TEST REPORT

REPORT NUMBER: 170323003SHF-BP-4

ORIGINAL ISSUE DATE: 2017/4/24

EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai

Plant 7, No. 6958 Daye Road, Fengxian District, Shanghai, China

RENDERED TO

Ambient Building Products
8230 Preston Court Unit C Jessup, MD 20794
United States

PRODUCT EVALUATED

Magnesium Oxide Board

EVALUATION PROPERTY

As requested by the applicant, for details refer to attached pages(s).

Report Template Revision Date: 2016/9/1

Test Report

Report Number: 170323003SHF-BP-4
Report Date: 2017-04-24

Applicant:	**Ambient Building Products**
Applicant Address:	**8230 Preston Court Unit C Jessup, MD 20794 United States**
Attn:	**Tim**

Sample information:

Product:	Magnesium Oxide Board
Model:	/
Specification:	6mm thickness
Sample Quantity:	20 pcs
Sample ID:	S170323003SHF-016~035
Date Received:	2017/3/27
Date Test Conducted:	2017/3/27 ~ 2017/4/24

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170323003SHF-BP-4

Report Date: 2017-04-24

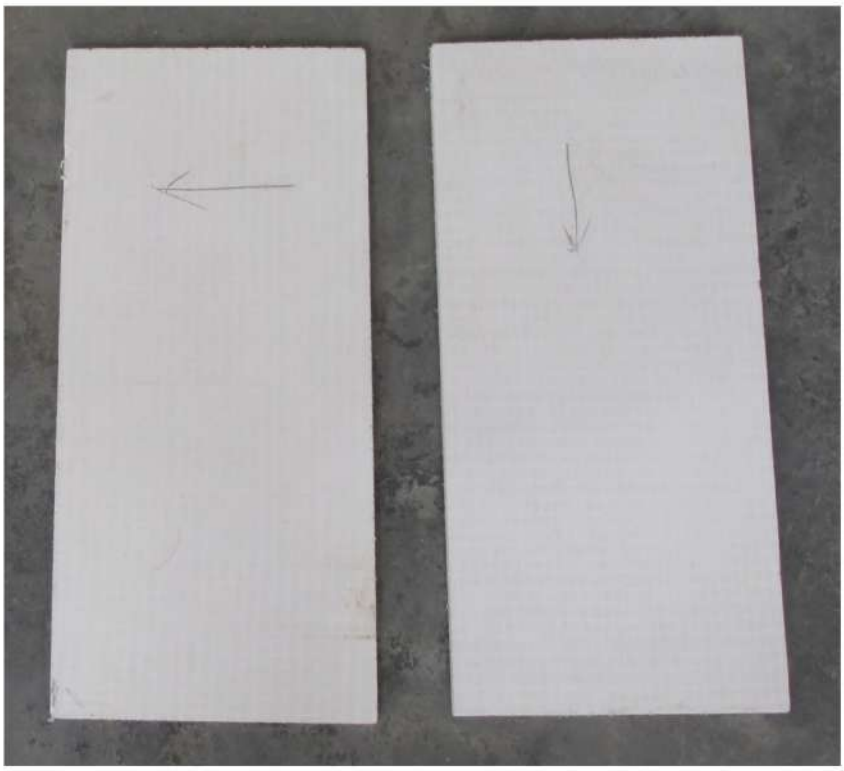
Test Items, Method and Results:

ICC-ES AC 386-2007 Acceptance criteria for fiber-reinforced magnesium-oxide-based sheets				
Test item	Test method	Required	Result	Verdict
Flexural strength	ASTM C1185-08(2016)	⩾4000kPa (both wet and Equilibrium)	Equilibrium: 21200kPa Wet: 16200kPa	Pass

Note:

1. Equilibrium condition: Place specimens for at least four days in a controlled atmosphere of 73 ± 4°F (23 ± 2°C) and 50 ± 5 % relative humidity.
2. Wet condition: Immerse specimens in water at a temperature of 73 ± 7°F (23 ± 4°C) for a period of 48 h

Appendix A: Sample received photo



Approved by:

Name: Sun Sun	Name: Jodie Zhou	Name: Mason Wang
Title: Approver	Title: Reviewer	Title: Project Engineer

INTERTEK TESTING SERVICES LTD., SHANGHAI 天祥质量技术服务有限公司 检验检测专用章

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The End of Report

TEST REPORT

REPORT NUMBER: 170323003SHF-BP-6

ORIGINAL ISSUE DATE: 2017/4/24

EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai

Plant 7, No. 6958 Daye Road, Fengxian District, Shanghai, China

RENDERED TO

Ambient Building Products
8230 Preston Court Unit C Jessup, MD 20794
United States

PRODUCT EVALUATED

Magnesium Oxide Board

EVALUATION PROPERTY

As requested by the applicant, for details refer to attached pages(s).

Report Template Revision Date: 2016/9/1

Test Report

Report Number: 170323003SHF-BP-6
Report Date: 2017-04-24

Applicant:	**Ambient Building Products**
Applicant Address:	**8230 Preston Court Unit C Jessup, MD 20794 United States**
Attn:	**Tim**

Sample information:

Product:	Magnesium Oxide Board
Model:	/
Specification:	12mm thickness
Sample Quantity:	5 pcs
Sample ID:	S170323003SHF-038~042
Date Received:	2017/3/21
Date Test Conducted:	2017/3/23 ~ 2017/4/24

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170323003SHF-BP-6

Report Date: 2017-04-24

Test Items, Method and Results:

ICC-ES AC 386-2007 Acceptance criteria for fiber-reinforced magnesium-oxide-based sheets				
Test item	Test method	Required	Result	Verdict
Freeze/thaw cycling	ASTM C666-15 Procedure B	No disintegration following 25 cycles	No disintegration following 25 cycles	Pass

Note:

