
RoHS Test Report

Report No. : AGC07686211101-001S1

SAMPLE NAME : M16 female plug connector+ male panel mount connector/
M12 plastic plug+ panel mount connector/M8 plastic plug+
panel mount connector/M12 female to male molding cable

MODEL NAME : M5, M8, M9, M12, M16, M19, M23, 7/8'' connector

APPLICANT : Shenzhen Renhotec Technology Electronics Co., Ltd

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

DATE OF ISSUE : Dec.20, 2021

Attestation of Global Compliance (Shenzhen) Std & Tech Co., Ltd.



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.




Applicant : Shenzhen Renhotec Technology Electronics Co., Ltd
Address : 8th Floor, Building 1, Yongfu Science and Technology Innovation Center
Industrial Park, Nanzha District 5, Humen Town, Dongguan 523939,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 : M16 female plug connector+ male panel mount connector/
M12 plastic plug+ panel mount connector/M8 plastic plug+
panel mount connector/M12 female to male molding cable
Model No. : M5, M8, M9, M12, M16, M19, M23, 7/8'' connector
Manufacturer : Shenzhen Renhotec Technology Electronics Co., Ltd
Address : 8th Floor, Building 1, Yongfu Science and Technology Innovation Center
Industrial Park, Nanzha District 5, Humen Town, Dongguan 523939,China
Difference between test model and series model : The size and number of cores are different
Sample Received Date : Nov.17, 2021
Testing Period : Nov.17, 2021 to Dec.07, 2021

Test Requested:

As specified by client, to determine the Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the submitted sample in accordance with Directive 2011/65/EU (RoHS) and its amendment directive (EU) 2015/863 on XRF and Chemical Method.

Conclusion**Pass**Approved by: 

Liangdan, Jessie.Liang

Technical Director

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Test Point Description

Test point	Test parts	Test point description
1	Joint	Silver metal joint
3		Black inner plastic
4		Black sealing ring
5		Black glue filling
9	Joint	Silver screw
12	Interface	White rubber ring
52	Black connector	Black grip
56	Wire rod	White thread skin
57		Black thread skin
58		Red thread skin
59		Wire core
60		Yellow thread skin

Test Result:

(Test Method/ Instrument/ MDL and Limit: See Appendix)

Test point	Test result (mg/kg)										Conclusion	
	Pb	Cd	Hg	Cr ⁶⁺	PBBs	PBDEs	DIBP	DBP	BBP	DEHP		
1	19272*	N.D.	N.D.	201	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
9	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
52	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	381*	N.D.*	N.D.*	N.D.*	Conformity
56	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
57	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	241*	N.D.*	N.D.*	N.D.*	Conformity
58	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
59	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
60	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity

Note:

mg/kg = milligram per kilogram

 $\mu\text{g}/\text{cm}^2$ = microgram per square centimeter

MDL = Method Detection Limit

N.D.=Not Detected (less than method detection limit)

N/A= Not applicable

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd

Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



Exemption

Test point	Exemption clause	Content
1	6(c)	Copper alloy containing up to 4 % lead by weight

Remark:

- *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, nonuniformity composition, surface flatness.
- 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.

- Boiling-water-extraction:

Number	Colorimetric result (Cr(VI) concentration)	Qualitative result
1	The sample solution is < the 0,10 µg/cm ² equivalent comparison standard solution	The sample is negative for Cr(VI) – The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.
2	The sample solution is ≥ the 0,10 µg/cm ² and ≤ the 0,13 µg/cm ² equivalent comparison standard solutions	The result is considered to be inconclusive – Unavoidable coating variations may influence the determination.
3	The sample solution is > the 0,13 µg/cm ² equivalent comparison standard solution	The sample is positive for Cr(VI) – The Cr(VI) concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

- 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.
- As specified by client, only test the designated sample.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Appendix:

