

**TEST REPORT**

**No:** ACCHL260008017

**Issue Date:** 23-Mar-2026 Page 1 of 10

**PROTERIAL THAI ENAMEL WIRE CO., LTD.**

**171 MOO 12 BANGNA-TRAD KM.43 BANGWUA, BANGPAKONG, CHACHOENGSAO, 24180 THAILAND**

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

Sample Name : Polyester imide overcoated with polyamide-imide  
 Part No. : AMW-XV  
 Country of Origin : Thailand  
 Client Reference : REW  
 Information

The following sample(s) was/were identified by SGS as:

Sample Number : ACC26-0001292-0001  
 Sample Condition : Sample is contained in plastic bag.  
 Quantity Submitted : 1 roll  
 Sample Received Date : Mar 16 2026  
 Testing Period : Mar 16 - Mar 19 2026  
 Test Requested : In accordance with the EU RoHS Directive 2011/65/EU (Annex II) [amended by Directive (EU) 2015/863]. Selected test (s) as requested by client.  
 Test Method(s) : Please refer to next page(s)  
 Test Result(s) : Please refer to next page(s)  
 Conclusion : Based on the performed tests on submitted sample(s),the results of Cadmium (Cd),Lead (Pb),Mercury (Hg),Hexavalent chromium (Cr-VI),Polybrominated biphenyls (PBBs),Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP),Butyl benzyl phthalate (BBP),Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU where the decision rules based on simple acceptance which the probability of false accept may be as high as 50% in case the results is exactly on the tolerance limit.

FOLDER NUMBER : ACC26-0001292

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TEST REPORT

No: ACCHL260008017

Issue Date: 23-Mar-2026 Page 2 of 10

Signed for and on behalf of  
SGS (Thailand) Limited

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Anchalee Wunnaphuek  
Acting Chemical Laboratory Manager

FOLDER NUMBER : ACC26-0001292

1152164

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**Test Result(s) :**

Test Item(s)	Unit	Method	Result	MDL	Limit
Lead(Pb)	mg/kg	With reference to IEC 62321-5:2013, analysis was performed by ICP-OES.	ND	2	1000
Cadmium(Cd)	mg/kg	With reference to IEC 62321-5:2013, analysis was performed by ICP-OES.	ND	2	100
Mercury(Hg)	mg/kg	With reference to IEC 62321-4:2013+AMD1:2017, analysis was performed by ICP-OES.	ND	2	1000
Hexavalent Chromium(CrVI)	µg/cm <sup>2</sup>	With reference to IEC 62321-7-1:2015, analysis was performed by UV-Vis	ND	0.10	-
Polybrominated biphenyls (PBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	-	1000
Monobrominated biphenyl (MonoBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Dibrominated biphenyl (DiBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Tribrominated biphenyl (TriBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Tetrabrominated biphenyl (TetraBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Pentabrominated biphenyl (PentaBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Hexabrominated biphenyl (HexaBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Heptabrominated biphenyl (HeptaBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Octabrominated biphenyl (OctaBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Nonabrominated biphenyl (NonaBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Decabrominated biphenyl (DecaBB)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Polybrominated diphenyl ether (PBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	-	1000
Monobrominated diphenyl ether (MonoBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-

FOLDER NUMBER : ACC26-0001292

**1152164**

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**TEST REPORT**

**No:** ACCHL260008017

**Issue Date:** 23-Mar-2026

**Page 4 of 10**

Test Item(s)	Unit	Method	Result	MDL	Limit
Dibrominated diphenyl ether (DiBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Tribrominated diphenyl ether (TriBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Tetrabrominated diphenyl ether (TetraBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Pentabrominated diphenyl ether (PentaBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Hexabrominated diphenyl ether (HexaBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Heptabrominated diphenyl ether (HeptaBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Octabrominated diphenyl ether (OctaBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Nonabrominated diphenyl ether (NonaBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Decabrominated diphenyl ether (DecaBDE)*	mg/kg	With reference to IEC 62321-6:2015, analysis was performed by GC-MS.	ND	5	-
Dibutyl Phthalate(DBP)*	mg/kg	With reference to IEC 62321-8 : 2017, Analysis was performed by GC-MS	ND	50	1000
Benzyl Butyl Phthalate(BBP)*	mg/kg	With reference to IEC 62321-8 : 2017, Analysis was performed by GC-MS	ND	50	1000
Bis-(2-ethylhexyl) Phthalate(DEHP)*	mg/kg	With reference to IEC 62321-8 : 2017, Analysis was performed by GC-MS	ND	50	1000
Diisobutyl Phthalate(DIBP)*	mg/kg	With reference to IEC 62321-8 : 2017, Analysis was performed by GC-MS	ND	50	1000

