

# Test Report

No. TSNEC1200157603

Date: 07 Mar 2012

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TANGSHAN IRON&STEEL GROUP CO.,LTD

NO.9 BINHE ROAD,LU BEI AREA,TANGSHAN,HEBEI PROVINCE

The following sample(s) was/were submitted and identified on behalf of the clients as : HOT-DIP GALVANIZED COATED STEEL STRIP WITH CHROMATE-FREE PASSIVATING TREATMENT

SGS Job No. : TP12-004264 - TJ

Date of Sample Received : 02 Mar 2012

Testing Period : 02 Mar 2012 - 06 Mar 2012

Test Requested : Selected test(s) as requested by client.

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

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

Conclusion : Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of  
SGS-CSTC Ltd.



Summer Bai

Approved Signatory

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Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
1	TSN12-001576.002	silver gray metal board
2	TSN12-001576.003	silver gray metal board

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive 2011/65/EU

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Spot test / Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	002	003
Cadmium (Cd)	100	mg/kg	2	ND	ND
Lead (Pb)	1,000	mg/kg	2	ND	ND
Mercury (Hg)	1,000	mg/kg	2	ND	ND
Hexavalent Chromium (Cr(VI))	-	-	◇	Negative	Negative
Sum of PBBs	1,000	mg/kg	-	ND	ND
Monobromobiphenyl	-	mg/kg	5	ND	ND
Dibromobiphenyl	-	mg/kg	5	ND	ND
Tribromobiphenyl	-	mg/kg	5	ND	ND
Tetrabromobiphenyl	-	mg/kg	5	ND	ND
Pentabromobiphenyl	-	mg/kg	5	ND	ND
Hexabromobiphenyl	-	mg/kg	5	ND	ND
Heptabromobiphenyl	-	mg/kg	5	ND	ND
Octabromobiphenyl	-	mg/kg	5	ND	ND
Nonabromobiphenyl	-	mg/kg	5	ND	ND
Decabromobiphenyl	-	mg/kg	5	ND	ND
Sum of PBDEs	1,000	mg/kg	-	ND	ND

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>	<u>003</u>
Monobromodiphenyl ether	-	mg/kg	5	ND	ND
Dibromodiphenyl ether	-	mg/kg	5	ND	ND
Tribromodiphenyl ether	-	mg/kg	5	ND	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND	ND
Octabromodiphenyl ether	-	mg/kg	5	ND	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND	ND
Decabromodiphenyl ether	-	mg/kg	5	ND	ND

### Notes :

- (1) The maximum permissible limit is quoted from directive 2011/65/EU, Annex II.
- (2) ◇ = a. Positive means the presence of CrVI on the tested areas;  
b. Negative means the absence of CrVI on the tested areas

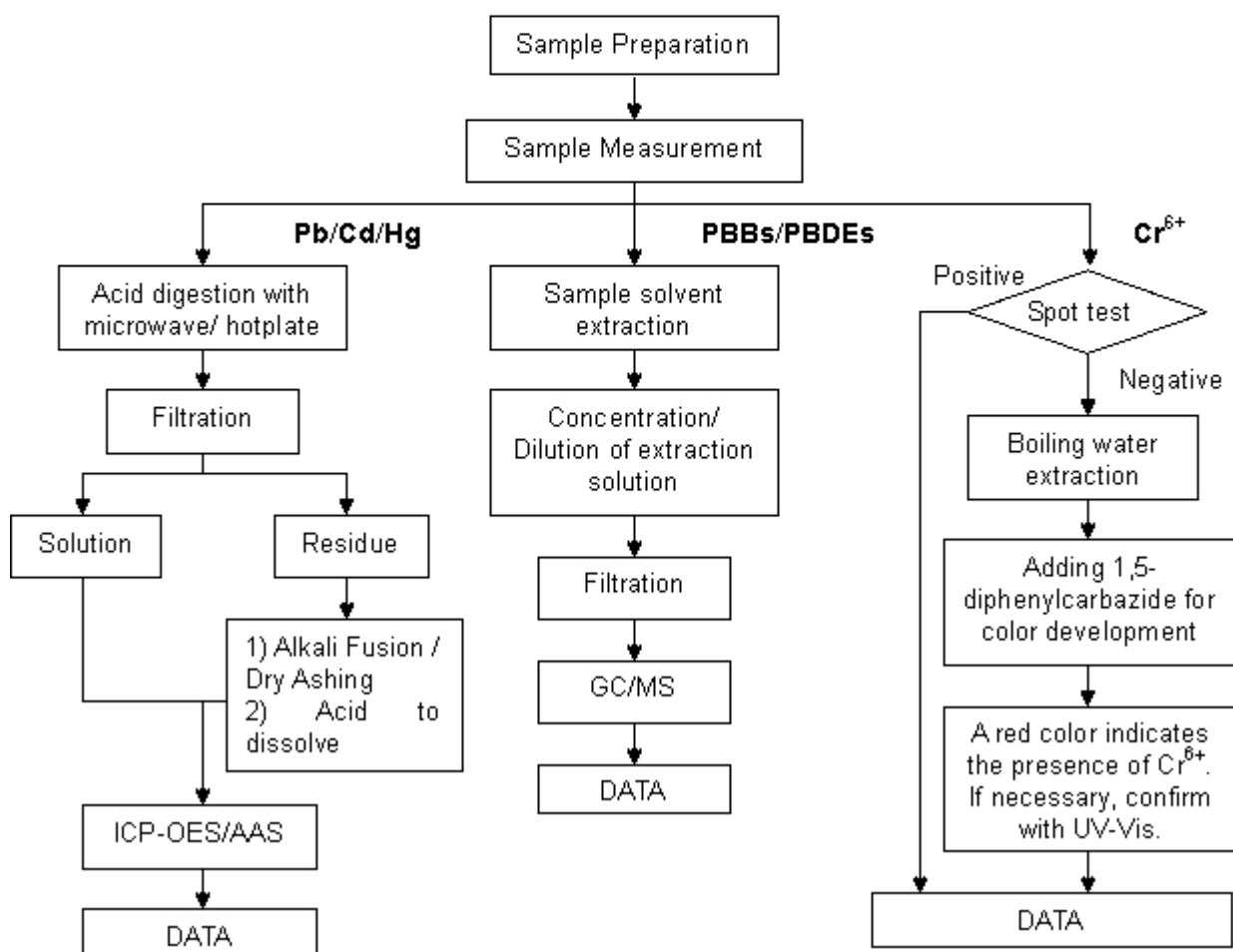
For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