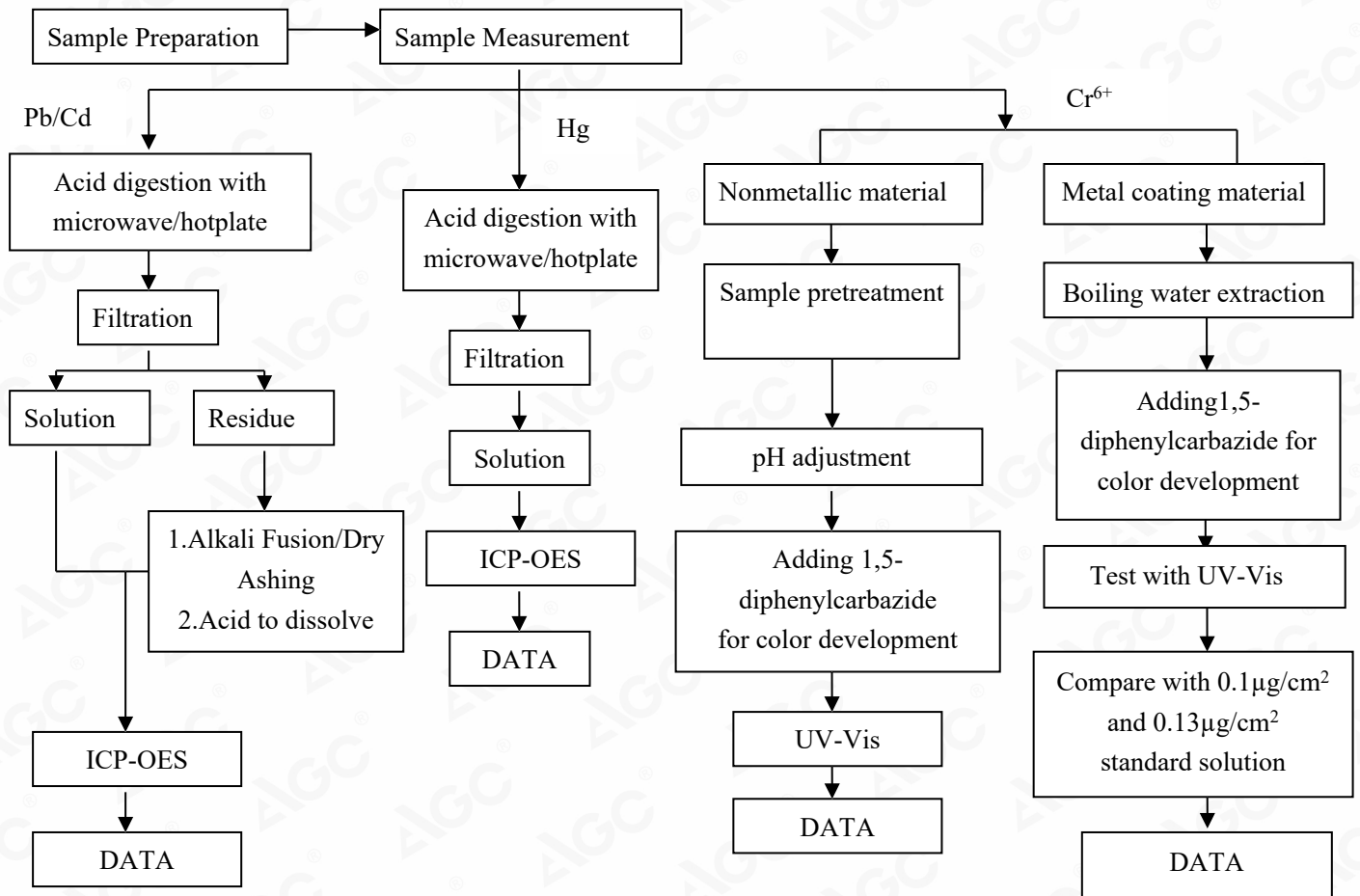
Test Item	Test Method/ Instrument	MDL	Maximum Limit
X-ray Fluorescence Spectrometry(XRF)			
Lead (Pb)	IEC 62321-3-1:2013 / XRF	200mg/kg	1000mg/kg
Cadmium (Cd)		50mg/kg	100mg/kg
Mercury (Hg)		200mg/kg	1000mg/kg
Total Chromium		200mg/kg	/
Total Bromine		200mg/kg	/
Wet Chemistry Method			
Lead (Pb)	IEC 62321-5:2013/ICP-OES	10mg/kg	1000mg/kg
Cadmium (Cd)	IEC 62321-5:2013/ ICP-OES	10mg/kg	100mg/kg
Mercury (Hg)	IEC 62321-4: 2013+A1:2017/ ICP-OES	10mg/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/cm ²	/
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
Polybrominated Diphenylethers (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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



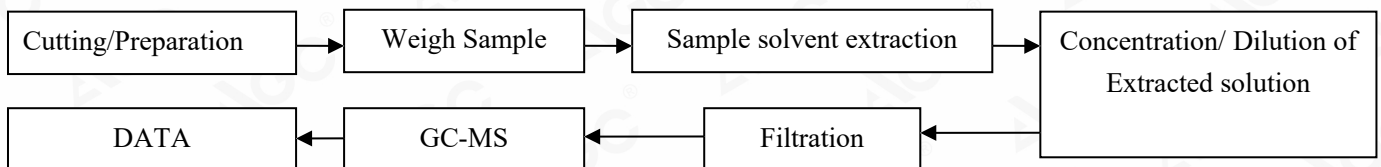
Test Flow Chart

1.For Pb , Cd, Hg, Cr⁶⁺



These sample were dissolved totally by pre-conditioning method according to above flow chart (Cr⁶⁺ test method excluded)

2.For PBBs, PBDEs, DBP, BBP, DEHP, DIBP



Test result on specimen No.52, No.56, No.57, No.58, No.60 was resubmitted on Dec.03, 2021.

