



Test Report

No. 3169684-CH01

Date: June 10, 2013

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**Samtec Inc.
520 Park East Blvd.
New Albany, IN 47151-1147
United States**

The following sample(s) was/were submitted and identified by/on behalf of the client as:

**Single Conductor Cable – PVC Insulation
Jacket – Copper Conductor – Tin Plating
Color: Black
Sample/Style #: Sample Labeled: DWC**

Sample Received Date: **5/29/2013**

Testing Period: **5/30/2013 – 6/10/2013**

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Comment
1) European Directive 2011/65/EU Annex II (RoHS); recasting 2002/95/EC	PASS
2) European Regulation (EC) No. 1907/2006 (REACH) Annex XVII and its amendments – Phthalates content (Formerly Directive 2005/84/EC)	PASS

Signed for and on behalf of SGS North America, Inc.

Prepared By:

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Chemist, Chemistry Laboratory

Veronica Marrero
Laboratory Operations Lead, Chemistry
Laboratory

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1. European Directive 2011/65/EU Annex II (RoHS); recasting 2002/95/EC

Cadmium, Lead, Mercury, Hexavalent Chromium, Polybromobiphenyl (PBB) and Polybromodiphenyl ether (PBDE) content

Method : With reference to IEC 62321:2008. Lead, Cadmium and Mercury were analyzed by Inductively Coupled Argon Plasma Spectrometry, Chromium (VI) was analyzed by UV-Visible Spectroscopy and PBB, PBDE were analyzed by Gas Chromatography – Mass Spectrometry (GC-MS).

Test Item	Result (mg/kg)		Detection Limit (mg/kg)	Permissible Limit (mg/kg)
	1	2		
Cadmium (Cd)	ND	ND	5	100
Lead (Pb)	5	ND	5	1000
Mercury (Hg)	ND	ND	5	1000
Hexavalent Chromium by spot test / boiling water extraction (Cr(VI))	--	Negative	#	#
Hexavalent Chromium (Cr(VI))	ND*	--		
Sum of PBBs	ND	--	--	1000
Monobromobiphenyl	ND	--	5	--
Dibromobiphenyl	ND	--	5	--
Tribromobiphenyl	ND	--	5	--
Tetrabromobiphenyl	ND	--	5	--
Pentabromobiphenyl	ND	--	5	--
Hexabromobiphenyl	ND	--	5	--
Heptabromobiphenyl	ND	--	5	--
Octabromobiphenyl	ND	--	5	--
Nonabromobiphenyl	ND	--	5	--
Decabromobiphenyl	ND	--	5	--
Sum of PBDEs	ND	--	--	1000
Monobromodiphenyl ether	ND	--	5	--
Dibromodiphenyl ether	ND	--	5	--
Tribromodiphenyl ether	ND	--	5	--
Tetrabromodiphenyl ether	ND	--	5	--
Pentabromodiphenyl ether	ND	--	5	--
Hexabromodiphenyl ether	ND	--	5	--
Heptabromodiphenyl ether	ND	--	5	--
Octabromodiphenyl ether	ND	--	5	--
Nonabromodiphenyl ether	ND	--	5	--
Decabromodiphenyl ether	ND	--	5	--
Comment	PASS	PASS	--	--

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*Total Chromium analysis by ICP-OES was not detected in submitted sample. Therefore, Hexavalent Chromium determination using UV-Visible Spectroscopy was not performed.

Sample Description:

1. **PVC Insulation Jacket**
2. **Tin Plated Copper Conductor**

Note :

1. ND = Not Detected = denoted less than reporting limit

Remark : 1. # = Negative means the absence of CrVI on the tested areas; Positive means the presence of CrVI on the tested areas. The detected CrVI concentration in the boiling-water-extraction solution is equal to or greater than 0.02 mg/kg with 50cm² sample surface area.

2. European Regulation (EC) No. 1907/2006 (REACH) Annex XVII and its amendments – Phthalate content

Method : With reference to CPSC-CH-C1001-09.3. Analysis was performed by Gas Chromatography / Mass Spectrometry.