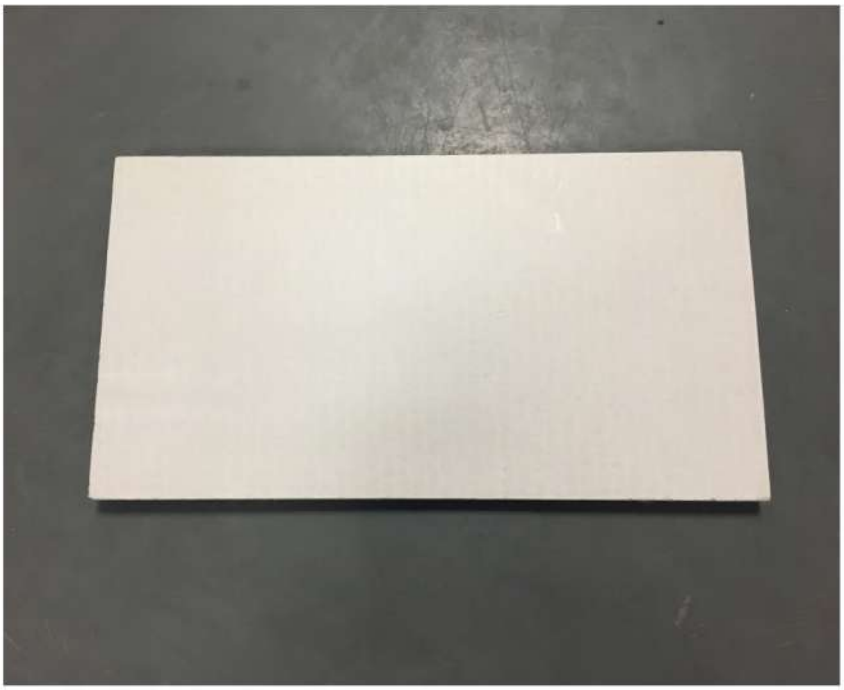
1. Freeze/thaw condition: The each cycle consists of alternately lowering the temperature of the specimens from
40 to 0 °F [4 to -18 °C] and raising it from 0 to 40 °F [-18 to 4 °C] in not less than 2 nor more than 5 h.

Test Report

Report Number: 170323003SHF-BP-6

Report Date: 2017-04-24

Appendix A: Sample received photo



Approved by:

Name: Sun Sun	Name: Jodie Zhou	Name: Mason Wang
Title: Approver	Title: Reviewer	Title: Project Engineer

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The End of Report

Intertek Testing Services Ltd., Shanghai

No.7 Building, No. 6958 Daye Road, Fengxian District, Shanghai

Tel: 021-61136116 Fax: 021-61189921 Website: www.intertek.com

Technický a zkušební ústav stavební Praha, s. p.,
odštěpný závod Zkušební ústav lehkého průmyslu
Čechova 59, 370 65 České Budějovice

Zkušební laboratoř 1018.9
Akreditována Českým institutem pro akreditaci, o.p.s. podle ČSN EN ISO/IEC 17025:2005

TEST PROTOCOL

Number: 100-056245
dated: 2016-03-21

Name and address of the customer: Ambient Building Products
8230 Preston Court Unit C
Jessup, MD, 20794 United States

Name and address of the manufacturer: Ambient Building Products
8230 Preston Court Unit C
Jessup, MD, 20794 United States

Product name: **MgO Board**

Test subject and method:

Determination of certain elements migration: - AAS	method No. 100608-01 (EN 71-3 +A1:2014)
Determination of Hg migration: - AMA	method No. 100608-02 (EN 71-3 +A1:2014)

Date of sample receipt for testing: 2016-02-26

Tests were carried out: **from:** 2016-02-26 **to:** 2016-03-21

Test was carried out by the laboratory: Analytic Chemistry Laboratory
Name and function of the person entitled to sign this Test Protocol:

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s. p.
akreditovaná zkušební laboratoř č. 1018.9
Odštěpný závod - ZÚLP České Budějovice
-2-

Libuše Pražáková, M.Sc.
Technical Head of Laboratory

ilac-MRA
L 1018.9

Description and identification of the sample: MgO Board

Devices used: AAS PU 9400, AAS UNICAM 939, mercurymeter AMA 254

Test results:

Determination of certain element migration:
By measuring an extract of hydrochloric acid with AAS method using PU 9400 following values of given migration elements were measured. Mercury was determined using mercury-meter AMA 254.

Results are given in mg of element/kg of material:

Sample No.	Sample name	Sb	As	Ba	Cd	Cr	Pb	Hg	Se
150	MgO Board	<5	<1	<5	<0.2	<5	<1	< 0.01	< 5
Extended uncertainty in % rel.		-	-	-	-	-	-	-	-

The uncertainty mentioned is the extended uncertainty calculated by using the extension coefficient equalling 2 and so it corresponds to the significance level by approx. 95%.

Tests carried out by: P. Vodrážka, M.Sc.
Protocol completed by: T. Salivarová

Note:
This Test Protocol can be copied as the whole only, in case of using its part, a written approval is necessary of the testing laboratory.
Test results are valid for the sample tested only and this Test Protocol does not replace any other documents.

- END OF TEST PROTOCOL -

TEST REPORT

REPORT NUMBER: 170323003SHF-BP-5

ORIGINAL ISSUE DATE: 2017/4/24

EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai

Plant 7, No. 6958 Daye Road, Fengxian District, Shanghai, China

RENDERED TO

Ambient Building Products
8230 Preston Court Unit C Jessup, MD 20794
United States

PRODUCT EVALUATED

Magnesium Oxide Board

EVALUATION PROPERTY

As requested by the applicant, for details refer to attached pages(s).

Report Template Revision Date: 2016/9/1

Test Report

Report Number: 170323003SHF-BP-5
Report Date: 2017-04-24

Applicant:	**Ambient Building Products**
Applicant Address:	**8230 Preston Court Unit C Jessup, MD 20794 United States**
Attn:	**Tim**

Sample information:

Product:	Magnesium Oxide Board
Model:	/
Specification:	6mm thickness
Sample Quantity:	2 pcs
Sample ID:	S170323003SHF-036~037
Date Received:	2017/3/27
Date Test Conducted:	2017/3/27 ~ 2017/4/24

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170323003SHF-BP-5

Report Date: 2017-04-24

Test Items, Method and Results:

ICC-ES AC 386-2007 Acceptance criteria for fiber-reinforced magnesium-oxide-based sheets				
Test item	Test method	Required	Result	Verdict
Moisture movement	ASTM C1185-08(2016)	As reported	Linear change in length direction: 0.10% Linear change in width direction: 0.10%	-

Note:

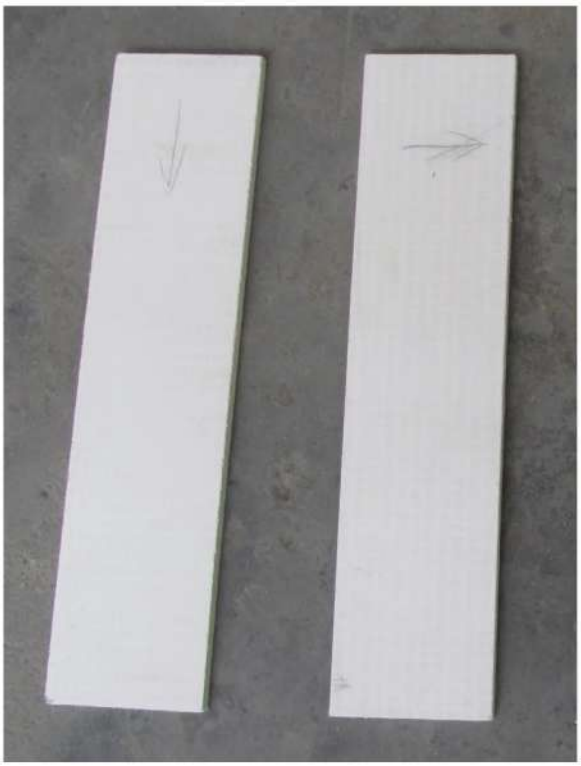
1. The linear change based on a relative humidity change from 30% to 90 % and a temperature of 73 ± 4° F (23 ± 2°C).