This report is to supersede the report with No.: AGC07686211101-001 dated on Dec.07, 2021.

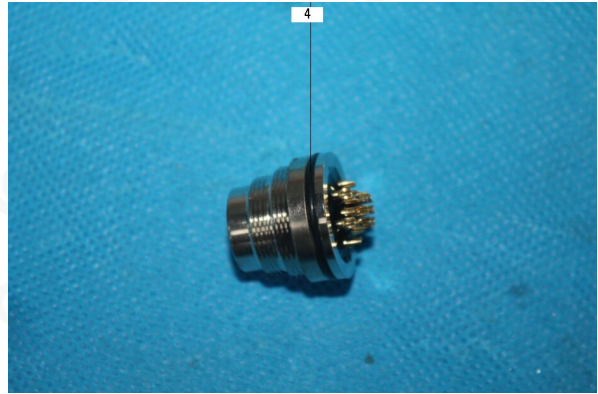
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



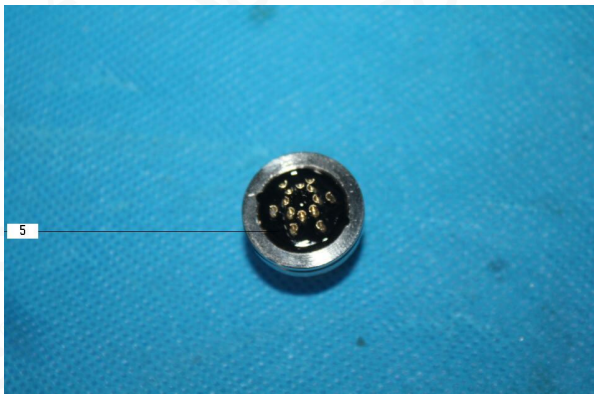
The photo of the sample



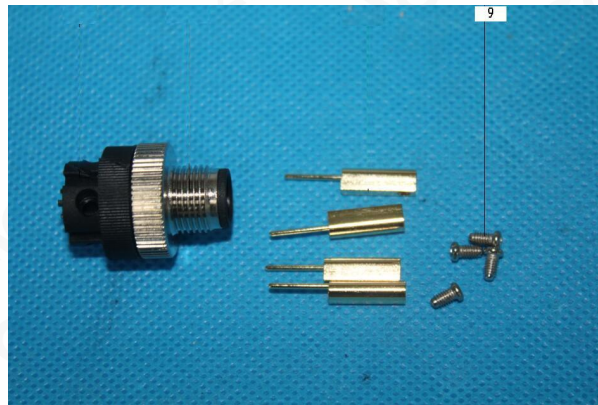
1



2



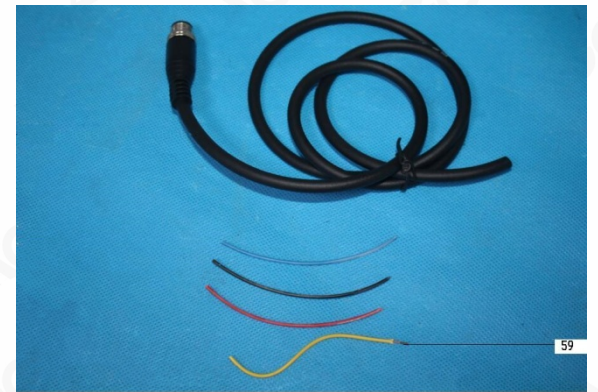
3



4



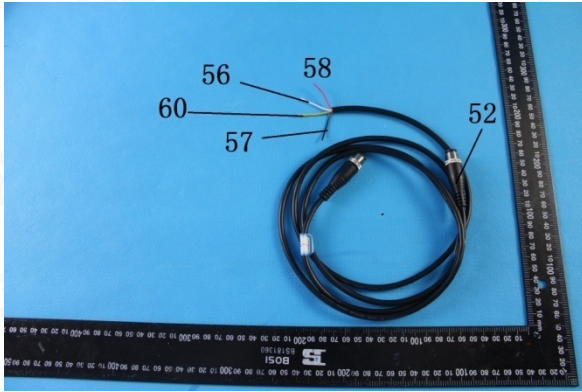
5



6

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





7



AGC07686211101-001S1

AGC authenticate the photo only on original report

*** End of Report ***

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd
Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/





Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Std & Tech Co., Ltd. (the “Company”) solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the “Clients”).
2. Any report issued by Company as a result of this application for testing services (the “Report”) shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
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.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the “Dedicated Testing/Inspection Stamp” is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

