

Applicant : DUCKSUNG HITECH CO., LTD.

Address: #225-2, Shinneung-ri, Seoun-myeon, Anseong-si,

Gyeonggi-do, Korea

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Report No. RT12R-U0024-032-E Date: Jan. 17, 2012

Sample Description : The following submitted sample(s) said to be:-

Name/Type of Product : Copper Tape

Sample ID No. : RT12R-U0024-032

Item No. : 272

ant

Manufacturer/Vender : DUCKSUNG HITECH CO., LTD.

Sample received : Jan. 07, 2012

Testing Date : Jan. 07, 2012 ~ Jan. 17, 2012

Testing Environment : Temperature : (24  $\pm$  2) °C, Humidity : (60  $\pm$  5) % R.H.

Test Method(s) : Please see the following page(s).
Test Result(s) : Please see the following page(s).

Approved by, Authorized by,

E.Y.Lee / Lab. Technical Manager

H.W.Yoo / Lab. General Manager

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<sup>\*</sup> Note 1: The test results presented in this report relate only to the object tested.

<sup>\*</sup> Note 2: This report shall not be reproduced except in full without the written approval of the testing laboratory.

<sup>\*</sup> Note 3 : The item no. is assigned by client and indicated according to their requirement and guarantee letter.



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Report No. RT12R-U0024-032-E Date: Jan. 17, 2012

Sample ID No. : RT12R-U0024-032 Sample Description : Copper Tape

Test Item	Unit	Test Method	MDL	Result
Cadmium (Cd)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	0.5	N.D.
Lead (Pb)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	5	N.D.
Mercury (Hg)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	mg/kg	With reference to US EPA 3060A and determined by UV-VIS Spectrophotometer	1	N.D.
Polybrominated Biphenyl (PBBs)	T	,		
Monobromobiphenyl	mg/kg	With reference to US EPA 3540C, by solvent extraction and determined by GC/MS	5	N.D.
Dibromobiphenyl	mg/kg		5	N.D.
Tribromobiphenyl	mg/kg		5	N.D.
Tetrabromobiphenyl	mg/kg		5	N.D.
Pentabromobiphenyl	mg/kg		5	N.D.
Hexabromobiphenyl	mg/kg		5	N.D.
Heptabromobiphenyl	mg/kg		5	N.D.
Octabromobiphenyl	mg/kg		5	N.D.
Nonabromobiphenyl	mg/kg		5	N.D.
Decabromobiphenyl	mg/kg		5	N.D.
Polybrominated Diphenyl Ether (P	BDEs)			
Monobromodiphenyl ether	mg/kg	With reference to US EPA 3540C, by solvent extraction and determined by GC/MS	5	N.D.
Dibromodiphenyl ether	mg/kg		5	N.D.
Tribromodiphenyl ether	mg/kg		5	N.D.
Tetrabromodiphenyl ether	mg/kg		5	N.D.
Pentabromodiphenyl ether	mg/kg		5	N.D.
Hexabromodiphenyl ether	mg/kg		5	N.D.
Heptabromodiphenyl ether	mg/kg		5	N.D.
Octabromodiphenyl ether	mg/kg		5	N.D.
Nonabromodiphenyl ether	mg/kg		5	N.D.
Decabromodiphenyl ether	mg/kg		5	N.D.

Tested by : YK Cho, HJ Kim, MB Song

Notes: mg/kg = ppm = parts per million

< = Less than

N.D. = Not detected ( <MDL)
MDL = Method detection limit

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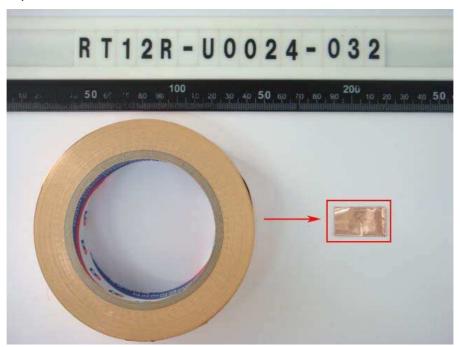


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Report No. RT12R-U0024-032-E Date: Jan. 17, 2012

Sample ID No. : RT12R-U0024-032
Sample Description : Copper Tape

\* View of sample as received;-



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Report No. RT12R-U0024-032-E Date: Jan. 17, 2012

Sample ID No. : RT12R-U0024-032 Sample Description : Copper Tape

#### Flow Chart (EPA 3052 for Cd, Pb, Hg / EPA 3060A for Cr<sup>6+</sup> / EPA 3540C for PBB/PBDE) Receipt Sample preparation Sample measurement NO Pb, Cd, Hg Cr<sup>6+</sup> PBB/PBDE Add digestion solution (NaOH/Na<sub>2</sub>CO<sub>3</sub>) Soxhlet extraction with Microwave digestion phosphate buffer Toluene more than 10 hrs with HNO<sub>3</sub> / HCI / HF $(K_2HPO_4/KH_2PO_4),$ $MgCl_2$ Heating 95°C and stirring Concentraction for 60 minutes Toluene Cool, filter digestate Total digestion Analyzed by GC/MS through filter paper Dilution While stirring, adjust filtrate to appropriate final pH by Overrange calibration YĖS YES dropwise addition of curve HNO<sub>3</sub>/H<sub>2</sub>SO<sub>4</sub> Analyzed by ICP-OES Analyzed by UV-VIS NO Data Report

\*\*\*\*\* End of Report \*\*\*\*\*

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#### Intertek Testing Services Korea Ltd.

<sup>\*\*</sup> Remarks: The samples were dissolved totally by pre-conditioning method according to above flow chart.