Test Report

Report Number: 170323003SHF-BP-5

Report Date: 2017-04-24

Appendix A: Sample received photo



Approved by:

Name: Sun Sun	Name: Jodie Zhou	Name: Mason Wang
Title: Approver	Title: Reviewer	Title: Project Engineer

****

The End of Report

Intertek Testing Services Ltd., Shanghai

No.7 Building, No. 6958 Daye Road, Fengxian District, Shanghai

Tel: 021-61136116 Fax: 021-61189921 Website: www.intertek.com

Textilní zkušební ústav
(Textile Testing Institute)
Václavská 6, 65841 Brno, Česká republika

TESTING LABORATORY

TEST REPORT

AZL 16/ 0222-03

CUSTOMER: **Ambient Building Products**
8230 Preston Court Unit C
Jessup, MD
20794
United States

SAMPLE:
(according to the customer order) **MgO Board**
Colour: white / beige
Thickness: 12 mm
Composition: MgO 52-55%, $MgCl_2$ 25-30%, Fiberglass 1-1,5%, Perlite 5,5-6,5%, wood powder 3-3,5%, $CaCO_3$ 5,5-6%
Mass area: 13 kg/m^2
Mass volume: 1000 kg/m^3

SUBJECT OF ASSESSMENT: Evaluation of the resistance to fungi

CONDITIONS OF APPLICATION OF THE TEST REPORT: Test Report contains result of the tests related to the submitted sample only. Sampling has been done by customer. The Report may not be reproduced in the way other than as a complete set. Reproduction of certain parts of the Report is subject to approval of the test laboratory, which has issued it.

PREPARED BY: L. Švarcová
CHECKED BY: H. Polášková
NUMBER OF PAGES: 14

DATE OF ACCEPTANCE:	DATE OF EXAMINATION:	DATE OF ISSUE:
18.2.2016	23.2. – 17.5.2016	20.5.2016

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PROCEDURE OF ASSESSMENT:

Testing of mould proofness of building products and materials
was determined according to ČSN 72 4310.

Used moulds (cultures delivered from Czech collection of Microorganisms):

CCM 8155	*Aspergillus niger*
CCM 8156	*Chaetomium globosum*
CCM F-348	*Cladosporium cladosporoides*
CCM F-566	*Paecilomyces variotii*
CCM F-161	*Penicillium funiculosum*
CCM F-585	*Aspergillus versicolor*

Spore suspension was prepared according to ČSN 72 4310 in mineral water and drinking water.

Conditions of assessment:
- number of samples: 12 upper side, 12 bottom side, 12 reference material
- measurement of sample: 4x4 cm
- temperature in incubator: (27±1) °C
- influence time: 3 months

Fungal growth on the sample surface shall be evaluated according the following scale:

Intensity of growth	Evaluation
0	no growth apparent under the microscope
1	growth is slight (isolated colonies of moulds)
2	growth is slow (small colonies of moulds or continuous growth which cover less than 25 % of sample surface)
3	growth is intensive (less than 50 % of sample surface)
4	growth is very intensive (less than 75 % of sample surface)
5	growth cover 100 % of sample surface

Results: evaluation of fungal growth on the sample surface by grades 0 - 5 and with corresponding assessment

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TEST RESULTS:

Note: Both results are presented in case of two different results.

Evaluation after 1 month:

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
Czapek-Dox agar with sugar, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
Czapek-Dox agar without sugar, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
without medium, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

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MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
Czapek-Dox agar with sugar, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**1**	growth is slight (isolated colonies of moulds)
		2	growth is slow (small colonies of moulds or continuous growth which cover less than 25 % of sample surface)

MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
Czapek-Dox agar without sugar, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**1**	growth is slight (isolated colonies of moulds)

MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
without medium, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

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Reference material – beech wood Colour: beige Thickness: 1 mm			
Czapek-Dox agar with sugar, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**5**	growth cover 100 % of sample surface
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

Reference material – beech wood Colour: beige Thickness: 1 mm			
Czapek-Dox agar without sugar, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**4**	growth is very intensive (less than 75 % of sample surface)
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

Reference material – beech wood Colour: beige Thickness: 1 mm			
without medium, after 1 month			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**3**	growth is intensive (less than 50 % of sample surface)
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

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Evaluation after 2 months:

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
Czapek-Dox agar with sugar, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**1**	growth is slight (isolated colonies of moulds)

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
Czapek-Dox agar without sugar, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope
		1	growth is slight (isolated colonies of moulds)

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
without medium, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

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MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
Czapek-Dox agar with sugar, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**1**	growth is slight (isolated colonies of moulds)
man-made	ČSN 72 4310	**2**	growth is slow (small colonies of moulds or continuous growth which cover less than 25 % of sample surface)

MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
Czapek-Dox agar without sugar, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**2**	growth is slow (small colonies of moulds or continuous growth which cover less than 25 % of sample surface)
		1	growth is slight (isolated colonies of moulds)

MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
without medium, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

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Reference material – beech wood Colour: beige Thickness: 1 mm			
Czapek-Dox agar with sugar, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**5**	growth cover 100 % of sample surface
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

Reference material – beech wood Colour: beige Thickness: 1 mm			
Czapek-Dox agar without sugar, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**4**	growth is very intensive (less than 75 % of sample surface)
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

Reference material – beech wood Colour: beige Thickness: 1 mm			
without medium, after 2 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**3**	growth is intensive (less than 50 % of sample surface)
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

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Evaluation after 3 months:

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
Czapek-Dox agar with sugar, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**1**	growth is slight (isolated colonies of moulds)

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
Czapek-Dox agar without sugar, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope
		1	growth is slight (isolated colonies of moulds)

MgO Board Colour: white / beige Thickness: 12 mm **upper side**			
without medium, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

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Textilní zkušební ústav

MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
Czapek-Dox agar with sugar, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**2**	growth is slow (small colonies of moulds or continuous growth which cover less than 25 % of sample surface)
man-made	ČSN 72 4310	**2**	growth is slow (small colonies of moulds or continuous growth which cover less than 25 % of sample surface)
		3	growth is intensive (less than 50 % of sample surface)

MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
Czapek-Dox agar without sugar, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**1**	growth is slight (isolated colonies of moulds)
		2	growth is slow (small colonies of moulds or continuous growth which cover less than 25 % of sample surface)

