

TEST REPORT

Page 1 of 6

REPORT NUMBER : TURT190224925
APPLICANT NAME : Sistem Alüminyum San.ve Tic. A.Ş.
ADDRESS : Ergene 1053 Vakıflar OSB D100 Cd. no:13/1 Ergene/Tekirdağ
Tel:0282 693 27 27Ergene Tekirdağ / TURKEY
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Attention : Yavuz Alaşalvar (yavuz.alasalvar@sistemaluminum.com.tr)
SAMPLE DESCRIPTION : See attachment
DATE IN : 11 December ,2019 (13:59:00)
DATE OUT : 16 December ,2019
COUNTRY OF ORIGIN : TURKEY
REQUEST. Rohs Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU
RESULTS: See attachment

| PART | DESCRIPTION | CONCLUSION |
|----------|--------------------------------|------------|
| Sample 1 | Anthracite metal panel (Dyed) | Pass |
| Sample 2 | Silvery metal panel (Pres) | Pass |
| Sample 3 | Silvery metal panel (Anodized) | Pass |

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Merve AYDOGAN
Customer Care Executive

Zeynep AKIN
Chemical Laboratory Manager

TEST REPORT

16 December ,2019

REPORT : TURT190224925

Page 2 of 6

(A) TEST RESULT SUMMARY ACCORDING TO IEC 62321

Electrotechnical Products-Determination of Levels of Six Regulated Substances

| TESTING ITEM | RESULT | | |
|--|----------|----------|----------|
| | Sample 1 | Sample 2 | Sample 3 |
| | Part | Part | Part |
| Cadmium (Cd) Content | ND | ND | ND |
| Chromium VI (Cr+6) Content (ppm) (for non- metal) | NA | NA | NA |
| Chromium VI (Cr+6) Content (µg/cm ²) (for metal) | ND | ND | ND |
| Lead (Pb) Content | 40 ppm | 37 ppm | 33 ppm |
| Mercury (Hg) Content | ND | ND | ND |
| Flame Retardants | | | |
| Polybrominated Biphenyls (PBB) | NA | NA | NA |
| Monobromobiphenyl (MonoBB) | NA | NA | NA |
| Dibromobiphenyl (DiBB) | NA | NA | NA |
| Tribromobiphenyl (TriBB) | NA | NA | NA |
| Tetrabromobiphenyl (TetraBB) | NA | NA | NA |
| Pentabromobiphenyl (PentaBB) | NA | NA | NA |
| Hexabromobiphenyl (HexaBB) | NA | NA | NA |
| Heptabromobiphenyl (HeptaBB) | NA | NA | NA |
| Octabromobiphenyl (OctaBB) | NA | NA | NA |
| Nonabromobiphenyl (NonaBB) | NA | NA | NA |
| Decabromobiphenyl (DecaBB) | NA | NA | NA |
| Polybrominated Diphenyl Ethers (PBDE) | NA | NA | NA |
| Monobromodiphenyl Ether (MonoBDE) | NA | NA | NA |
| Dibromodiphenyl Ether (DiBDE) | NA | NA | NA |
| Tribromodiphenyl Ether (TriBDE) | NA | NA | NA |
| Tetrabromodiphenyl Ether (TetraBDE) | NA | NA | NA |
| Pentabromodiphenyl Ether (PentaBDE) | NA | NA | NA |
| Hexabromodiphenyl Ether (HexaBDE) | NA | NA | NA |
| Heptabromodiphenyl Ether (HeptaBDE) | NA | NA | NA |
| Octabromodiphenyl Ether (OctaBDE) | NA | NA | NA |
| Nonabromodiphenyl Ether (NonaBDE) | NA | NA | NA |
| Decabromodiphenyl Ether (DecaBDE) | NA | NA | NA |

Remarks : ppm=Parts per million based on dry weight of sample
 µg/cm²=Microgram per square centimetre
 mg/kg with 50 cm²=Milligram per kilogram with 50 square centimetre
 ND =Not detected NA =Not applicable NR =Not requested

