

TEST REPORT

Page 1 of 8

REPORT NUMBER : TURT210006330
APPLICANT NAME : Ravaber Yapı Ürünleri San. ve Tic.A.Ş.
ADDRESS : O.S.B. 20.Cad.No:54Melikgazi Kayseri / TURKEY
TEL:0352 322 20 15 FAX:0352 322 20 17
Attention : Serdar Aktürk (serdar.akturk@ravaber.com)
SAMPLE DESCRIPTION : See attachment
DATE IN : 15 January ,2021 (14:12:00)
DATE OUT : 26 January ,2021
ORDER NO : 4700024244
REQUEST. Rohs Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Kubra AKGUN
Customer Care Executive

Zeynep AKIN
Chemical Laboratory Manager

Intertek Test Hizmetleri A.S.
Merkez Mahallesi Sanayi Cad. No.23 Altindag 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>

210006330

PART	DESCRIPTION	CONCLUSION
Sample 1	Ravatherm Stone Wool - 20 gr	Pass
Sample 2	Ravatherm Stone Wool Black Glass - 20 gr	Pass
Sample 3	Ravatherm Stone Wool - A.F 20 gr	Pass
Sample 4	Ravatherm Ceramic Fiber - 20 gr	Pass
Sample 5	Ravatherm Ceramic Fiber - A.F 20 gr	Pass

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TEST REPORT

26 January ,2021

REPORT : TURT210006330

Page 3 of 8

(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
Cadmium (Cd) Content	ND	ND	ND
Chromium VI (Cr+6) Content (ppm) (for non- metal)	ND	ND	ND
Chromium VI (Cr+6) Content ($\mu\text{g}/\text{cm}^2$) (for metal)	NA	NA	NA
Lead (Pb) Content	ND	ND	ND
Mercury (Hg) Content	ND	ND	ND
Flame Retardants			
Polybrominated Biphenyls (PBB)	ND	ND	ND
Monobromobiphenyl (MonoBB)	ND	ND	ND
Dibromobiphenyl (DiBB)	ND	ND	ND
Tribromobiphenyl (TriBB)	ND	ND	ND
Tetrabromobiphenyl (TetraBB)	ND	ND	ND
Pentabromobiphenyl (PentaBB)	ND	ND	ND
Hexabromobiphenyl (HexaBB)	ND	ND	ND
Heptabromobiphenyl (HeptaBB)	ND	ND	ND
Octabromobiphenyl (OctaBB)	ND	ND	ND
Nonabromobiphenyl (NonaBB)	ND	ND	ND
Decabromobiphenyl (DecaBB)	ND	ND	ND
Polybrominated Diphenyl Ethers (PBDE)	ND	ND	ND
Monobromodiphenyl Ether (MonoBDE)	ND	ND	ND
Dibromodiphenyl Ether (DiBDE)	ND	ND	ND
Tribromodiphenyl Ether (TriBDE)	ND	ND	ND
Tetrabromodiphenyl Ether (TetraBDE)	ND	ND	ND
Pentabromodiphenyl Ether (PentaBDE)	ND	ND	ND
Hexabromodiphenyl Ether (HexaBDE)	ND	ND	ND
Heptabromodiphenyl Ether (HeptaBDE)	ND	ND	ND
Octabromodiphenyl Ether (OctaBDE)	ND	ND	ND
Nonabromodiphenyl Ether (NonaBDE)	ND	ND	ND
Decabromodiphenyl Ether (DecaBDE)	ND	ND	ND

Remarks : ppm=Parts per million based on dry weight of sample

$\mu\text{g}/\text{cm}^2$ =Microgram per square centimetre

mg/kg with 50 cm^2 =Milligram per kilogram with 50 square centimetre

ND =Not detected NA =Not applicable NR =Not requested

Estimated Total Uncertainty = ((Heavy Metal: $\pm 7\%$, PBB/PBDE: $\pm 6\%$, Phthalates: $\pm 6\%$))

Intertek Test Hizmetleri A.S.

Merkez Mahallesi Sanayi Cad. No.23 Altindag Plaza Yenibosna-34197 /ISTANBUL

Phone : +90 212 496 46 46 Fax: +90 212 452 80 55

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TEST REPORT

26 January ,2021

REPORT : TURT210006330

Page 4 of 8

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

TESTING ITEM	RESULT	
	Sample 4	Sample 5
Cadmium (Cd) Content	ND	ND
Chromium VI (Cr+6) Content (ppm) (for non- metal)	ND	ND
Chromium VI (Cr+6) Content ($\mu\text{g}/\text{cm}^2$) (for metal)	NA	NA
Lead (Pb) Content	ND	ND
Mercury (Hg) Content	ND	ND
Flame Retardants		
Polybrominated Biphenyls (PBB)	ND	ND
Monobromobiphenyl (MonoBB)	ND	ND
Dibromobiphenyl (DiBB)	ND	ND
Tribromobiphenyl (TriBB)	ND	ND
Tetrabromobiphenyl (TetraBB)	ND	ND
Pentabromobiphenyl (PentaBB)	ND	ND
Hexabromobiphenyl (HexaBB)	ND	ND
Heptabromobiphenyl (HeptaBB)	ND	ND
Octabromobiphenyl (OctaBB)	ND	ND
Nonabromobiphenyl (NonaBB)	ND	ND
Decabromobiphenyl (DecaBB)	ND	ND
Polybrominated Diphenyl Ethers (PBDE)	ND	ND
Monobromodiphenyl Ether (MonoBDE)	ND	ND