**Test part description**

Result : metal with plating

FOLDER NUMBER : ACC26-0001292

**1152164**

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**TEST REPORT**

**No:** ACCHL260008017

**Issue Date:** 23-Mar-2026 **Page 5 of 10**

**Note :**

- (a) mg/kg = ppm ; 0.1wt% = 1000 ppm
- (b) ug/cm<sup>2</sup> = microgram/centimeter square
- (c) ND = Not Detected (Less than MDL)
- (d) MDL = Method Detection Limit
- (e) The result of Hexavalent Chromium (Cr(VI)) = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 ug/cm<sup>2</sup>. The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 ug/cm<sup>2</sup>). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 ug/cm<sup>2</sup> and 0.13 ug/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination
- (f) "-" = Not regulated
- (g) For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing represent status of the sample at the time of testing.

**Remarks :**

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021

Test(s) marked \* on test report is/are not included in the accreditation scope.

FOLDER NUMBER : ACC26-0001292

**1152164**

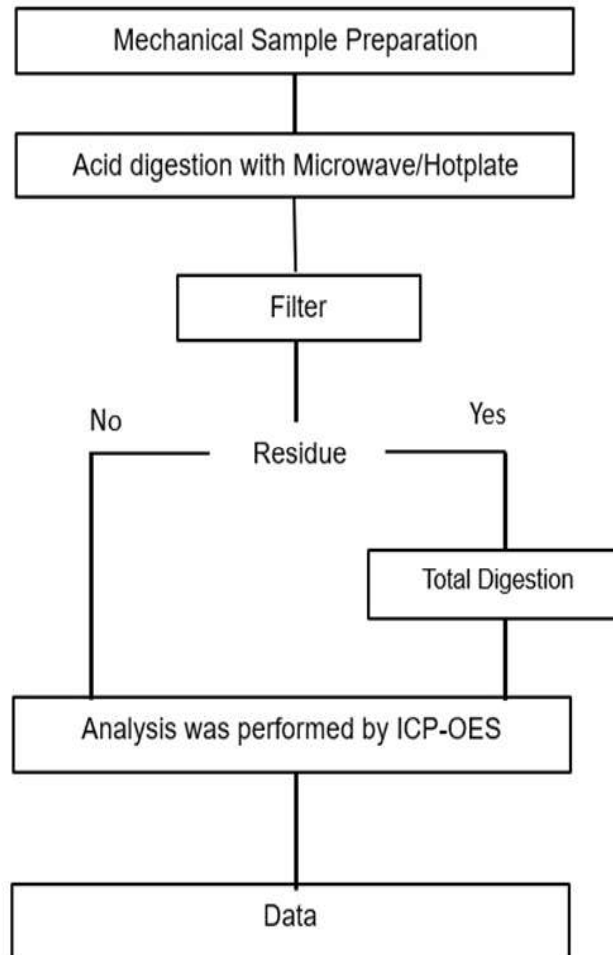
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### Flow chart of Heavy metal Testing

(Test method : IEC 62321)