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MgO Board Colour: white / beige Thickness: 12 mm **bottom side**			
without medium, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**0**	no growth apparent under the microscope
man-made	ČSN 72 4310	**0**	no growth apparent under the microscope

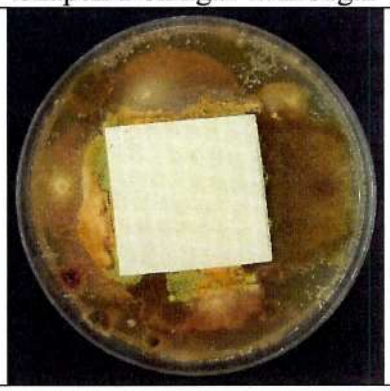
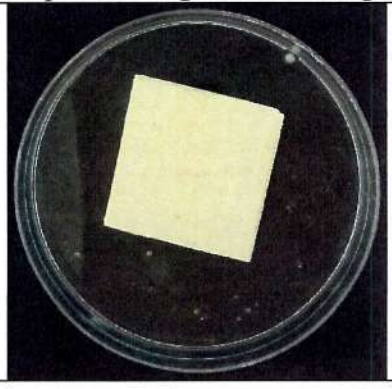
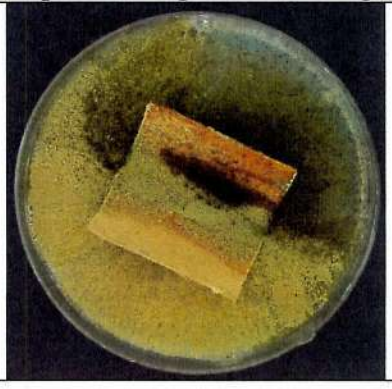
Reference material – beech wood Colour: beige Thickness: 1 mm			
Czapek-Dox agar with sugar, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**5**	growth cover 100 % of sample surface
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

Reference material – beech wood Colour: beige Thickness: 1 mm			
Czapek-Dox agar without sugar, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**5**	growth cover 100 % of sample surface
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

Textilní zkušební ústav

Reference material – beech wood Colour: beige Thickness: 1 mm			
without medium, after 3 months			
Way of contamination	Test method	Intensity of growth	Evaluation
natural	ČSN 72 4310	**4**	growth is very intensive (less than 75 % of sample surface)
man-made	ČSN 72 4310	**5**	growth cover 100 % of sample surface

PHOTODOCUMENTATION:

Evaluation after 3 months	
MgO Board – upper side natural contamination Czapek-Dox agar with sugar	Reference material natural contamination Czapek-Dox agar with sugar
	
MgO Board – upper side natural contamination Czapek-Dox agar without sugar	Reference material natural contamination Czapek-Dox agar without sugar
	

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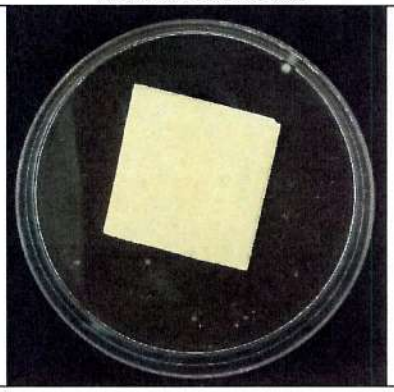
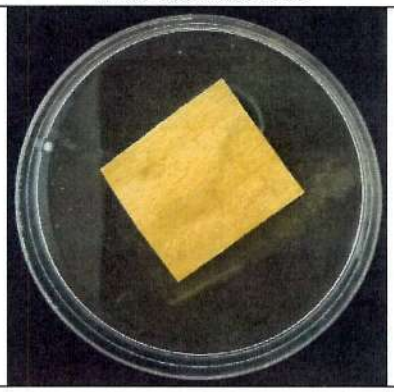
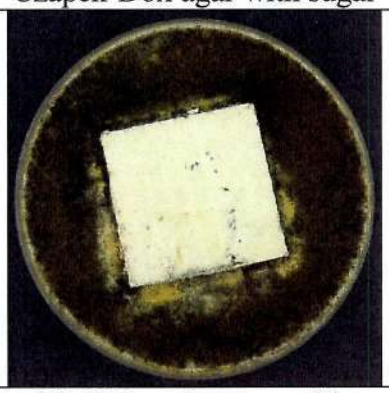
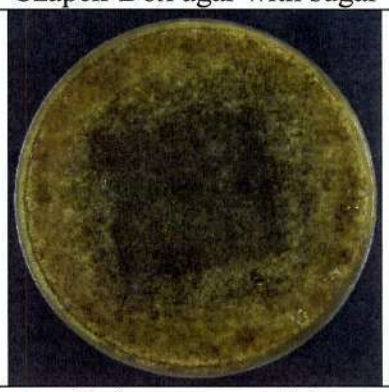
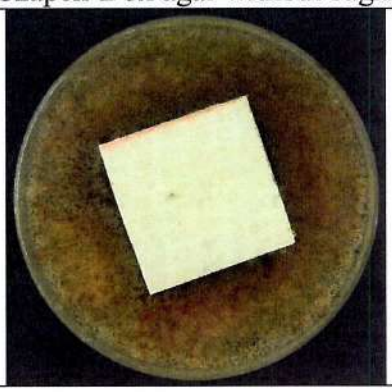
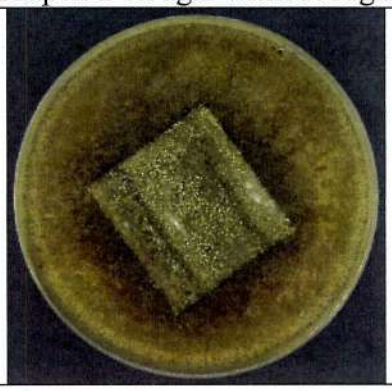
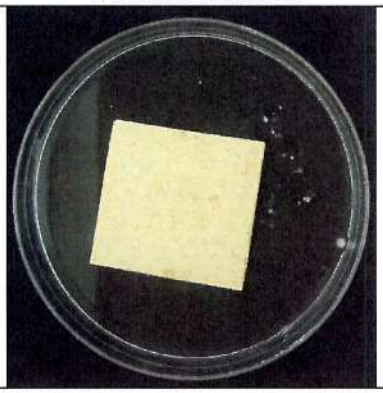
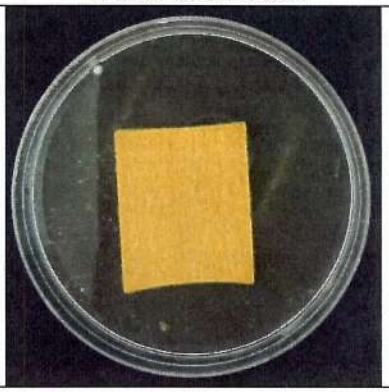
Textilní zkušební ústav

