

Test  
TS EN ISO/IEC 17025  
AB-1454-T**TEST REPORT**

AB-1454-T

23010163

01-23

Report No / Revision No: 23010163/ 0

Page: 1/6

**CUSTOMER INFORMATION**

Applicant: 2A1B Enerji Sanayi ve Ticaret Ltd. Şti.  
Address: Battalgazi Mahallesi 3416 Sokak No:7 Merkez AFYON  
Related Person: -  
Contact: muhasebe@optimumkalite.com

**SAMPLE INFORMATION**

Sample Acceptance Date : 25.01.2023  
Sample Description : İzolasyon kapağı ve iletken kapama ürünleri  
Amount : 1 piece each  
Brand : 2A1B  
Manufacturer : 2A1B Enerji Sanayi ve Ticaret Ltd. Şti.  
Explanation : Based on the performed tests on selected part of submitted samples, RoHS Tests comply with the limits as set by Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

**GENERAL EVALUATION****PASS**

Seal

Sample Acceptance And  
ReporterLaboratory Deputy  
Manager

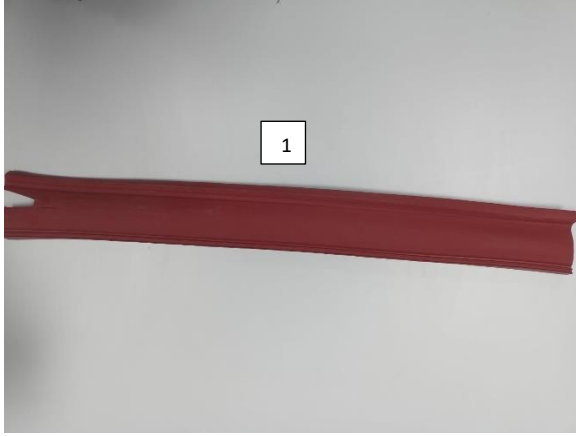
Date

30.01.2023



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### SAMPLE PHOTO



**SUMMARY TEST RESULTS**

	<b>ANALYSIS</b>	<b>METHOD</b>	<b>EVALUATION</b>
*	Cadmium (Cd) Content	IEC 62321-5:2013	PASS
*	Lead (Pb) Content	IEC 62321-5:2013	PASS
*	Mercury (Hg) Content	IEC 62321-4:2017	PASS
*	Hexavalent Chromium (CrVI) (for non metal)	IEC 62321-7-2:2017	PASS
*	Hexavalent Chromium (CrVI) (for metal)	IEC 62321-7-1:2015	N.A.
*	Flame Retardants (PBBs/PBDEs)	IEC 62321-6:2015	PASS
*	Phthalates	IEC 62321-8:2017	PASS

N.A. : Not Applicable

**PRODUCT DETAILS**

<b>PRODUCT</b>	<b>PART NO</b>	<b>PART DESCRIPTION</b>
A	1	Red plastic part
A	2	Black plastic part
A	3	Red plastic part

**TEST RESULTS**

The following analyzes have been made in line with the customer request.

Decision Rule: The customer requested that the decision rule be applied positively.

<b>*Cadmium (Cd) Content</b>			
<b>Test Method</b>	IEC 62321-5:2013		
<b>Test Start Date :</b>	25.01.2023	<b>Test Finish Date :</b>	30.01.2023
<b>Test Part</b>	<b>Result</b>	<b>Limit</b>	<b>Evaluation</b>
1	< 5	100	PASS
2	< 5	100	PASS
3	< 5	100	PASS

Controlled Parameters: Cadmium

Report Limiting for Plastic : 5,00 mg/kg  
Limit value for cadmium 0.01 % (100 ppm)  
Measurement Uncertainty : ± % 8,4

Analysis by microwave or acid digestion and determined by ICP-MS

<b>*Lead (Pb) Content</b>			
<b>Test Method</b>	IEC 62321-5:2013		
<b>Test Start Date :</b>	25.01.2023	<b>Test Finish Date :</b>	30.01.2023
<b>Test Parts</b>	<b>Result (mg/kg)</b>	<b>Limit (mg/kg)</b>	<b>Evaluation</b>
1	< 5	100	PASS
2	< 5	100	PASS
3	< 5	100	PASS

Controlled Parameters: Lead

Report Limiting for Plastic : 5,00 mg/kg  
Limit value for lead 0.1 % (1000 ppm)  
Measurement Uncertainty : ± % 8,4

\*According to DIRECTIVE 2011/65/EU, the lead limit for copper alloy materials is 4%.