TEST REPORT

16 December ,2019

REPORT : TURT190224925

Page 3 of 6

| TESTING ITEM | RESULT | | |
|--|----------|----------|----------|
| | Sample 1 | Sample 2 | Sample 3 |
| | Part | Part | Part |
| Phthalates | | | |
| Dibutyl phthalate (DBP) (84-74-2) | NA | NA | NA |
| Di(2-ethylhexyl) phthalate (DEHP) (117-81-7) | NA | NA | NA |
| Benzyl butyl phthalate (BBP) (85-68-7) | NA | NA | NA |
| Diisobutyl Phthalate (DIBP) (84-69-5) | NA | NA | NA |

Remarks : ppm=Parts per million based on dry weight of sample
µg/cm²=Microgram per square centimetre
mg/kg with 50 cm²=Milligram per kilogram with 50 square centimetre
ND =Not detected NA =Not applicable NR =Not requested

TEST REPORT

16 December ,2019

REPORT : TURT190224925

Page 4 of 6

(B) REQUIREMENT:

| SUBSTANCE | LIMITS | |
|---|---|-------------------------------|
| Cadmium (Cd) Content | 0.01 % (100 ppm) | |
| Chromium VI (Cr+6) Content (ppm) (for non metal) | 0.1 % (1000 ppm) | |
| Chromium VI (Cr+6) Content ($\mu\text{g}/\text{cm}^2$) (for metal) | <u>Colorimetric result</u> | <u>Qualitative Result</u> |
| | < 0.10 $\mu\text{g}/\text{cm}^2$ | Negative |
| | $\geq 0.10 \mu\text{g}/\text{cm}^2$ and $\leq 0.13 \mu\text{g}/\text{cm}^2$ | Inconclusive |
| | > 0.13 $\mu\text{g}/\text{cm}^2$ | Positive |
| Lead (Pb) Content | 0.1 % (1000 ppm) | |
| Mercury (Hg) Content | 0.1 % (1000 ppm) | |
| Flame Retardants | 0.1 % (1000 ppm) | |
| Dibutyl Phthalate (DBP) | 0.1 % (1000 ppm) | |
| Diethyl Hexyl Phthalate (DEHP) | 0.1 % (1000 ppm) | |
| Benzyl Butyl Phthalate (BBP) | 0.1 % (1000 ppm) | |
| Diisobutyl Phthalate (DIBP) | 0.1 % (1000 ppm) | |

TEST REPORT

16 December ,2019

REPORT : TURT190224925

Page 5 of 6

(C) TEST METHOD :

| Testing Item | Testing Method | Reporting Limit |
|---------------------------------------|--|--|
| Cadmium (Cd)Content | With reference to IEC 62321-5:2013,by microwave or acid digestion and determined by ICP-OES | Plastic : 2.5 ppm, Metal : 5 ppm, Ceramic : 1.25 ppm |
| Lead (Pb)Content | With reference to IEC 62321-5:2013,by microwave or acid digestion and determined by ICP-OES | Plastic : 5 ppm, Metal : 10 ppm, Ceramic : 2.5 ppm |
| Mercury (Hg)Content | With reference to IEC 62321-4:2017,by microwave or acid digestion and determined by ICP-OES | Plastic : 5 ppm, Metal : 10 ppm, Ceramic : 2.5 ppm |
| Chromium VI (Cr6+) (For non-metal) | With reference to IEC 62321-7-2:2017,by alkaline digestion and determined by UV-VIS spectrophotometer | Plastic : 25 ppm (PVC based) /8.33 ppm (other), Ceramic : 8.33 ppm |
| Chromium VI (Cr6+) (For metal) | With reference to IEC 62321-7-1:2015 ,by boiling water extraction and determined by UV-VIS spectrophotometer | 0.1 mg/kg with 50 cm ² (IN TESTING SOLUTION) |
| PBBs/PBDEs | With reference to IEC 62321-6:2015,by solvent extraction and determined by GC/MS and HPLC | 5 ppm |
| Phthalates | With reference to IEC 62321-8 (111/321/CD), by solvent extraction and determined by GC-MS. | 50 ppm |

TEST REPORT
REPORT : TURT190224925

16 December , 2019
Page 6 of 6

Sample 1



Sample 2



Sample 3



END OF TEST REPORT