



## Test Report

No. VNHL2101001104EE

Date: January 25, 2021

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### CONG TY TNHH SAN XUAT VA THUONG MAI DULICO

LO A2, CN7, CUM CONG NGHIEP TU LIEM, PHUONG PHUONG CANH, QUAN NAM TU LIEM, THANH PHO HA NOI, VIET NAM.

The following sample was submitted and identified on behalf of the client as below:

SGS Job No. : VNHL2101001104EE  
Sample Description : BRASS STRIP C2801  
Style / Item No. : 01-01-2021  
Country of Origin : VIET NAM  
Manufacturer : DULICO MANUFACTURING CO., LTD  
Sample Receiving Date : JANUARY 18, 2021  
Final confirmed Date : JANUARY 18, 2021  
Testing Period : JANUARY 18, 2021 TO JANUARY 25, 2021  
Test Requested : PLEASE REFER TO THE RESULT SUMMARY  
Test Results : PLEASE REFER TO NEXT PAGE(S).  
Result Summary :

Test Requested	Result (s)
RoHS Directive 2011/65/EU Annex II [amended by Directive (EU) 2015/863] (Cadmium, Lead, Mercury, Hexavalent chromium)	Pass

Signed for and on behalf of

**SGS Vietnam LTD**



**To Ka Wing**

Chemical Lab Manager

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Hai Phong Branch : Workshop X11, Hai Thanh Workshop Area, Hai Thanh Ward, Duong Kinh District, Hai Phong City, Vietnam  
t (84-225) 355 2722 f (84-225) 355 2724 [www.sgs.com](http://www.sgs.com)

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**Test results:**

**Test Part Description:**

Component No.	Description	Material	Color
1	GOLD METAL (BRASS STRIP C2801)	METAL	GOLD

**RoHS Directive 2011/65/EU Annex II [amended by Directive (EU) 2015/863]**

Test Item(s):	Unit	Test Method	Results	MDL	Limit
			1		
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Cd by ICP-OES)	ND	2	100
Lead (Pb)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Pb by ICP-OES)	138	2	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Hg by ICP-OES)	ND	2	1000
Hexavalent Chromium (CrVI) #	µg/cm <sup>2</sup>	With reference to IEC 62321-7-1:2015 (Determination of CrVI by UV-VIS)	ND	0.10	-

**Note:**

1. mg/kg = ppm; 0.1wt% = 1000ppm
2. MDL = Method Detection Limit
3. ND = Not detected
4. # =
  - a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is n.d. (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive – unavoidable coating variations may influence the determination
5. - = not regulated
6. IEC 62321 is equivalent to EN 62321  
[http://www.cenelec.eu/dyn/www/f?p=104:110:721668440899381:::FSP\\_PROJECT,FSP\\_LANG\\_ID:20662,25](http://www.cenelec.eu/dyn/www/f?p=104:110:721668440899381:::FSP_PROJECT,FSP_LANG_ID:20662,25)
7. The above test(s) was / were accredited ISO 17025:2005 by VILAS  
 The above test(s) was / were performed by SGS VN's Chemical lab.