Remarks : ppm=Parts per million based on dry weight of sample

$\mu\text{g}/\text{cm}^2$ =Microgram per square centimetre

mg/kg with 50 cm^2 =Milligram per kilogram with 50 square centimetre

ND =Not detected NA =Not applicable NR =Not requested

Estimated Total Uncertainty = ((Heavy Metal: $\pm 7\%$, PBB/PBDE: $\pm 6\%$, Phthalates: $\pm 6\%$))

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TEST REPORT

26 January ,2021

REPORT : TURT210006330

Page 5 of 8

TESTING ITEM	RESULT	
	Sample 4	Sample 5
Dibromodiphenyl Ether (DiBDE)	ND	ND
Tribromodiphenyl Ether (TriBDE)	ND	ND
Tetrabromodiphenyl Ether (TetraBDE)	ND	ND
Pentabromodiphenyl Ether (PentaBDE)	ND	ND
Hexabromodiphenyl Ether (HexaBDE)	ND	ND
Heptabromodiphenyl Ether (HeptaBDE)	ND	ND
Octabromodiphenyl Ether (OctaBDE)	ND	ND
Nonabromodiphenyl Ether (NonaBDE)	ND	ND
Decabromodiphenyl Ether (DecaBDE)	ND	ND
Phthalates		
Dibutyl phthalate (DBP) (84-74-2)	ND	ND
Di(2-ethylhexyl) phthalate (DEHP) (117-81-7)	ND	ND
Benzyl butyl phthalate (BBP) (85-68-7)	ND	ND
Diisobutyl Phthalate (DIBP) (84-69-5)	ND	ND

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%, Phthalates: ±6%))

TEST REPORT

26 January ,2021

REPORT : TURT210006330

Page 6 of 8

(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

26 January ,2021

REPORT : TURT210006330

Page 7 of 8

(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 : TURT210006330

26 January ,2021
Page 8 of 8

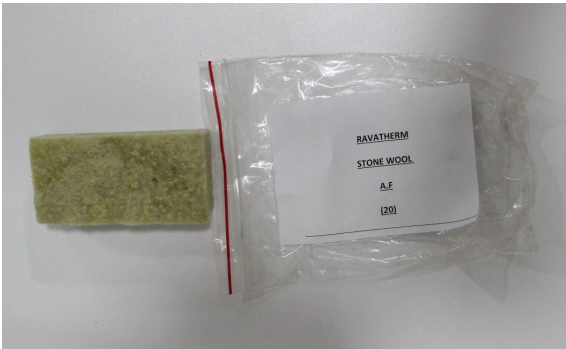
Sample 1



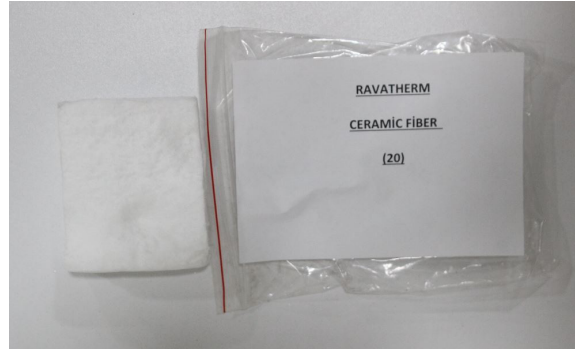
Sample 2



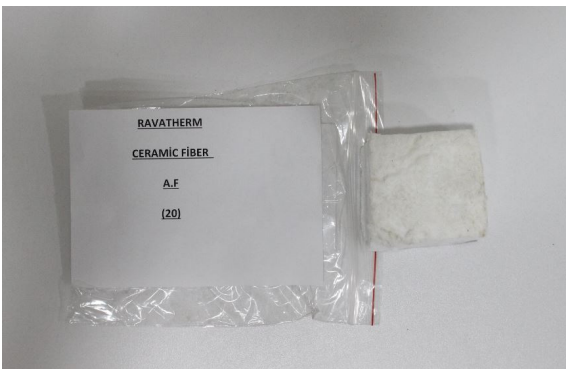
Sample 3



Sample 4



Sample 5



END OF TEST REPORT