MgO Board – upper side natural contamination without medium	Reference material natural contamination without medium
	
MgO Board – upper side man-made contamination Czapek-Dox agar with sugar	Reference material man-made contamination Czapek-Dox agar with sugar
	
MgO Board – upper side man-made contamination Czapek-Dox agar without sugar	Reference material man-made contamination Czapek-Dox agar without sugar
	

TEXTILNÍ ZKUŠEBNÍ ÚSTAV
Nezávislá zkušební a certifikační organizace
TZÚ
BRNO

Textilní zkušební ústav

MgO Board – upper side man-made contamination Without medium	Reference material man-made contamination Without medium
	

Petr Nasadil
Head of Testing Laboratory

TEXTILNÍ ZKUŠEBNÍ ÚSTAV
Nezávislá zkušební a certifikační organizace
TZÚ
BRNO

TEST REPORT

REPORT NUMBER: 170323003SHF-BP-3

ORIGINAL ISSUE DATE: 2017/4/24

EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai

Plant 7, No. 6958 Daye Road, Fengxian District, Shanghai, China

RENDERED TO

Ambient Building Products
8230 Preston Court Unit C Jessup, MD 20794
United States

PRODUCT EVALUATED

Magnesium Oxide Board

EVALUATION PROPERTY

As requested by the applicant, for details refer to attached pages(s).

Report Template Revision Date: 2016/9/1

Test Report

Report Number: 170323003SHF-BP-3
Report Date: 2017-04-24

Applicant:	**Ambient Building Products**
Applicant Address:	**8230 Preston Court Unit C Jessup, MD 20794 United States**
Attn:	**Tim**

Sample information:

Product:	Magnesium Oxide Board
Model:	/
Specification:	12mm thickness
Sample Quantity:	5 pcs
Sample ID:	S170323003SHF-011~015
Date Received:	2017/3/21
Date Test Conducted:	2017/3/23 ~ 2017/4/24

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170323003SHF-BP-3

Report Date: 2017-04-24

Test Items, Method and Results:

ICC-ES AC 386-2007 Acceptance criteria for fiber-reinforced magnesium-oxide-based sheets				
Test item	Test method	Required	Result	Verdict
Nail-head pull through	ASTM D1037-12	≥ 560N	1817 N	Pass

Note:

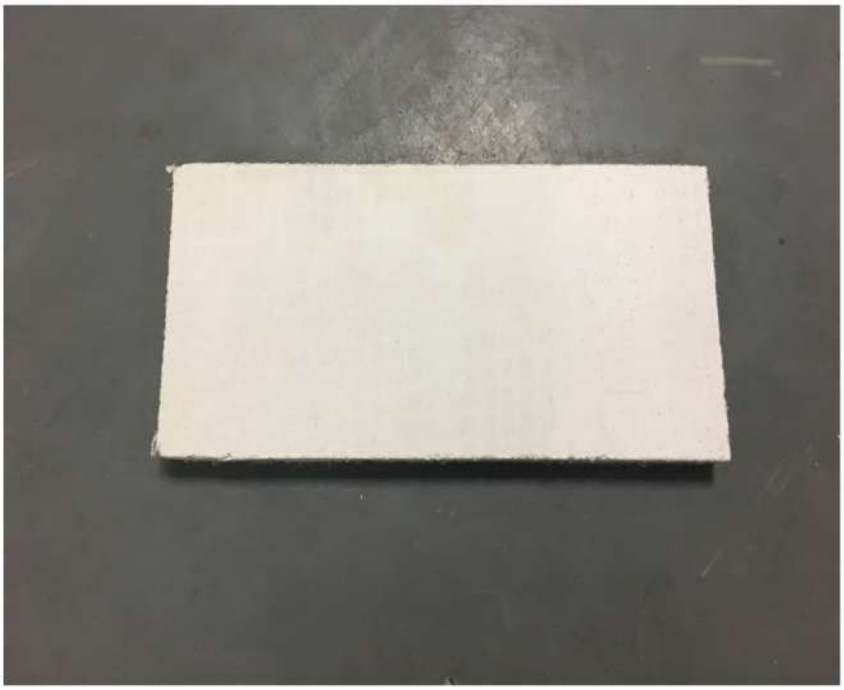
1. The roofing nail with a 10mm diameter head and a shank diameter of 3mm.

Test Report

Report Number: 170323003SHF-BP-3

Report Date: 2017-04-24

Appendix A: Sample received photo



Approved by:

Name: Sun Sun	Name: Jodie Zhou	Name: Mason Wang
Title: Approver	Title: Reviewer	Title: Project Engineer

****

The End of Report

Intertek Testing Services Ltd., Shanghai

No.7 Building, No. 6958 Daye Road, Fengxian District, Shanghai

Tel: 021-61136116 Fax: 021-61189921 Website: www.intertek.com

TEST REPORT

REPORT NUMBER: 170323003SHF-BP-1

ORIGINAL ISSUE DATE: 2017/4/24

EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai

Plant 7, No. 6958 Daye Road, Fengxian District, Shanghai, China

RENDERED TO

Ambient Building Products
8230 Preston Court Unit C Jessup, MD 20794
United States

PRODUCT EVALUATED

Magnesium Oxide Board

EVALUATION PROPERTY

As requested by the applicant, for details refer to attached pages(s).

Report Template Revision Date: 2016/9/1

Test Report

Report Number: 170323003SHF-BP-1
Report Date: 2017-04-24

Applicant:	**Ambient Building Products**
Applicant Address:	**8230 Preston Court Unit C Jessup, MD 20794 United States**
Attn:	**Tim**

Sample information:

Product:	Magnesium Oxide Board
Model:	/
Specification:	6mm thickness
Sample Quantity:	5 pcs
Sample ID:	S170323003SHF-001~005
Date Received:	2017/4/1
Date Test Conducted:	2017/4/1 ~ 2017/4/24

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170323003SHF-BP-1

Report Date: 2017-04-24

Test Items, Method and Results:

ICC-ES AC 386-2007 Acceptance criteria for fiber-reinforced magnesium-oxide-based sheets				
Test Items	Test Method	Test Requirements	Test Results	Verdict
Length and width	ASTM C1185-08(2016)	Tolerance: ±0.5% & max. variation 6mm	Norminal: Length: 2440 mm Width: 1220 mm Tested: Length: 2440 mm Tolerance: 0 % Width: 1220 mm Tolerance: 0 % Max. Variation: 0 mm	Pass
Thickness		Tolerance: ±1.0mm & max. variation ⩽15%	Norminal: 6 mm Tested: 6.05 mm Tolerance: 0.05 mm Max. Variation: 1.6 %	Pass
Squareness		⩽2.6mm/m	1.0 mm/m	Pass
Edge Straightness		⩽2.6mm/m	Length: 0.6 mm/m Width: 0.8 mm/m	Pass

