

# TEST REPORT

Reference No. : TRGZ1303021\_R1

Date : Mar. 13, 2013

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Client : 3F ELECTRONICS INDUSTRY CORP. LTD  
Address : NO. 5, ZHENXING RD, LIYUHE INDUSTRY PARK, LOU VILLAGE, GONGMING STREET,  
BAOAN DISTRICT, SHENZHEN

The following merchandise was (were) submitted and identified by the client as:

Name of Product : PVC wire and cable  
Test Model : /  
Client Reference Information : Please refer to page 6.  
Main Material: PVC  
Sample Received : Feb. 25, 2013  
Test Period : Feb. 25, 2013 - Mar. 04, 2013  
Test Request : To determine the Pb, Cd, Hg, Cr(VI), PBBs&PBDEs, DBP, BBP, DEHP and HBCDD content.  
Test Method : Please refer to next page(s).  
Test Result: Please refer to next page(s).  
Conclusion : Based on the analysis on the submitted samples, the test results (Pb, Cd, Hg, Cr<sup>6+</sup>, PBBs, PBDEs) **comply with** the requirement of RoHS Directive 2011/65/EU (RoHS 2.0).

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**THIS REPORT IS TO SUPERSEDE TEST REPORT TRGZ1303021**

Issued by:



TUV NORD Green Product Service Centre  
Technical Manager

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TUV NORD Green Product Service Centre  
Technical Manager

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## TEST RESULTS:

### 1. RoHS Restricted Substances (Pb, Cd, Hg, Cr<sup>6+</sup>, PBBs, PBDEs)

No.	Test Items	Methods	MDL (mg/kg)	Results (mg/kg)	Limited Value* (mg/kg)
1	Pb	M1	2	N.D.	1000
2	Hg		2	N.D.	1000
3	Cd		2	N.D.	100
4	Cr (VI)	M2	2	N.D.	1000
5	Monobromobiphenyl (MonoBB)	M3	5	N.D.	---
	Dibromobiphenyl (DiBB)		5	N.D.	---
	Tribromobiphenyl (TriBB)		5	N.D.	---
	Tetrabromobiphenyl (TetraBB)		5	N.D.	---
	Pentabromobiphenyl (PentaBB)		5	N.D.	---
	Hexabromobiphenyl (HexaBB)		5	N.D.	---
	Heptabromobiphenyl (HeptaBB)		5	N.D.	---
	Octabromobiphenyl (OctaBB)		5	N.D.	---
	Nonabromobiphenyl (NonaBB)		5	N.D.	---
	Decabromobiphenyl (DecaBB)		5	N.D.	---
	<b>Total PBBs / sum of above</b>		---	<b>N.D.</b>	<b>1000</b>
6	Monobromodiphenyl ether (MonoBDE)	M3	5	N.D.	---
	Dibromodiphenyl ether (DiBDE)		5	N.D.	---
	Tribromodiphenyl ether (TriBDE)		5	N.D.	---
	Tetrabromodiphenyl ether (TetraBDE)		5	N.D.	---
	Pentabromodiphenyl ether (PentaBDE)		5	N.D.	---
	Hexabromodiphenyl ether (HexaBDE)		5	N.D.	---
	Heptabromodiphenyl ether (HeptaBDE)		5	N.D.	---
	Octabromodiphenyl ether (OctaBDE)		5	N.D.	---
	Nonabromodiphenyl ether (NonaBDE)		5	N.D.	---
	Decabromodiphenyl ether (DecaBDE)		5	N.D.	---
	<b>Total PBDEs / sum of above</b>		---	<b>N.D.</b>	<b>1000</b>

- Remark:** 1) \* The Limited value is based on the RoHS directive 2011/65/EU  
 2) M1: With reference to IEC62321:2008, Analysis was performed by ICP-AES.  
 3) M2: With reference to IEC62321:2008, Analysis was performed by UV-Vis.  
 4) M3: With reference to IEC62321:2008, Analysis was performed by GC-MS.

- Note :** 1) MDL = Method Detection Limit.  
 2) "----" = Not Regulated.  
 3) N.D. = Not detected, less than MDL.

