

TEST REPORT

Report No: AR-21-SV-030088-01
Customer: CSC STEEL SDN. BHD.
Date of Issue: 04/08/2021



Batch No: EUMYBM-00087483
Sample No: 138-2021-07003233

To: CSC STEEL SDN. BHD.
 180, Kawasan Industri Ayer Keroh,
 Ayer Keroh,
 75450 Melaka
 MALAYSIA

Attn: Ms. Chee Sook Jin

Date Sample Received: 26/07/2021
Date of Testing: 27/07/2021 to 02/08/2021

The following sample was identified by the customer as :

STEEL
 SAMPLE DESCRIPTION: realcolor® THERMOSHIELD
 SAMPLE ID: JN907021

Objective (s): Determination of Cadmium (Cd), Hexavalent Chromium (Cr6+), Lead (Pb), Mercury (Hg), Phthalates, Polybrominated Biphenyl (PBBs), Polybrominated Diphenyl Ether (PBDEs) with RoHS Directive 2011/65/EU and (EU) 2015/863 (amendment in Annex II)

Conclusion :

Test(s) Required	Compliance with Objective(s)
1. Cadmium (Cd), 2. Lead (Pb), 3. Mercury (Hg), 4. Hexavalent Chromium (Cr6+), 5. Sum Polybrominated Biphenyls (PBB), 6. Sum Polybrominated Diphenyl Ether (PBDE), 7. Benzyl butyl phthalate (BBP), 8. Bis(2-ethylhexyl)phthalate (DEHP), 9. Dibutyl phthalate (DBP), 10. Di-isobutyl phthalate (DiBP)	Comply

Test Result(s):

Analysis	Industrial Products Analysis	Unit	Result	LOQ	Test Method	Specification
SVK51	Cadmium (Cd)	mg/kg	<LOQ	1	IEC 62321-5	≤100mg/kg
SVL03	Lead (Pb)	mg/kg	<LOQ	10	IEC 62321-5	≤1000mg/kg
SVK82	Mercury (Hg)	mg/kg	<LOQ	5	IEC 62321-4	≤1000mg/kg
SVK66	Hexavalent Chromium (Cr6+)	-	negative	-	IEC 62321-7-1	≤1000mg/kg (Refer Note 2)
SVK16	Polybrominated Biphenyl (PBBs)				IEC 62321-6	
	Monobromobiphenyl	mg/kg	<LOQ	20		Refer Note 3
	Dibromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Tribromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Tetrabromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Pentabromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Hexabromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Heptabromobiphenyl	mg/kg	<LOQ	20		Refer Note 3
	Octabromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Nonabromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Decabromo biphenyls	mg/kg	<LOQ	20		Refer Note 3
	Sum Polybrominated Biphenyls (PBB)	mg/kg	<LOQ	20		≤1000mg/kg
SVK17	Polybrominated Diphenyl Ether (PBDEs)				IEC 62321-6	
	Monobromodiphenyl ether	mg/kg	<LOQ	20		Refer Note 3

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Analysis	Industrial Products Analysis	Unit	Result	LOQ	Test Method	Specification
	Dibromodiphenylether	mg/kg	<LOQ	20		Refer Note 3
	Tribromo diphenyl ethers	mg/kg	<LOQ	20		Refer Note 3
	Tetrabromo diphenyl ethers	mg/kg	<LOQ	20		Refer Note 3
	Pentabromodiphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Hexabromo diphenyl ethers	mg/kg	<LOQ	20		Refer Note 3
	Heptabromo diphenyl ethers	mg/kg	<LOQ	20		Refer Note 3
	Octabromo diphenyl ethers	mg/kg	<LOQ	20		Refer Note 3
	Nonabromo diphenyl ethers	mg/kg	<LOQ	20		Refer Note 3
	Decabromo diphenyl ethers	mg/kg	<LOQ	20		Refer Note 3
	Sum Polybrominated Diphenyl Ether (PBDE)	mg/kg	<LOQ	20		≤1000mg/kg
SVV1Q	Phthalates				IEC 62321-8	
	Benzyl butyl phthalate (BBP)	% (w/w)	<LOQ	0.02		≤0.1%
	Bis(2-ethylhexyl)phthalate (DEHP)	% (w/w)	<LOQ	0.02		≤0.1%
	Dibutyl phthalate (DBP)	% (w/w)	<LOQ	0.02		≤0.1%
	Di-isobutyl phthalate (DiBP)	% (w/w)	<LOQ	0.02		≤0.1%

Specification Note

- RoHS Directive 2011/65/EU and (EU) 2015/863 (amendment in Annex II)
- Expression result for Hexavalent Chromium
 - Concentration of Hexavalent chromium ($<0.10 \mu\text{g}/\text{cm}^2$) = Negative (sample coating is consider non Cr(VI) based coating)
 - Concentration of Hexavalent chromium (≥ 0.10 and $\leq 0.13 \mu\text{g}/\text{cm}^2$) = Inconclusive (Unavoidable coating variations may influence the determination)
 - Concentration of Hexavalent chromium ($\geq 0.13 \mu\text{g}/\text{cm}^2$) = Positive (Sample coating is consider to contain Cr(VI))
- Based on sum amount of PBB/PBDE limit, which is $\leq 1000 \text{mg}/\text{kg}$

Remark

- The test portion was totally dissolved for cadmium, lead & mercury test by using pre-conditioning method as mentioned above.
- IEC 62321 flowchart can be obtained from <https://admin.apac-websites.eurofins.com/media/606192/efctm001-issue-2.pdf>

This 3 page(s) of report and its attachment(s), if relevant, has/have been validated by



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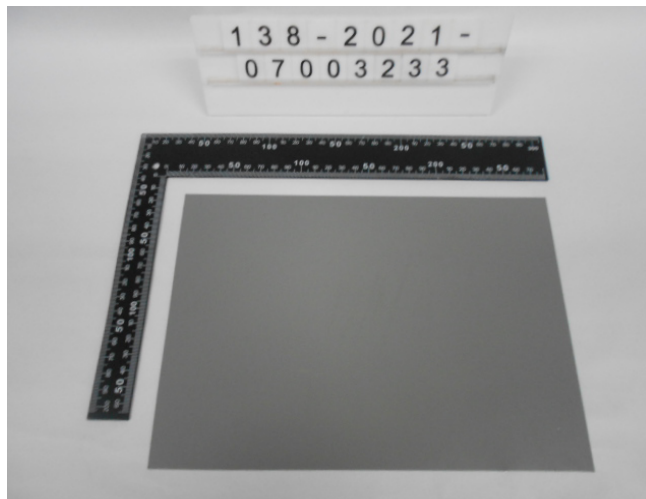
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EXPLANATORY NOTE

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 <LOD means not detected at or below the Limit of Detection (LOD).
 <LOQ means below the Limit of Quantification (LOQ)</p> |
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Sample Photograph(S)



- End of Report -