Test Report

Report Number: 170323003SHF-BP-1

Report Date: 2017-04-24

Appendix A: Sample received photo

Approved by:

Name: Sun Sun	Name: Jodie Zhou	Name: Mason Wang
Title: Approver	Title: Reviewer	Title: Project Engineer

****

The End of Report

Intertek Testing Services Ltd., Shanghai

No.7 Building, No. 6958 Daye Road, Fengxian District, Shanghai

Tel: 021-61136116 Fax: 021-61189921 Website: www.intertek.com

TEST REPORT

REPORT NUMBER: 170414005SHF-BP-1

ORIGINAL ISSUE DATE: 2017-05-08

EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai

Plant 7, No. 6958 Daye Road, Fengxian District, Shanghai, China

RENDERED TO

Ambient Building Products
8230 Preston Court Unit C Jessup, MD 20794
United States

PRODUCT EVALUATED

Magnesium Oxide Board

EVALUATION PROPERTY

As requested by the applicant, for details refer to attached pages(s).

Report Template Revision Date: 2016/9/1

Test Report

Report Number: 170414005SHF-BP-1
Report Date: 2017-05-08

Applicant:	**Ambient Building Products**
Applicant Address:	**8230 Preston Court Unit C Jessup, MD 20794 United States**
Attn:	**Tim**

Sample information:

Product:	MgO board
Model:	/
Specification:	18×600×1200mm
Sample Quantity:	18×600×1200mm 6 pieces, 18×600×750mm 4 pieces
Sample ID:	S170414005SHF.001
Date Received:	2017/4/12
Date Test Conducted:	2017/4/14~2017/5/5

Conclusion:

For details refer to attached page(s).

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170414005SHF-BP-1

Report Date: 2017-05-08

Test Items, Method and Results:

Test Item: Transverse load

Test Method: ASTM E2322-03(2015)

Test Sample: MgO board, Sample Specification: 18×600×750 mm

Test Result:

Load (N)	Strength (kg/m^2)	Mean Deflection (mm)	Mean Set (mm)
400	$94.5X10^3$	0	0
800	$189X10^3$	0.74	/
400	$94.5X10^3$	/	0.04
1600	$378X10^3$	2.25	/
400	$94.5X10^3$	/	0.10
2400	$567X10^3$	3.88	/
400	$94.5X10^3$	/	0.22
3200	$756X10^3$	5.87	/
400	$94.5X10^3$	/	0.42
4000	$945X10^3$	10.71	/
400	$94.5X10^3$	/	1.22
4800	$1134X10^3$	17.26	/
400	$94.5X10^3$	/	2.13
5600	$1323X10^3$	23.56	/
400	$94.5X10^3$	/	2.90
6400	$1512X10^3$	30.21	/
400	$94.5X10^3$	/	3.77
7200	$1701X10^3$	/	/

Minimum Max. load for three specimens:	6739 N

Note:

1. The test was conducted with quarter-point load. The strength calculation was required by the applicant.
2. The test span was 600mm offered by applicant.
3. The preload was 400N. Each load was maintained for 5 minutes.

Curves:

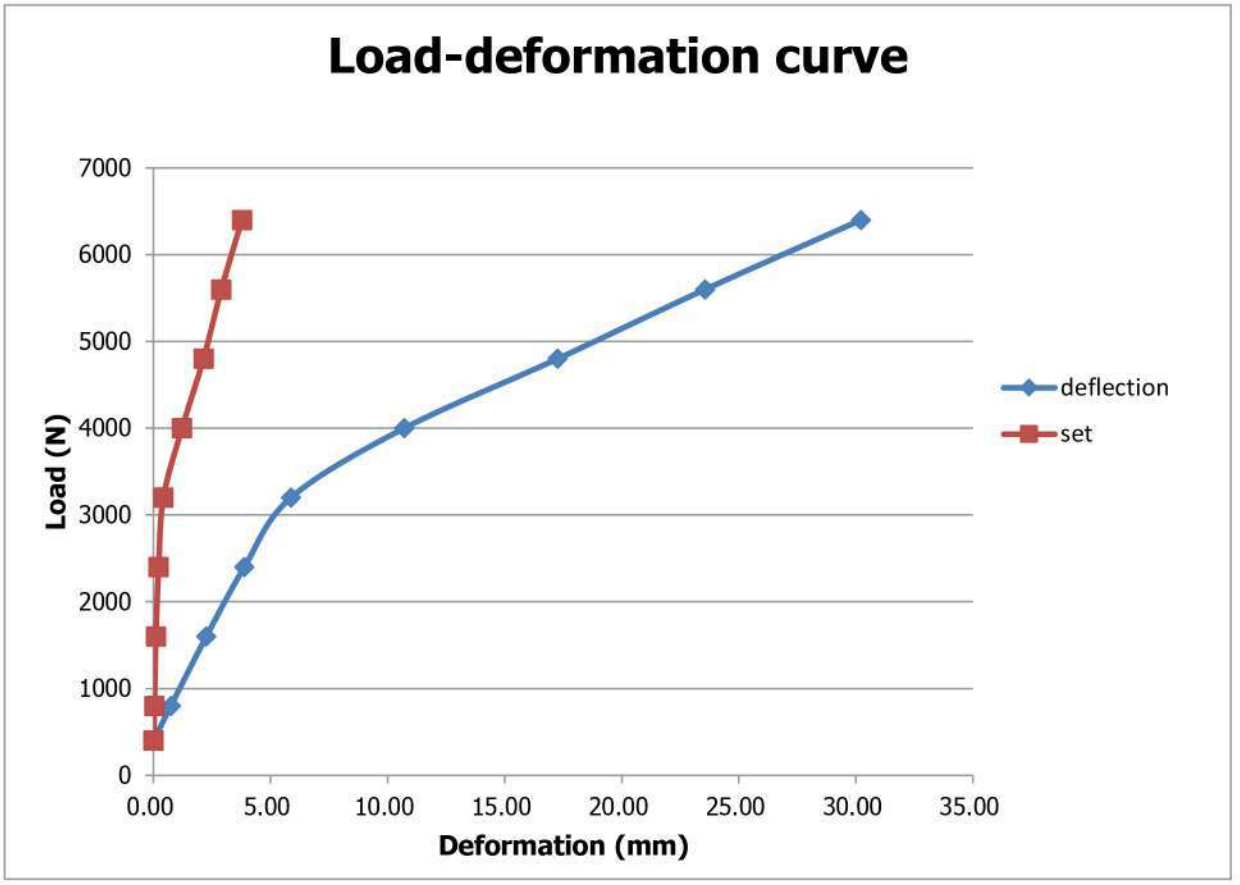


Fig.1 Transverse load curve

Test Items, Method and Results:

