



Test Report

No.: S251013045001-1

Date: Oct 16, 2025

Page 1 of 8

Customer: SHENZHOU CITY SHENGSEN METAL PRODUCTS CO., LTD

Customer Address: EAST OF BAOHENG ROAD, ZHAOBAZHUANG VILLAGE, TANGFENG TOWN, HENGSHUI CITY, Hebei Province, China

Sample Name: Guardrail

The above samples and information are provided by the customer

Sample Received Date: Oct 13, 2025

Test Period: Oct 13, 2025 to Oct 16, 2025

Test Requirements: The submitted sample(s) were specifically tested according to 2011/65/EU and (EU)2015/863 by client's requirements.

Test Method: Refer to EN 62321-4:2014+A1:2017, EN 62321-5:2014, EN 62321-7-1:2015, EN 62321-6:2015, EN 62321-8:2017.

Test Result: Please refer to next page(s)

Result Summary:

Test Requested	Conclusion
1. RoHS Directive 2011/65/EU Annex II amending Directive (EU)2015/863	
1) Lead, Mercury, Cadmium, Hexavalent Chromium Content	PASS
2) PBBs and PBDEs Content	PASS
3) Di-(2-ethylhexyl) phthalate (DEHP), Benzylbutyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) Content	PASS

WRITTEN BY

Zoey Zhang

Zoey Zhang

REVIEWED BY

Sunshine Liu

Sunshine Liu

**Soar Testing Certification
(GuangDong) Co., Ltd.**

APPROVED BY

Frank Wu

Frank Wu

Approved Signatory

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Lab name: Soar Testing Certification (GuangDong) Co., Ltd.
Post Code: 523945

Tel: (86-769) 38937518

Address: Room 1093, No.12, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China
E-mail: service@soar-cert.com

Website: http://www.soartestlab.com

**Test Result(s):****Description of test sample:**

Sample No.	Item / Component Description(s)	Location(s)	Style(s)/Model(s)
1	Metal substrate	Refer to photo	/

Note: "/"= Customer does not provide.

1. RoHS Directive 2011/65/EU Annex II amending Directive (EU)2015/863**1) Lead, Mercury, Cadmium, Hexavalent Chromium Content**

Test method: Refer to EN 62321-4:2014+A1:2017, EN 62321-5:2014 and EN 62321-7-1:2015,
,analysis was performed by ICP-OES and UV-Vis.

Test Item	Limit	Unit	MDL	Result
				No.1
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Cadmium(Cd)	100	mg/kg	2	N.D.
Hexavalent Chromium (CrVI)	#	µg/cm ²	0.10	N.D.
Conclusion				PASS

Note:

1. mg/kg = milligram per kilogram = ppm
2. µg/cm² =Microgram per square centimetre
3. N.D. = Not Detected (< MDL)
4. MDL = Method Detection Limit
5. EN 62321 series is equivalent to IEC 62321 series
6. #= a. When the concentration of hexavalent chromium in boiling-water-extraction solution with 1cm² sample surface area is higher than 0.13 µg/cm², the sample is positive, that is, contains hexavalent chromium;
b. When the concentration of hexavalent chromium in boiling-water-extraction solution with 1cm² sample surface area is N.D.(less than 0.10µg/cm²), the sample is negative, that is, no hexavalent chromium is detected;
c. When the concentration of hexavalent chromium in boiling-water-extraction solution with 1cm² sample surface area is between 0.10µg/cm² and 0.13µg/cm², it is not possible to directly determine whether hexavalent chromium is detected.

Surface differences of samples from different individuals may affect the determination results:

Since the storage condition and production date of the sample are not known, the test result of the sample can only represent the state of the sample containing hexavalent chromium at the time of the test.

Positive = result be regarded as not comply with RoHS requirement

Negative = result be regarded as comply with RoHS requirement

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**2) PBBs and PBDEs Content**

Test method: Refer to EN 62321-6:2015 , analysis was performed by GC-MS.