Test Item	Result (%)	Detection Limit (%)	Permissible Limit (%)
	1		
Dibutyl Phthalate (DBP)	ND	0.015	--
Benzylbutyl Phthalate (BBP)	ND	0.015	--
Bis-(2-ethylhexyl) Phthalate (DEHP)	0.048 %	0.015	--
DBP + BBP + DEHP	< 0.05	--	0.1
Diisononyl Phthalate (DINP)	ND	0.015	--
Di-n-octyl Phthalate (DNOP)	ND	0.015	--
Diisodecyl Phthalate (DIDP)	ND	0.015	--
DINP + DNOP + DIDP	< 0.05	--	0.1
Comment	PASS	--	--

Sample Description :

1. **PVC Insulation Jacket**

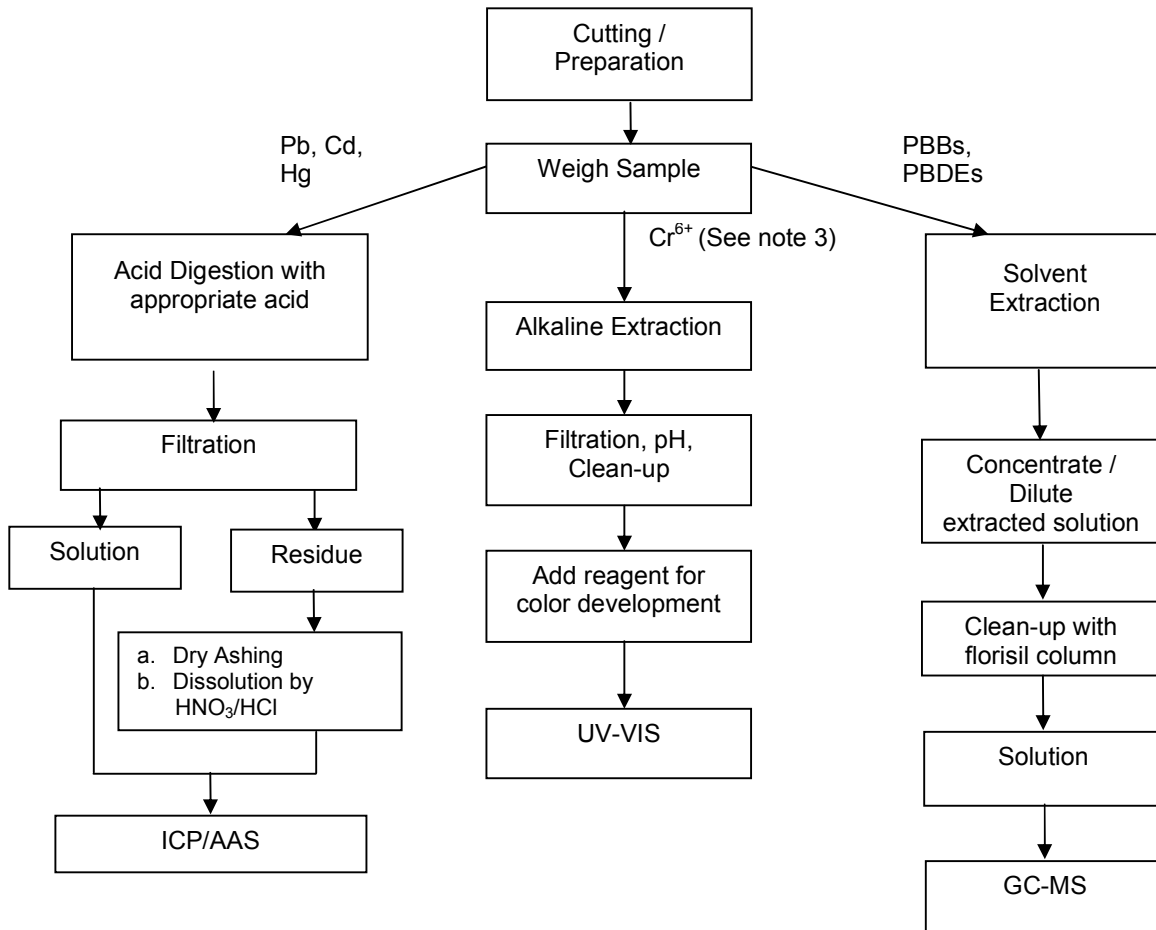
Note : 1. % = percentage by weight

2. ND = Not Detected

3. < = less than

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Flowchart for RoHS Testing:



- Note : 1. For Cr(VI), spot test is adopted for metal sample.
 2. The Cd, Pb and Hg contents test on polymeric samples were dissolved totally by pre-conditioning method according to above flow chart.
 3. Cr⁶⁺ is performed only when total Cr is detected

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Sample Photo:



SGS authenticates the photo on the original report only

*** End of Report ***

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