Test Item: Concentrated load

Test Method: ASTM E2322-03(2015)

Test Sample: MgO board, Sample Specification: 18×600×1200 mm

Test Result:

Load	Mean Deflection	Mean Depth of Indentation (Set)
(N)	(mm)	(mm)
48	0	0
225	0.14	/
48	/	0.01
750	0.35	/
48	/	0.05
1500	0.51	/
48	/	0.1
2250	0.62	/
48	/	0.16
3000	0.72	/
48	/	0.24
3750	0.84	/
48	/	0.33
4500	0.93	/
48	/	0.45

1. The preload was 48N. Each load was maintained for 5 minutes.

Curves:

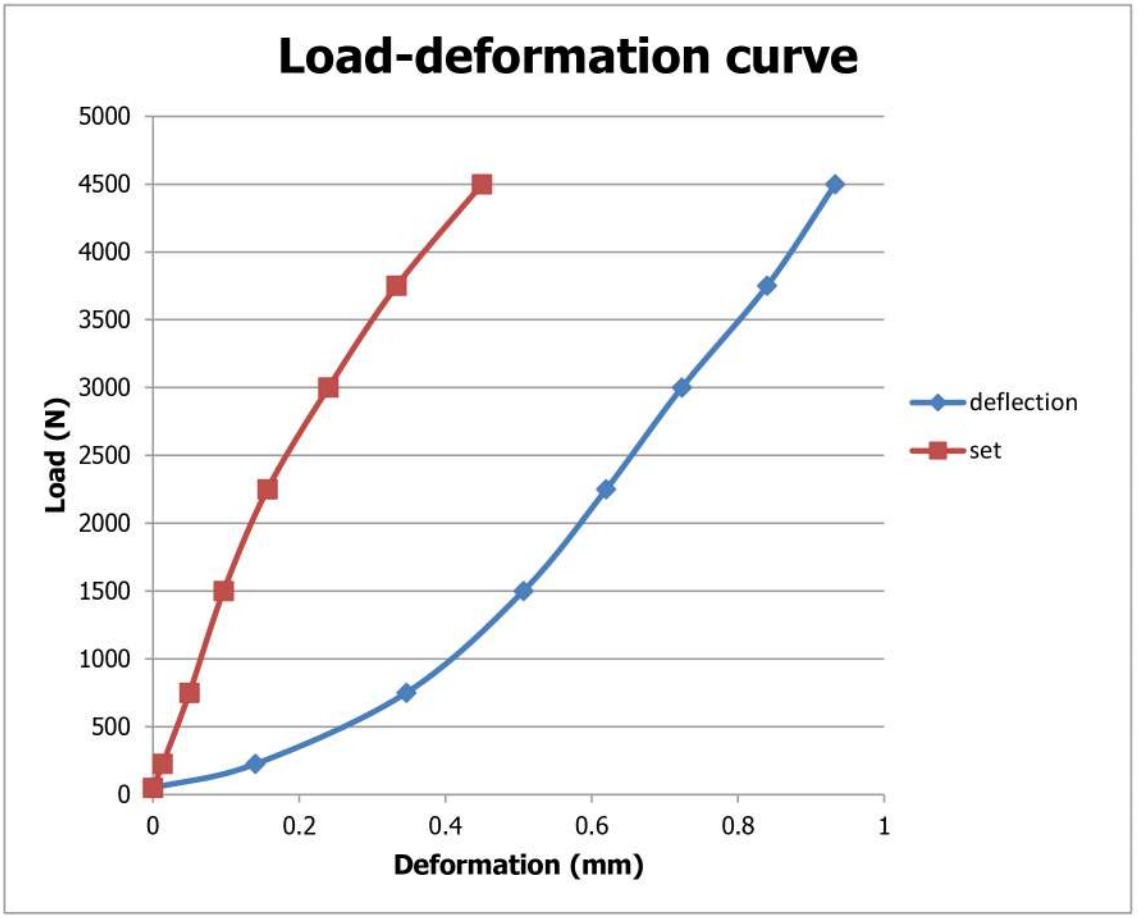


Fig.2 Concentrated load curve

Appendix A: Sample received photo

Approved by:

Name: Sun Sun	Name: Jodie Zhou	Name: Torres Qi
Title: Approver	Title: Reviewer	Title: Project Engineer

****

The End of Report

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague
Akreditovaná zkušební laboratoř, Autorizovaná osoba, Notifikovaná osoba, Oznámený subjekt, Subjekt pro technické posuzování, Certifikační orgán, Inspekční orgán / Accredited Testing Laboratory, Authorised Body, Notified Body, Technical Assessment Body, Certification Body, Inspection Body. Prosecká 811/76a, 190 00 Praha 9
Central Laboratory - Testing Department Brno
Hněvkovského 77, 617 00 Brno
tel.: +420 734 432 093, e-mail: zadelak@tzus.cz, www.tzus.eu

TEST REPORT

Issued by Testing Laboratory

No. 060-043022

on test of water resistance

Ordering Party:	Ambient Building Products
Address:	8230 Preston Court Unit C Jessup, MD, 20794 United States
Manufacturer:	Ambient Building Products
Address:	8230 Preston Court Unit C Jessup, MD, 20794 United States
Test sample:	MgO Board
Order No.:	Z060160003

Number of pages of the Test Report incl. title page: 3 Pages of annexes: -

Prepared by:

Ing. Marek Sopko
test technician - specialist

Approved by:

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA s.p. Centrální laboratoř ZÚS Zkušebna Brno

Ing. Martin Zadělák
head of the Testing Department

Print No.: 1
Number of prints: 2

Brno, on 22.04.2016

Declaration: **1) The test results in this Report relate only to the tested article and they do not substitute any other documents**
2) The Test Report must be copied as a whole only otherwise a written consent of the testing laboratory is needed.

1. Sample data

Evidence Number: VZ060160098
Sample: MgO Board
Sample delivery: 10.2.2016

2. Test methods

EN 12467:2012 Fibre-cement flat sheets – Product specification and test methods
5.5.4 Warm water

Deviations from a standard procedure or the use of non-standardized methods: were not applied.

3. Test results

The tests were carried out on: 16.2. - 19.04.2016
The tests were performed by: Ing. Marek Sopko

Data on the person who performed the test, test conditions and equipment used are listed in the Test Minutes. Apparatuses and measuring instruments that used have been certified pursuant to a valid plan of the testing.

