

Test Report No.: DGC160325013K04 Date: April 16, 2016 Page 1 of 5

Applicant: Zhejiang Tianjie Industrial CORP.

Address: Linglong Economic Development Zone, Lin'an Hangzhou, China.

Manufacturer: Zhejiang Tianjie Industrial CORP.

Address: Linglong Economic Development Zone, Lin'an Hangzhou, China.

Sample Name: FIRE ALARM CABLE

XX mm² UNSHIELD OR SHIELD Model No.: XX CORES

Date of Sample Received: March 25, 2016 **Test period:** March 25, 2016 to April 16, 2016

Test requested: In accordance with RoHS Directive 2011/65/EU and amendment 2015/863/EU,

to determine Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr⁶⁺), PBBs/PBDEs, Di (2-ethyl hexyl)-phthalate (DEHP), Dibutyl phthalate (DBP), Butylbenzyl phthalate (BBP), Diisobuty phthalate (DIBP) content on submitted

samples.

Test method: Please refer to next page.

Test result: Please refer to next page.

Conclusion: Based on the test results, the submitted sample(s) comply with the RoHS Directive

2011/65/EU and amendment 2015/863/EU.

Written by:

Approved by:

Checked by:

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Test results:

Test Items	Test methods	Unit	MDL	Results No.1	RoHS Limit
Cadmium (Cd)	With reference to	0 70	ړن	∠N.D.∠	100
Lead (Pb)	IEC 62321-5: 2013, test by ICP-OES	mg/kg	2	8	1000
Mercury (Hg)	With reference to IEC 62321-4: 2013, test by ICP-OES	mg/kg	2	N.D.	1000
Chromium (Cr ⁶⁺) by Alkaline extraction	With reference to IEC 62321: 2008 Annex C, test by UV-Vis	mg/kg	2	N.D.	1000
Sum of PBBs	With reference to IEC 62321-6: 2015, test by GC-MS	mg/kg	40	N.D.	1000
Monobromobiphenyl		mg/kg	5	N.D.	Y \
Dibromobiphenyl		mg/kg	5	N.D.	4
Tribromobiphenyl		mg/kg	5	N.D.	Y Y
Tetrabromobiphenyl		mg/kg	5	A N.D.	<u>40</u> .
Pentabromobiphenyl		mg/kg	5	N.D.	Y Y
Hexabromobiphenyl		mg/kg	5	N.D.	<u>, 40</u>
Heptabromobiphenyl		mg/kg	5	N.D.	i
Octabromobiphenyl		mg/kg	5	N.D.	<u>, 40</u>
Nonabromobiphenyl		mg/kg	5	N.D.	V
Decabromobiphenyl		mg/kg	-5	N.D.	<u>,4</u> 2
Sum of PBDEs		mg/kg	Υ	N.D.	1000
Monobromobiphenyl ether		mg/kg	-5	N.D.	40
Dibromobiphenyl ether		mg/kg	5	N.D.	V
Tribromobiphenyl ether		mg/kg	5	N.D.	<u> </u>
Tetrabromobiphenyl ether		mg/kg	5	N.D.	Y \
Pentabromobiphenyl ether		mg/kg	5	N.D.	<u>, 20</u>
Hexabromobiphenyl ether		mg/kg	5	N.D.	Y V
Heptabromobiphenyl ether		mg/kg	-5	N.D.	<u>,40</u>
Octabromobiphenyl ether		mg/kg	5	N.D.	Ŷ Ŷ
Nonabromobiphenyl ether		mg/kg	-5 ⁻	N.D.	40
Decabromobiphenyl ether		mg/kg	5	N.D.	<u> </u>
Di (2-ethyl hexyl)-phthalate (DEHP)	With reference to EN 14372: 2004, test by GC-MS	mg/kg	30	N.D.	1000
Butylbenzyl phthalate (BBP)		mg/kg	30	KN.D.√	1000
Dibutuyl phthalate (DBP)		mg/kg	30	N.D.	1000
Diisobuty phthalate (DIBP)		mg/kg	30	N.D.	1000

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Test Part Description:

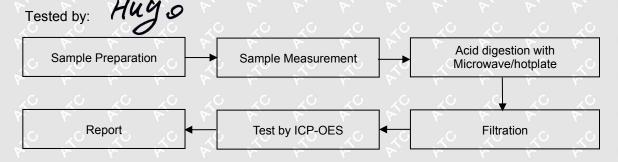
No.1: Black plastic jacket

Note:

- (1) mg/kg=ppm=0.0001%;
- (2) N.D.=Not Detected(<MDL);
- (3) MDL=Method Detection Limit;
- (4) "---"=Not Conducted;
- (5) Specimens, which requested to determine Cadmium, Mercury and Lead Content, have been dissolved completely.

Operation Flow Chart:

1.To Determine Lead, Cadmium, Mercury:



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2.To Determine Cr6+::

color development

Test by UV-Vis

at 540nm

Alkaline extraction:

Sample Preparation

Sample Measurement

Alkaline extraction at temperature between 90-95°C for 3 hours with Heating and stirring device

Adding

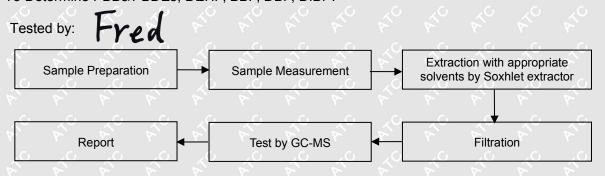
1,5-diphenylcarbazide for

pH adjustment

Filtration

Report

3. To Determine PBBs/PBDEs, DEHP, BBP, DBP, DIBP:



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Photograph of Sample:





End of Report

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