Test Item	Limit	Unit	MDL	Result
				No.1
Sum of Polybrominated biphenyls(PBBs)	1000	mg/kg	-	N.D.
Sum of Polybrominated diphenyl ethers(PBDEs) .	1000	mg/kg	-	N.D.
Monobromobiphenyl	-	mg/kg	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.
Monobromodiphenyl ether	-	mg/kg	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.
Conclusion				PASS

Note:

1. mg/kg = milligram per kilogram = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. "-" = Not Regulated
5. EN 62321 series is equivalent to IEC 62321 series

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**3) Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate(DIBP) Content**

Test method: Refer to EN 62321-8:2017, analysis was performed by GC-MS.

Test Item	Limit	Unit	MDL	Result
				No.1
Di-(2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	N.D.
Benzylbutyl phthalate (BBP)	1000	mg/kg	50	N.D.
Dibutyl phthalate (DBP)	1000	mg/kg	50	N.D.
Diisobutyl phthalate(DIBP)	1000	mg/kg	50	N.D.
Conclusion				PASS

Note:

1. mg/kg = milligram per kilogram = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. EN 62321 series is equivalent to IEC 62321 series

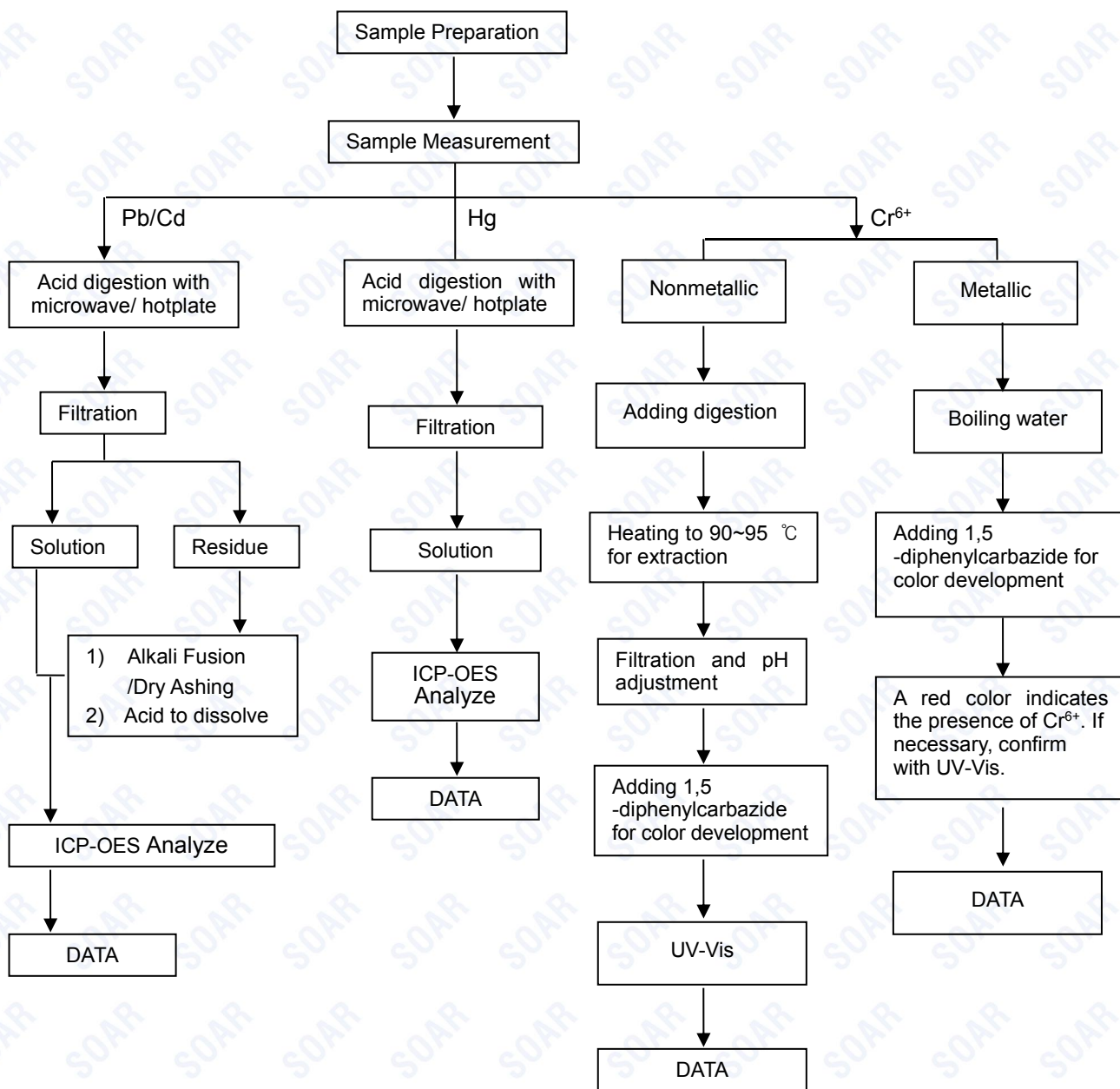
Remark:

1. As specified by applicant, to test content in the selected materials of the submitted samples. The test results are only responsible for the submitted sample.
2. The test report cannot be partially quoted or copied, without prior written permission of the company.
3. The test report is invalid if rewritten, added and deleted, without approved signature, or shall be invalid if it is not stamped with the special seal for testing.
4. The customer information, sample information, usage conditions and label information mentioned in the testing report are provided by the customer, and the customer is responsible for their authenticity. SOAR has not verified their authenticity.
5. The test report is not stamped with the qualification certification mark seal, only for customer research, teaching, internal quality control, product development and other activities.

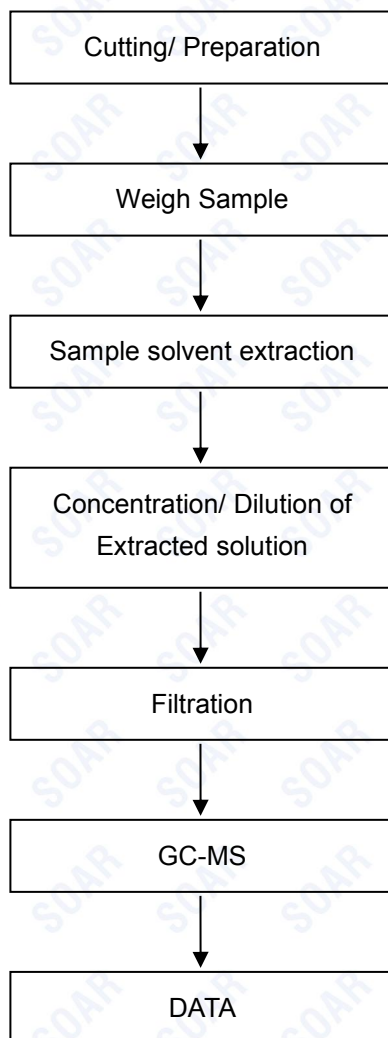
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Pb/Cd/Hg/Cr⁶⁺ Testing Flow Chart

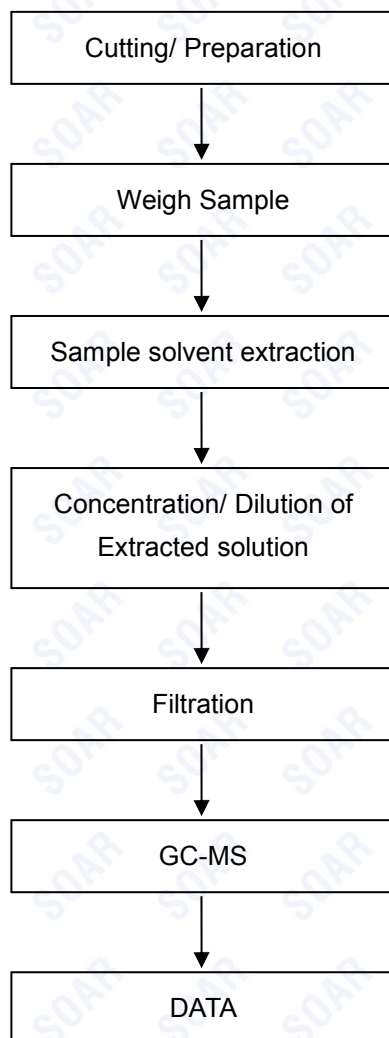
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
(Cr⁶⁺ test method excluded)