Analysis by microwave or acid digestion and determined by ICP-MS

**\*Mercury (Hg) Content**

<b>Test Method</b>	IEC 62321-4:2017		
<b>Test Start Date :</b>	25.01.2023	<b>Test Finish Date :</b>	30.01.2023
<b>Test Parts</b>	<b>Result (mg/kg)</b>	<b>Limit (mg/kg)</b>	<b>Evaluation</b>
1	< 1	1000	PASS
2	< 1	1000	PASS
3	< 1	1000	PASS

Controlled Parameters: Mercury  
Report Limiting for Plastic : 1,00 mg/kg  
Limit value for Hg 0.1 % (1000 ppm)  
Measurement Uncertainty : ± % 11,9

Analysis by microwave or acid digestion and determined by ICP-MS

**\*Hexavalent Chromium (CrVI) (for non metal)**

<b>Test Method</b>	IEC 62321-7-2:2017		
<b>Test Start Date :</b>	25.01.2023	<b>Test Finish Date :</b>	30.01.2023
<b>Test Parts</b>	<b>Result (mg/kg)</b>	<b>Limit (mg/kg)</b>	<b>Evaluation</b>
1	< 25	1000	PASS
2	< 25	1000	PASS
3	< 25	1000	PASS

Controlled Parameters: Cr+6 content  
Report Limiting for Plastic : 25,00 mg/kg  
Limit value for Cr+6 0.1 % (1000 ppm)  
Measurement Uncertainty : ± % 10,9

Analysis by Ultraviolet-Visible Spectroscopy (UV-VIS spectrophotometer) device.

**\*Flame Retardants (PBBs/PBDEs)**

Test Method	IEC 62321-6:2015		
Test Start Date :	25.01.2023	Test Finish Date :	30.01.2023
Test Parts	Result (mg/kg)	Limit (mg/kg)	Evaluation
1	< 10	1000	PASS
2	< 10	1000	PASS
3	< 10	1000	PASS

## Controlled Parameters:

Polybrominated Biphenyls (PBB)  
Monobromobiphenyl (MonoBB)  
Dibromobiphenyl (DiBB)  
Tribromobiphenyl (TriBB)  
Tetrabromobiphenyl (TetraBB)  
Pentabromobiphenyl (PentaBB)  
Hexabromobiphenyl (HexaBB)  
Heptabromobiphenyl (HeptaBB)  
Octabromobiphenyl (OctaBB)  
Nonabromobiphenyl (NonaBB)  
Decabromobiphenyl (DecaBB)

Polybrominated Diphenyl Ethers (PBDE)  
Monobromodiphenyl Ether (MonoBDE)  
Dibromodiphenyl Ether (DiBDE)  
Tribromodiphenyl Ether (TriBDE)  
Tetrabromodiphenyl Ether (TetraBDE)  
Pentabromodiphenyl Ether (PentaBDE)  
Hexabromodiphenyl Ether (HexaBDE)  
Heptabromodiphenyl Ether (HeptaBDE)  
Octabromodiphenyl Ether (OctaBDE)  
Nonabromodiphenyl Ether (NonaBDE)  
Decabromodiphenyl Ether (DecaBDE)

Report Limiting : 10 mg/kg  
Limit value for total (PBBs/PBDEs) 0.1 % (1000 ppm)  
Measurement Uncertainty : ± % 11,2

Analysis with Gas Chromatography Mass Spectroscopy (GC-MS) device.

**\*Phthalates**

Test Method	IEC 62321-8:2017		
Test Start Date :	25.01.2023	Test Finish Date :	30.01.2023
Test Parts	Result (mg/kg)	Limit (mg/kg)	Evaluation
1	< 50	1000	PASS
2	< 50	1000	PASS
3	< 50	1000	PASS

## Controlled Parameters:

Dibutylphthalate (DBP) (CAS No : 84-74-2)  
Butylbenzyl phthalate (BBP) (CAS No : 85-68-7)  
Di-(2-ethylhexyl)-phthalate (DEHP) (CAS No : 117-81-7)  
Di-iso-butyl phthalate (DIBP) (CAS No : 84-69-5)

Report Limiting : 50 mg/kg  
Limit value for Phthalates 0.1 % (1000 ppm)  
Measurement Uncertainty : ± % 15,1

Analysis with Gas Chromatography Mass Spectroscopy (GC-MS) device.

**\* End of Report \***