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### ATTACHMENTS

#### Cd/Pb/Hg/Cr<sup>6+</sup>/PBBs&PBDEs Testing Flow Chart

- 1) Name of the person who made testing: Aaron Wang/Jason Li/Angell Yao
- 2) Name of the person in charge of testing: Cindy Yin/Rex Zhu
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded)



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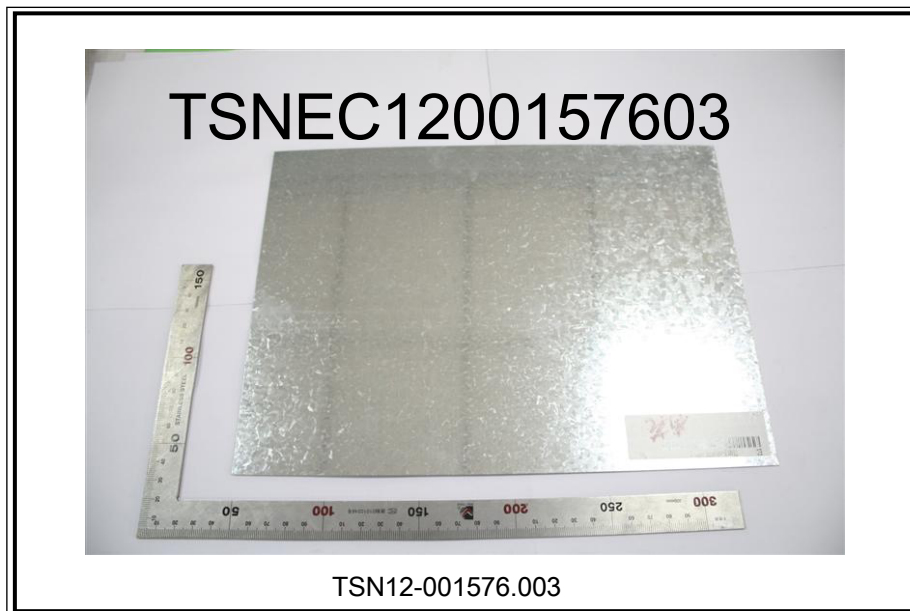
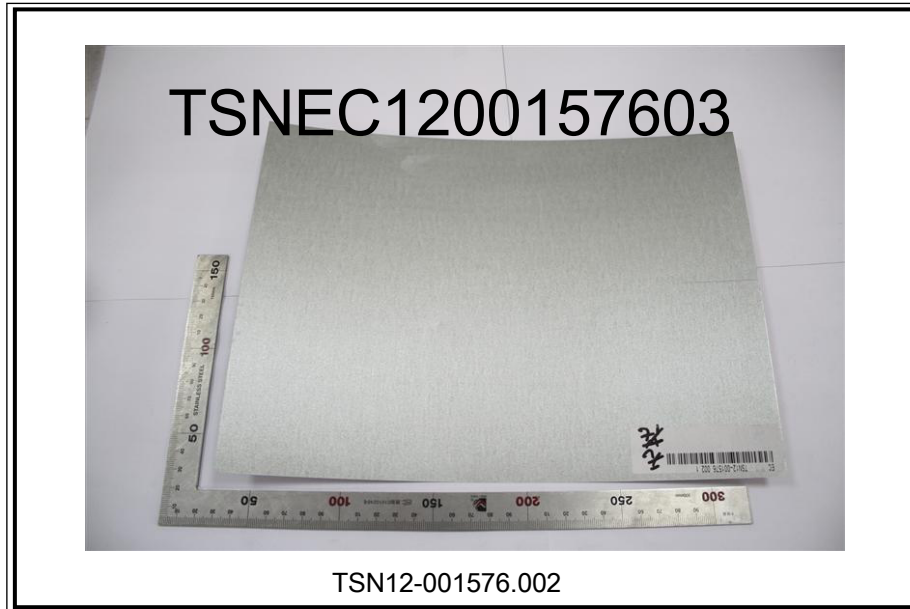
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Sample photo:



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

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