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PBBs/PBDEs Testing Flow Chart

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Phthalates Testing Flow Chart

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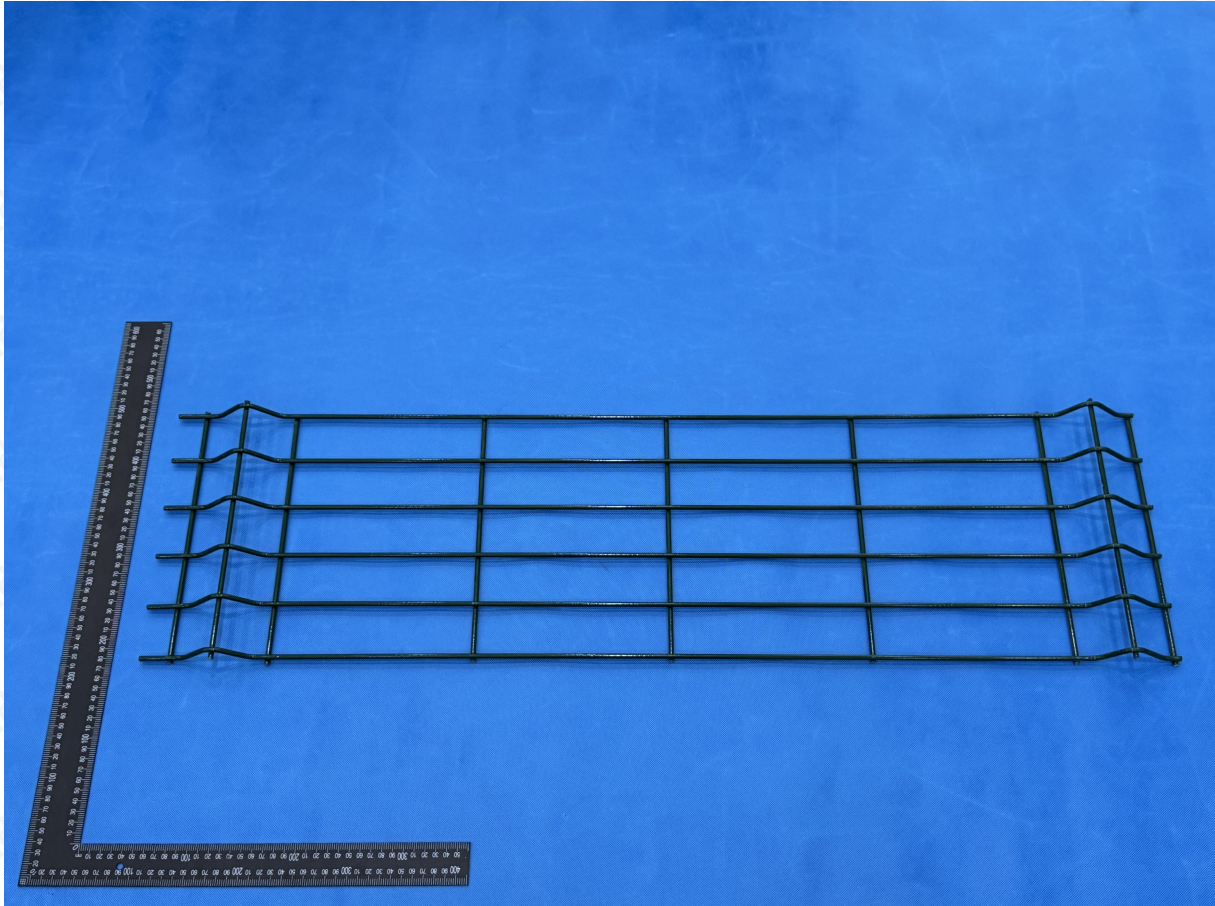
Tel: (86-769) 38937518

Address: Room 1093, No.12, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China
E-mail: service@soar-cert.com

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Photo of the Sample:

Test sample



The photo is for use with SOAR original report only.

*** End of Report ***

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