\*\*\*\*\* To be continued \*\*\*\*\*

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## 2. RoHS Priority Considered Substances

No.	Test Items	Test Methods	MDL (mg/kg)	Results (mg/kg)	Limited Value** (mg/kg)
1	Dibutyl Phthalate (DBP)	M4	50	N.D.	1000
2	Benzylbutyl Phthalate (BBP)		50	N.D.	1000
3	Di-(2-ethylhexyl)Phthalate (DEHP)		50	100	1000
4	Hexabromocyclododecane (HBCDD)		20	N.D.	1000

**Remark:** 1) \*\* The limited value is referenced with European Commission Regulation 1907/2006 (REACH).

2) M4: With reference to EPA 3550C-2007& EPA8270D-2007, Analysis was performed by GC-MS.

**Note:** 1) MDL = Method Detection Limit.  
2) N.D. = Not detected, less than MDL.

**Test part description:** Black wire jacket

\*\*\*\*\* To be continued \*\*\*\*\*

# TEST REPORT

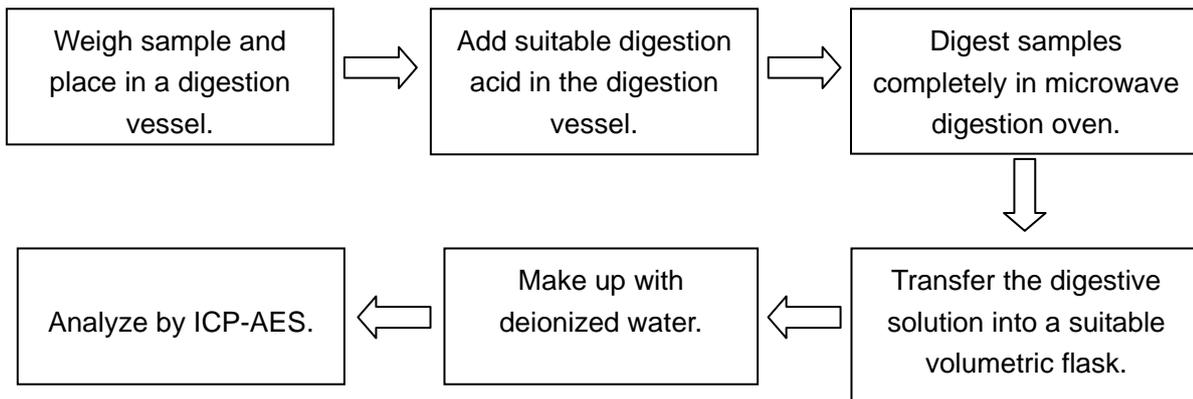
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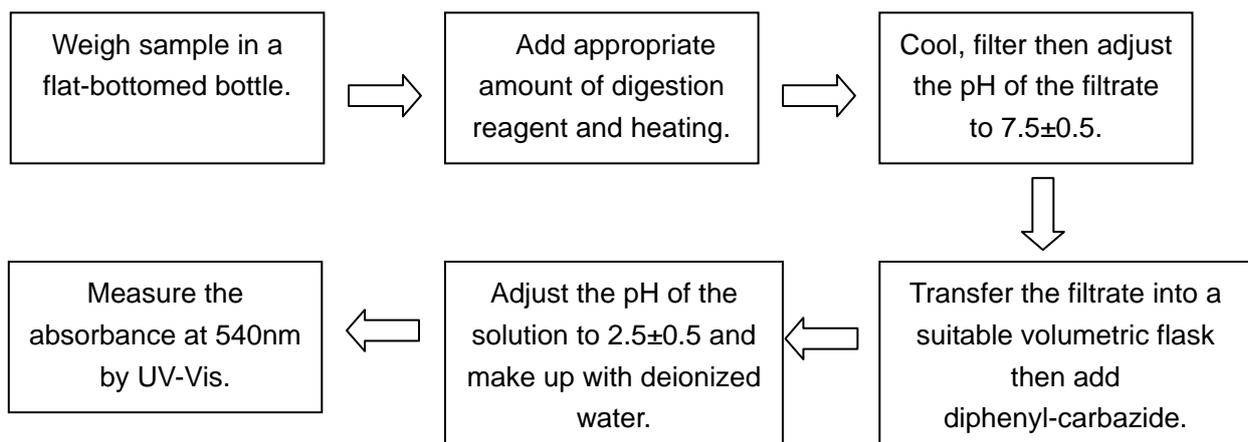
## FLOW CHART

### 1. Test for Pb, Hg, Cd Content



Sample Material	Digestion Acid
Glass	HNO <sub>3</sub> /HF
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion.