FOLDER NUMBER : ACC26-0001292

1152164

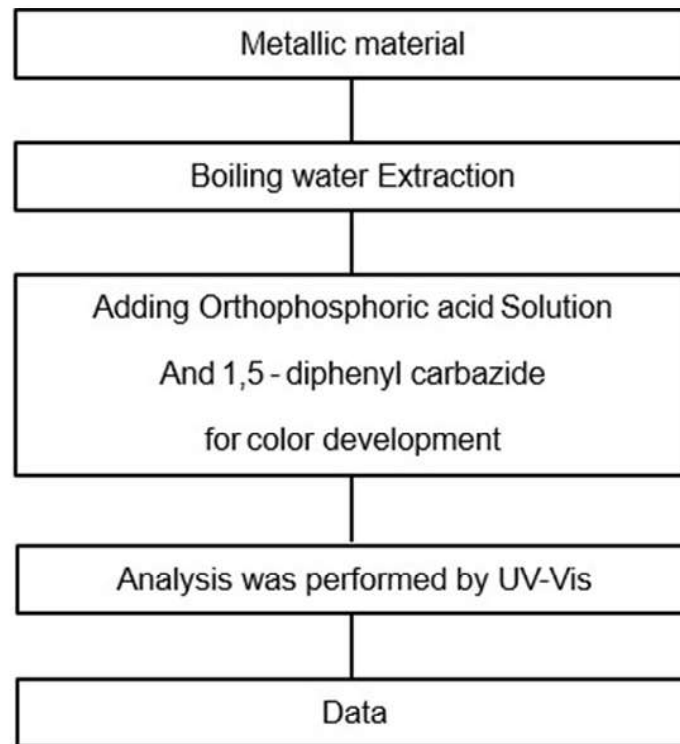
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## Flow chart of Hexavalent Chromium Testing

(Test method : IEC 62321)



FOLDER NUMBER : ACC26-0001292

**1152164**

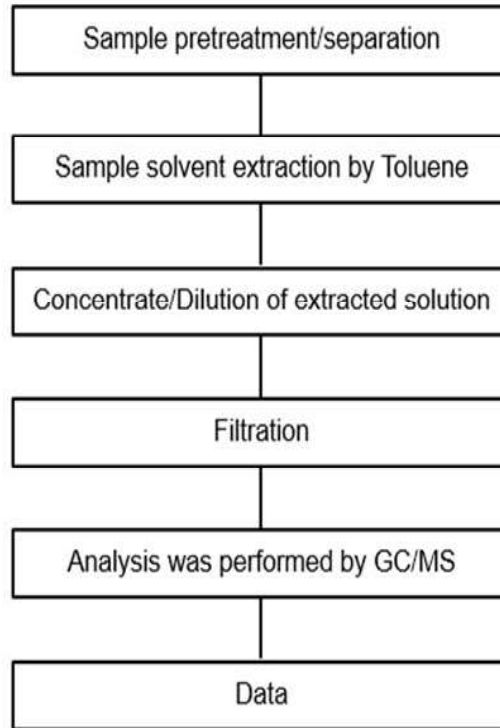
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### Flow chart of PBBs, PBDEs Testing

(Test method : IEC 62321)



FOLDER NUMBER : ACC26-0001292

**1152164**

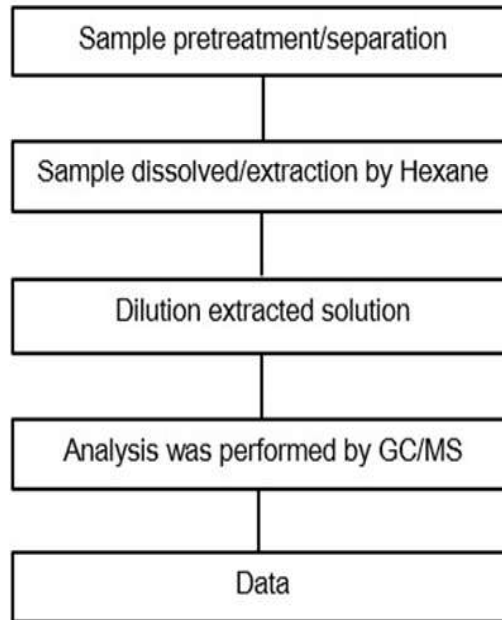
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### Flow chart of Phthalates Analysis

(Test method : IEC 62321-8)



FOLDER NUMBER : ACC26-0001292

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TEST REPORT  
Sample Photo:

No: ACCHL260008017

Issue Date: 23-Mar-2026 Page 10 of 10



**ACC26-0001292-0001**

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

FOLDER NUMBER : ACC26-0001292

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