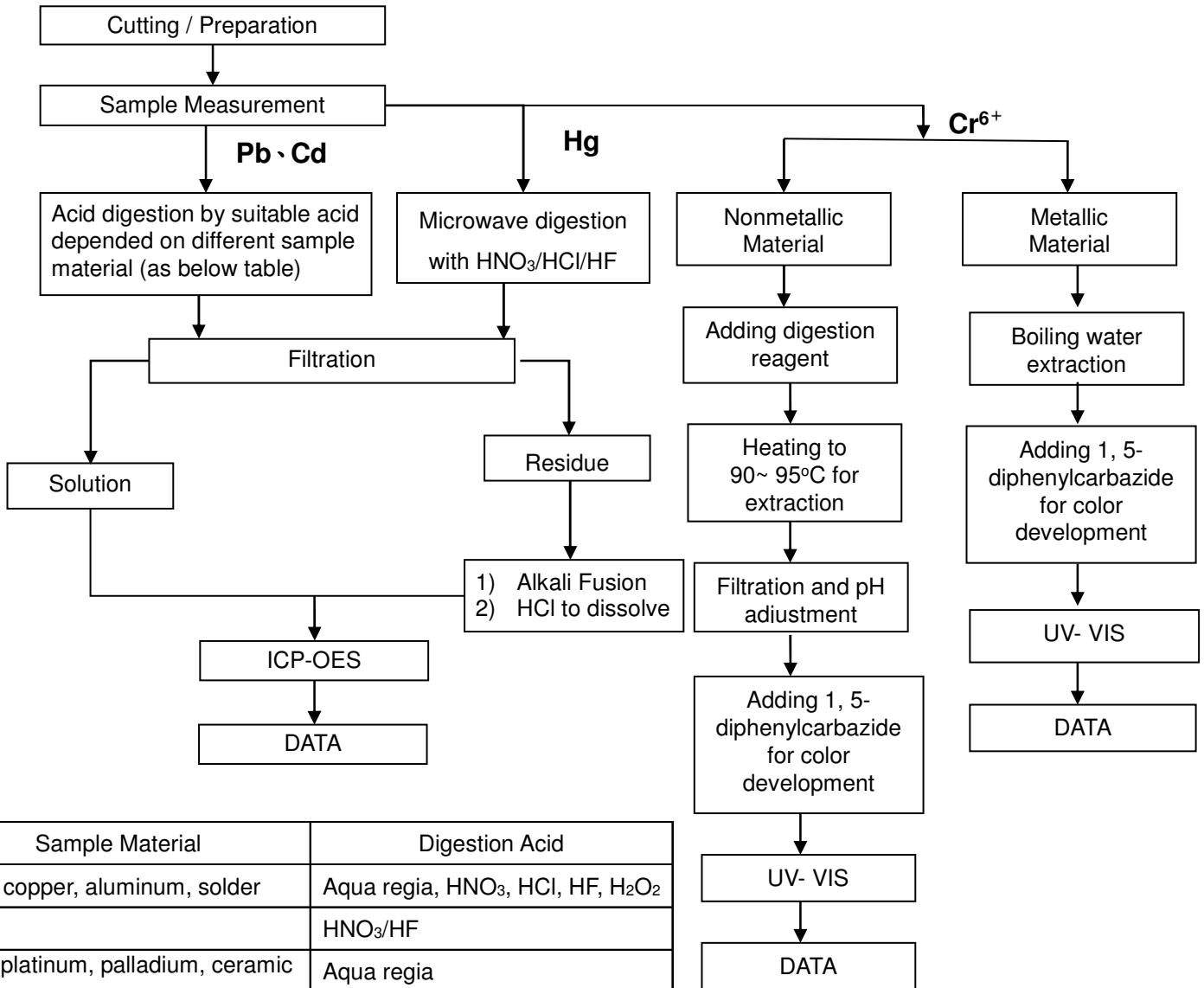
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**Flow Chart for RoHS: Pb/Cd/Hg/Cr<sup>6+</sup> Testing**

The samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
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

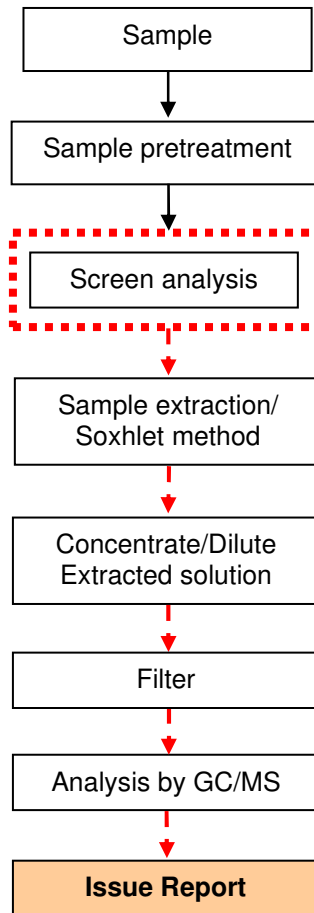
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**PBB/PBDE analytical FLOW CHART**

First testing process →  
 Optional screen process .....  
 Confirmation process - -▶



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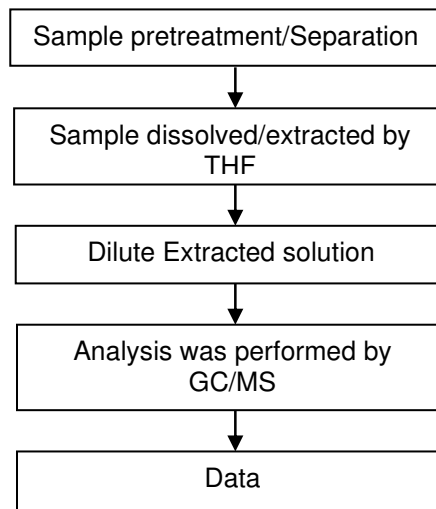
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Analytical flow chart of phthalate content

Test method: IEC 62321-8:2017

First testing process →  
Optional screen process .....  
Confirmation process -▶



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PHOTO OF SUBMITTED SAMPLE FOR TESTING



REPORT RESULTS REFER TO SUBMITTED SAMPLE (S) ONLY  
\*\*\*End of Report\*\*\*

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