### 2. Test for Chromium (VI) Content



\*\*\*\*\* To be continued \*\*\*\*\*

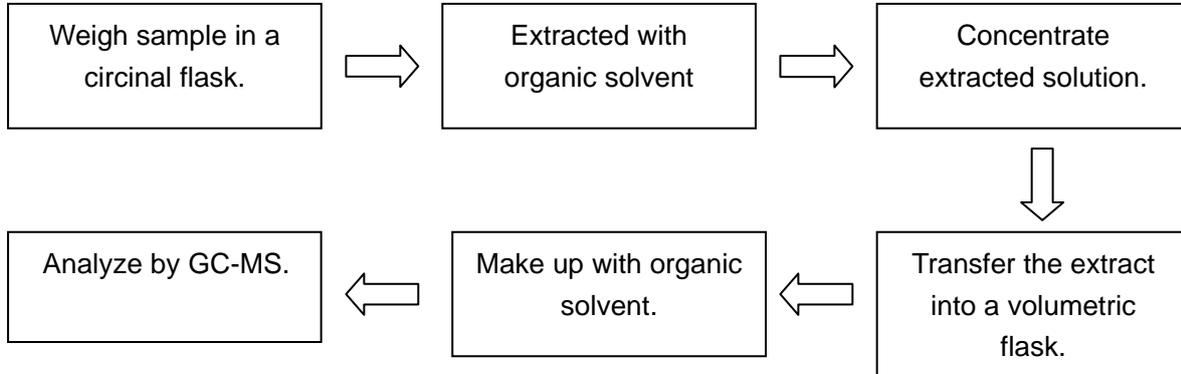
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## 3. Test for PBBs&PBDEs, Phthalates and HBCDD Content



### SAMPLE PHOTO



\*\*\*\*\* To be continued \*\*\*\*\*

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**The following information was submitted and identified by the client, only for reference.**

UL1007, 1010, 1013, 1015, 1017, 1020, 1021, 1022, H05V-K, QVR1023, 1024, 1026, 10269, 1027, 1028, 1040, 1041, 1043, 1054, 1055, 1056, 1061, 1095, 1207, 1211, 1220, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1265, 1266, 1283, 1284, 1308, 1314, 1316, 1569, 1571, 1617, 1618, 1672, 10024, 10053, 10070, 10076, 10198, 2038, 2095, 2096, 2101, 2102, 2103, 2127, 2129, 2165, 2343, 20478, 2344, 2345, 2346, 2384, 2385, 2386, 2387, 2388, 2448, 2463, 20295, 2464, 2468, 2490, 2493, 2501, 2502, 2516, 2517, 2532, 2550, 20294, 2560, 2569, 2570, 2571, 2574, 2576, 2584, 2586, 2587, 2589, 20293, 2598, 2614, 2626, 2630, 2631, 2637, 2651, 2653, 2654, 2655, QVR, 2656, 2660, 2661, 2662, 2668, 2679, 2704, 2709, 2722, 2726, QFR, 2733, 2754, 2919, 2990, 20276, QB-A QB-B, 20480, 20482, 21014, 3476, 60227IEC08(RV-90), 60227IEC52(RVV), AVR, 60227IEC53(RVV), VDEWIRE, HDT, FLRY, STT, GPT, TWP, FLRYW-B, SGT, AV, AVS, AVSS, AVF, GB.AV.300/300V, GB.RVS.300/300V, TVSSX 1429, 1430, 1431, 3454, 3558, 3314, 3315, 3453, 3611, 3443, 5107, AVX, MTW, 16878/1C, 16878/2C, 16878/3C, 16878/17B, H07V-K, and PVC TUBE

\*\*\*\*\* **END OF REPORT** \*\*\*\*\*



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