

TEST REPORT

Page 1 of 7

REPORT NUMBER : TURT170212524
APPLICANT NAME : Elsan Hammadde Sanayi A.Ş
ADDRESS : Manisa O.S.B 1.Kısım Keçiliköy OSB Mah. 50.Yıl Cad. No:21
Yunusemre Manisa / TURKEY
TEL:0236 233 34 96 /161 FAX:0236 233 06 52
Attention : Emel Yılmaz (emelyilmaz@elsan.com.tr)
SAMPLE DESCRIPTION : See attachment
DATE IN : 10 November ,2017 (12:46:00)
DATE OUT : 22 November ,2017
MANUFACTURER'S NAME : ELSAN HAMMADDE SANAYİ A.Ş.
REQUEST. RoHS Test was performed according to 2011/65/EU Directive.
RESULTS: See attachment



Volkan ALBAYRAK
Customer Care Executive



Zeynep AKIN
Chemical Laboratory Manager

Intertek Test Hizmetleri A.S.
Merkez Mahallesi Sanayi Cad. No.23 Altındag Plaza Yenibosna-34197 /ISTANBUL
Phone : +90 212 496 46 46 Fax: +90 212 452 80 55
e-mail : intertekg.turkiye@intertek.com
<http://www.intertek-turkey.com>



170212524

PART	DESCRIPTION	CONCLUSION
Sample 1	CW614N - AA 24mm Free Cutting Brass Rod	Pass
Sample 2	CW602N - Ø22 mm DZR Brass Rod	Pass
Sample 3	CW510L - Ø25 mm Muntz-Low Leaded Brass Rod	Pass
Sample 4	CB755S - Brass Ingot	Pass
Sample 5	CW617N - Ø22 mm Forging Brass Rod	Pass

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TEST REPORT

22 November ,2017

REPORT : TURT170212524

Page 3 of 7

(A) TEST RESULT SUMMARY ACCORDING TO IEC 62321

Electrotechnical Products-Determination of Levels of Six Regulated Substances

TESTING ITEM	RESULT	
	Sample 1	Sample 2
	Part	Part
Cadmium (Cd) Content	ND	ND
Chromium VI (Cr+6) Content (ppm) (for non- metal)	NA	NA
Chromium VI (Cr+6) Content (µg/cm ²) (for metal)	ND	ND
Lead (Pb) Content	26600 ppm*	14100 ppm*
Mercury (Hg) Content	ND	ND
Flame Retardants		
Polybrominated Biphenyls (PBB)	NA	NA
Monobromobiphenyl (MonoBB)	NA	NA
Dibromobiphenyl (DiBB)	NA	NA
Tribromobiphenyl (TriBB)	NA	NA
Tetrabromobiphenyl (TetraBB)	NA	NA
Pentabromobiphenyl (PentaBB)	NA	NA
Hexabromobiphenyl (HexaBB)	NA	NA
Heptabromobiphenyl (HeptaBB)	NA	NA
Octabromobiphenyl (OctaBB)	NA	NA
Nonabromobiphenyl (NonaBB)	NA	NA
Decabromobiphenyl (DecaBB)	NA	NA
Polybrominated Diphenyl Ethers (PBDE)	NA	NA
Monobromodiphenyl Ether (MonoBDE)	NA	NA
Dibromodiphenyl Ether (DiBDE)	NA	NA
Tribromodiphenyl Ether (TriBDE)	NA	NA
Tetrabromodiphenyl Ether (TetraBDE)	NA	NA
Pentabromodiphenyl Ether (PentaBDE)	NA	NA
Hexabromodiphenyl Ether (HexaBDE)	NA	NA
Heptabromodiphenyl Ether (HeptaBDE)	NA	NA
Octabromodiphenyl Ether (OctaBDE)	NA	NA
Nonabromodiphenyl Ether (NonaBDE)	NA	NA
Decabromodiphenyl Ether (DecaBDE)	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
Estimated Total Uncertainty=((Heavy Metal: ±7% , PBB/PBDE: ±6%))

* Lead RoHS limit for brass item is 40000 ppm.

