4	Pb	BL	/	Conformity
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr ⁶⁺)	BL	/	
	Br	BL	/	
			/	
	DIBP	N/A	N.D.	
	DBP	N/A	N.D.	
	BBP	N/A	N.D.	
	DEHP	N/A	N.D.	

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Test point	Test Item	X-ray Fluorescence Spectrometry (XRF) mg/kg	Wet Chemistry Method mg/kg	Conclusion
5	Pb	BL	/	Conformity
	Cd	BL	/	
	Hg	BL	/	
	Cr(Cr ⁶⁺)	BL	/	
	Br	BL	/	
			/	
	DIBP	N/A	N.D.	
	DBP	N/A	N.D.	
	BBP	N/A	N.D.	
	DEHP	N/A	N.D.	

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	$BL \leq 70 - 3\sigma < X < 130 + 3\sigma \leq OL$	$BL \leq 70 - 3\sigma < X < 130 + 3\sigma \leq OL$	$BL \leq 50 - 3\sigma < X < 150 + 3\sigma \leq OL$
Pb	mg/kg	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 500 - 3\sigma < X < 1500 + 3\sigma \leq OL$
Hg	mg/kg	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 500 - 3\sigma < X < 1500 + 3\sigma \leq OL$
Cr	mg/kg	$BL \leq 700 - 3\sigma < X$	$BL \leq 700 - 3\sigma < X$	$BL \leq 500 - 3\sigma < X$
Br	mg/kg	$BL \leq 300 - 3\sigma < X$	N/A	$BL \leq 250 - 3\sigma < X$

Remark:

- (1) BL= Below Limit, OL= Over limited, IN = Inconclusive, Scanning by XRF and detected by chemical method, N/A = Not applicable.
- (2) Results were obtained by XRF for primary scanning, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the above warning value.
- (3) The XRF scanning test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
- (4) Boiling-water-extraction:(X represents the results of the tested sample)

Number	Colorimetric result (Cr(VI) concentration)	Judgement
1	$X < 0.1 \mu\text{g}/\text{cm}^2$	Negative
2	$0.1 \mu\text{g}/\text{cm}^2 \leq X \leq 0.13 \mu\text{g}/\text{cm}^2$	Uncertainty
3	$X > 0.13 \mu\text{g}/\text{cm}^2$	Positive

Negative indicates the absence of Cr(VI) on the tested areas concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.

Uncertainty indicates the absence of Cr(VI) on the tested areas unavoidable coating variations may influence the determination.

Positive indicates the presence of Cr(VI) on the tested areas concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing.

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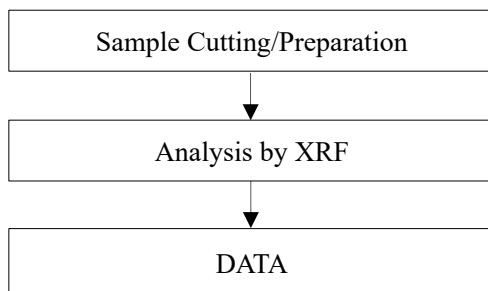
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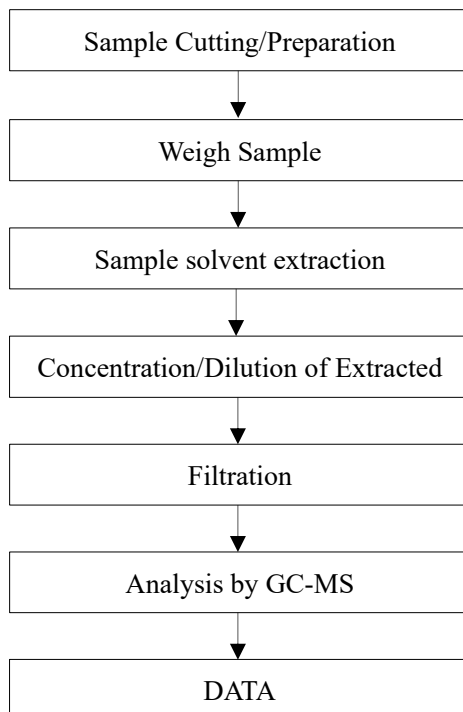
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(5) Disclaimers: This XRF Scanning report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF scanning report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

Test Flow Chart of XRF



Test Flow Chart of Phthalates



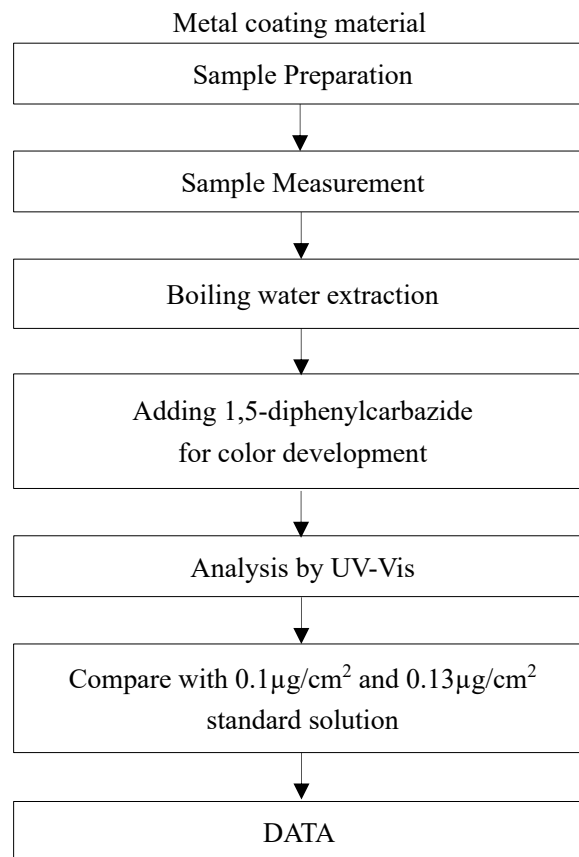
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Test Flow Chart of Hexavalent Chromium (Cr^{6+})



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8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

*** End of Report ***

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