

TEST REPORT

KOTITI NO. : A-7278
APPLICANT : DAEWOOENERTEC.CO., LTD
DATE IN : March 19, 2009
DATE OUT : March 27, 2009

Sample Description	ONE (10) SAMPLE
Item	Electric Heat Hot Water Tube
Buyer	N/S
Style Number	N/S
P.O. Number	N/S
Test Result	For further details, please refer to the following page(s).

* N/S : Not Submitted

Test Method:

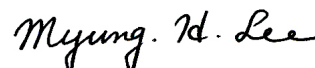
Reference to IEC 62321/1CD, "Procedures for the determination of levels of regulated substances in electrotechnical products"

- Lead (Pb) and Cadmium (Cd): The sample is comminuted and digested with acid mixtures. Pb/Cd contents are determined with ICP-AES technique. (Chapter 12, 13 & 14)
- Mercury (Hg): The sample is comminuted and digested with acid mixtures. Hg content is determined with ICP-AES, ICP-MS or AAS-VGA technique. (Chapter 11)
- Chromium (VI) (Cr VI):
 - Metal : Reference to BS EN ISO 3613: 2001 with Incorporating Corrigendum No.1, "Chromate conversion coatings on zinc, cadmium, aluminium-zinc alloys and zinc-aluminium alloys - Test methods"
 - Plastics & Electronics : The sample is comminuted and digested with alkaline mixtures. Chromium VI content is determined with UV-VIS spectroscopic technique. (Chapter 10)

PBBs and PBDEs: The sample is first scanned by infra red (IR) spectroscopy and appropriate solvent is used for extraction. The content of PBBs and PBDEs are determined by GC-MS. (Chapter 7)



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TEST CONDUCTED	TEST RESULT(S)
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Restriction of Hazardous Substances Directive (RoHS / 2002/95/EC), mg/kg								
* Sample Number								
Test Item	1	2	3	4	5	6	M.D.L.	REQUIREMENTS
*Lead	107	N.D.	N.D.	N.D.	11,752	N.D.	< 5	1,000
*Mercury	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	< 5	1,000
*Cadmium	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	< 5	100
*Chromium VI	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	< 2	1,000
*PBBs	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	< 5	1,000
*PBDEs	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	< 5	1,000

Bromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Dibromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Tribromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Tetrabromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Pentabromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Hexabromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Heptabromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Octabromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Nonabromobiphenyls	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Decabromobiphenyl	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Sum of PBBs	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	1,000
Bromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Dibromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Tribromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Tetrabromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Pentabromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Hexabromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Heptabromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Octabromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Nonabromodiphenyl ethers	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Decabromodiphenyl ether	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	-
Sum of PBDEs	N.A.	N.D.	N.D.	N.D.	N.A.	N.D.	-	1,000

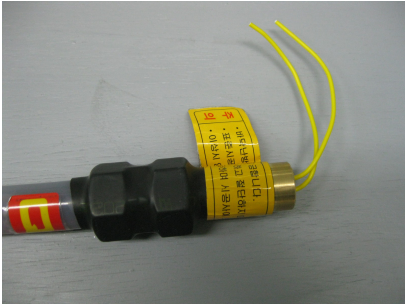
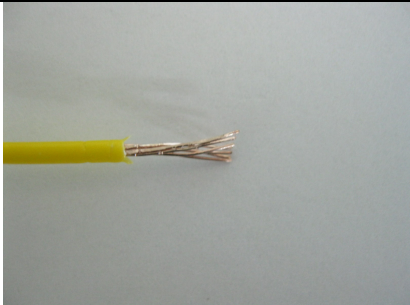
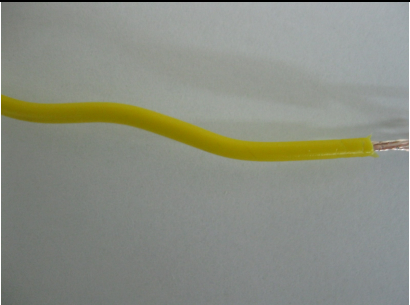
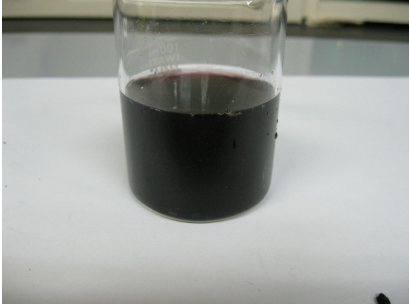
TEST CONDUCTED	TEST RESULT(S)
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Restriction of Hazardous Substances Directive (RoHS / 2002/95/EC), mg/kg								
* Sample Number								
Test Item	7	8	9	10			M.D.L.	REQUIREMENTS
*Lead	N.D.	N.D.	N.D.	N.D.			< 5	1,000
*Mercury	N.D.	N.D.	N.D.	N.D.			< 5	1,000
*Cadmium	N.D.	N.D.	N.D.	N.D.			< 5	100
*Chromium VI	N.D.	N.D.	N.D.	N.D.			< 2	1,000
*PBBs	N.D.	N.A.	N.D.	N.D.			< 5	1,000
*PBDEs	N.D.	N.A.	N.D.	N.D.			< 5	1,000

Bromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Dibromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Tribromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Tetrabromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Pentabromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Hexabromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Heptabromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Octabromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Nonabromobiphenyls	N.D.	N.A.	N.D.	N.D.			-	-
Decabromobiphenyl	N.D.	N.A.	N.D.	N.D.			-	-
Sum of PBBs	N.D.	N.A.	N.D.	N.D.			-	1,000
Bromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Dibromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Tribromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Tetrabromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Pentabromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Hexabromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Heptabromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Octabromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Nonabromodiphenyl ethers	N.D.	N.A.	N.D.	N.D.			-	-
Decabromodiphenyl ether	N.D.	N.A.	N.D.	N.D.			-	-
Sum of PBDEs	N.D.	N.A.	N.D.	N.D.			-	1,000

Remark

- < = less than
- N.D. = not detected (concentration of analyte lower than the laboratory reporting limit)
- N.R. = not requested
- N.A. = not applicable
- ppm = mg/kg
- D.L. = Detection Limit

TEST CONDUCTED		TEST RESULT(S)	
		<Picture>	
		Sample	
			
			
1	2	3	
			
4	5	6	
			
7	8	9	

		
10		