TEST REPORT

22 November ,2017

REPORT : TURT170212524

Page 4 of 7

TESTING ITEM	RESULT	
	Sample 3	Sample 4
	Part	Part
Cadmium (Cd) Content	ND	ND
Chromium VI (Cr+6) Content (ppm) (for non- metal)	NA	NA
Chromium VI (Cr+6) Content (µg/cm ²) (for metal)	ND	ND
Lead (Pb) Content	890 ppm*	12900 ppm*
Mercury (Hg) Content	ND	ND
Flame Retardants		
Polybrominated Biphenyls (PBB)	NA	NA
Monobromobiphenyl (MonoBB)	NA	NA
Dibromobiphenyl (DiBB)	NA	NA
Tribromobiphenyl (TriBB)	NA	NA
Tetrabromobiphenyl (TetraBB)	NA	NA
Pentabromobiphenyl (PentaBB)	NA	NA
Hexabromobiphenyl (HexaBB)	NA	NA
Heptabromobiphenyl (HeptaBB)	NA	NA
Octabromobiphenyl (OctaBB)	NA	NA
Nonabromobiphenyl (NonaBB)	NA	NA
Decabromobiphenyl (DecaBB)	NA	NA
Polybrominated Diphenyl Ethers (PBDE)	NA	NA
Monobromodiphenyl Ether (MonoBDE)	NA	NA
Dibromodiphenyl Ether (DiBDE)	NA	NA
Tribromodiphenyl Ether (TriBDE)	NA	NA
Tetrabromodiphenyl Ether (TetraBDE)	NA	NA
Pentabromodiphenyl Ether (PentaBDE)	NA	NA
Hexabromodiphenyl Ether (HexaBDE)	NA	NA
Heptabromodiphenyl Ether (HeptaBDE)	NA	NA
Octabromodiphenyl Ether (OctaBDE)	NA	NA
Nonabromodiphenyl Ether (NonaBDE)	NA	NA
Decabromodiphenyl Ether (DecaBDE)	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
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Estimated Total Uncertainty= ((Heavy Metal: ±7% , PBB/PBDE: ±6%))

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TEST REPORT

22 November ,2017

REPORT : TURT170212524

Page 5 of 7

TESTING ITEM	RESULT
	Sample 5
	Part
Cadmium (Cd) Content	ND
Chromium VI (Cr+6) Content (ppm) (for non- metal)	NA
Chromium VI (Cr+6) Content (µg/cm ²) (for metal)	ND
Lead (Pb) Content	16600 ppm*
Mercury (Hg) Content	ND
Flame Retardants	
Polybrominated Biphenyls (PBB)	NA
Monobromobiphenyl (MonoBB)	NA
Dibromobiphenyl (DiBB)	NA
Tribromobiphenyl (TriBB)	NA
Tetrabromobiphenyl (TetraBB)	NA
Pentabromobiphenyl (PentaBB)	NA
Hexabromobiphenyl (HexaBB)	NA
Heptabromobiphenyl (HeptaBB)	NA
Octabromobiphenyl (OctaBB)	NA
Nonabromobiphenyl (NonaBB)	NA
Decabromobiphenyl (DecaBB)	NA
Polybrominated Diphenyl Ethers (PBDE)	NA
Monobromodiphenyl Ether (MonoBDE)	NA
Dibromodiphenyl Ether (DiBDE)	NA
Tribromodiphenyl Ether (TriBDE)	NA
Tetrabromodiphenyl Ether (TetraBDE)	NA
Pentabromodiphenyl Ether (PentaBDE)	NA
Hexabromodiphenyl Ether (HexaBDE)	NA
Heptabromodiphenyl Ether (HeptaBDE)	NA
Octabromodiphenyl Ether (OctaBDE)	NA
Nonabromodiphenyl Ether (NonaBDE)	NA
Decabromodiphenyl Ether (DecaBDE)	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
Estimated Total Uncertainty= ((Heavy Metal: ±7% , PBB/PBDE: ±6%))

* Lead RoHS limit for brass item is 40000 ppm.

TEST REPORT

22 November ,2017

REPORT : TURT170212524

Page 6 of 7

(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 (µg/cm ²) (for metal)	<u>Colorimetric result</u>	<u>Qualitative Result</u>
	< 0.10 µg/cm ²	Negative
	≥ 0.10 µg/cm ² and ≤ 0.13 µg/cm ²	Inconclusive
	> 0.13 µg/cm ²	Positive
Lead (Pb) Content	0.1 % (1000 ppm)	
Mercury (Hg) Content	0.1 % (1000 ppm)	
Flame Retardants	0.1 % (1000 ppm)	

(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	2 ppm
Lead (Pb) Content	With reference to IEC 62321-5:2013, by microwave or acid digestion and determined by ICP-OES	2 ppm
Mercury (Hg) Content	With reference to IEC 62321-4:2013, by microwave or acid digestion and determined by ICP-OES	2 ppm
Chromium VI (Cr6+) (For non-metal)	With reference to IEC 62321:2008, by alkaline digestion and determined by UV-VIS spectrophotometer	1 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

R E S U L T S
REPORT : TURT170212524

22 November , 2017
Page 7 of 7

Sample 1



Sample 2



Sample 3



Sample 4



Sample 5



END OF TEST REPORT