3.1 Durability against warm water

Reference specimens					
Sample No.	Width [mm]	Thickness [g]	F_{max}[N]	Bending strength [N/mm^2]	Average bending strength [N/mm^2]
1	69,3	12,3	597	17,1	16,6
2	68,9	12,5	572	16,0	
3	68,7	12,3	607	17,5	
4	69,2	12,6	613	16,9	
5	69,0	12,4	577	16,3	
6	69,1	12,4	547	15,5	
7	69,1	12,4	588	16,6	
8	68,7	12,4	577	16,5	
9	69,1	12,2	565	16,4	
10	68,9	12,2	578	16,8	

Span between supports l_s = 200 mm

Specimens after 100 freeze-thaw cycles					
Sample No.	Width [mm]	Thickness [g]	F_{max}[N]	Bending strength [N/mm^2]	Average bending strength [N/mm^2]
1	69,5	12,4	216	6,1	5,3
2	69,0	12,3	234	6,7	
3	69,2	12,4	166	4,7	
4	68,9	12,3	179	5,2	
5	69,2	12,5	181	5,0	
6	69,5	12,3	209	6,0	
7	69,1	12,5	101	2,8	
8	68,9	12,3	203	5,9	
9	69,0	12,2	192	5,6	
10	69,1	12,3	176	5,1	

Span between supports l_s = 200 mm

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA s.p. Centrální laboratoř ZÚS Zkušebna Brno

Expression and interpretation of results				
Sample No-	**Bending strength [N/mm^2] – reference specimens**	**Bending strength [N/mm^2] – after freeze-thaw cycling**	**Ratio MR_i**	**Estimation R_L**
1	17,1	6,1	0,36	**0,28**
2	16,0	6,7	0,42	
3	17,5	4,7	0,27	
4	16,9	5,2	0,31	
5	16,3	5,0	0,31	
6	15,5	6,0	0,38	
7	16,6	2,8	0,17	
8	16,5	5,9	0,35	
9	16,4	5,6	0,34	
10	16,8	5,1	0,30	
Average value	**16,6**	**5,3**	**0,32**	
Standard deviation	0,6	1,1	**0,07**	

END OF THE TEST REPORT

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA
Centrální laboratoř
ZÚS
Zkušebna Brno
s.p.

PAVUS, a.s.
AUTHORIZED BODY AO 216
NOTIFIED BODY 1391
EGOLF MEMBER

L 1026

Order No.: Z210160063

FIRE TESTING LABORATORY VESELÍ NAD LUŽNICÍ
Testing Laboratory No. 1026 accredited by ČIA

REACTION TO FIRE TEST REPORT

č. Pr-16-1.068-En

Issued on 2016-04-06

for product

MgO board

Sponsor: **Technický a zkušební ústav stavební Praha s.p.**
Branch Brno
Hněvkovského 228/77
617 00 Brno
Czech Republic

For company: **Ambient Building Products**
8230 Preston Court Unit C
Jessup MD 20794
United States

Test method:

EN ISO 1716
» Reaction to fire tests for products
– Determination of the gross heat combustion (calorific value) «

Report contains: 5 pages
(3 text pages + 2 annexes)

No. of copies: 3
Copy No.: 3

Prosecká 412 / 74, 190 00 Prague 9 – Prosek, mail to: mail@pavus.cz, http:// www.pavus.cz
CIN: 60193174, TIN: CZ60193174, in Commercial Register of the Municipal Court in Prague, section B, inset 2309
Phone: +420 286 019 587, Fax: +420 286 019 590

Branch Veselí nad Lužnicí
Čtvrť J. Hybeše 879, 391 81 Veselí nad Lužnicí, mail to: veseli@pavus.cz
Phone: +420 381 477 418, Fax: +420 381 477 419

1 INTRODUCTION

The gross head of combustion of MgO Board was determined following the order of the company Technický a zkušební ústav stavební Praha s.p., Branch Brno in the Fire Testing Laboratory of PAVUS, a.s. in Veselí nad Lužnicí.

In case of dispute, the Czech version of the text shall prevail.

The tests were prepared, performed and evaluated on the basis of following documents:

[1] EN ISO 1716:2010 Zkoušení reakce výrobků na oheň – Stanovení spalného tepla (kalorické hodnoty)
(Reaction to fire tests for products – Determination of the gross heat of combustion (calorific value))

[2] EN 13238:2010 Zkoušení reakce stavebních výrobků na oheň – Postupy kondicionování a obecná pravidla pro výběr podkladů
(Reaction to fire tests for building products – Conditioning procedures and general rules for selection of substrates)

[3] Technical documentation of the test product (delivered by the sponsor)

For the purposes of this report the definitions stated in [1] and [2] are valid together with following abbreviations:
ČIA Český institut pro akreditaci, o.p.s. (Czech Accreditation Institute)
ATL Accredited Testing Laboratory

2 TEST SUBJECT

Product name:	MgO boards
Product identification:	MgO boards
Manufacturer:	**Ambient Building Products** 8230 Preston Court Unit C Jessup MD 20794 United States
Product thickness:	12 mm
Density:	1,100 kg/m^3
Product composition:	MgO (52.0-55.0) %, $MgCl_2$ (25.0-30.0) %, Fiberglass (1.0-1.5) %, Perlite (5.5-6.5) %, wood powder (3.0-3.5) %, $CaCO_3$ (5.5-6.0) %.
Product use:	interiors and exteriors claddings boards
Date of sample arrival:	2016-02-16
Sampling procedure:	performed by sponsor without ATL participation
Conditioning:	according to [2]

3 TEST PERFORMANCE

Tests were performed according to [1] and [2].

The testing and measuring aquipment used is given in Annex 1.

The tests were performed in the laboratory on 6th April, 2016. The ambient air temperature was 25 °C with 35 % relative ambient air humidity.

The gross heat of combustion has been with all specimens determined by crucible method in adiabatic calorimeter.

4 TEST RESULTS

The gross heat of combustion of the specimen has been calculated from the measured values given in Annex 2.

Specimen	Gross heat of combustion Q_{PCS} (MJ/kg)
1_022/16	0.07
2_022/16	0.21
3_022/16	0.17
Averrage	0.15

The gross heat of combustion of the specimen is 0.15 MJ/kg.

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Report and annexes sheets are valid with embossed stamp only.

Požární zkušebna Veselí nad Lužnicí
AKREDITOVANÁ ZKUŠEBNÍ LABORATOŘ č. 1026
PAVUS, a. s.

Elaborated by: ..... Approved by: .....

Pavla HEJNÁ
ATL Engineer

Jiří KÁPL
ATL Manager

ANNEX 1: TESTING AND MEASURING EQUIPMENT, MEASUREMENT UNCERTAINTY

Test apparatus:	Registration number
Adiabatic calorimeter IKA C4000, pressure equipment, cooler	0059

Measuring equipment:	Metrological registration number:
Elektronic thermometer of calorimeter	3 10 57
Thermo-hygro-baro-graph D 4130	3 13 08, 3 09 11
Digital balance KERN EW 6000	3 04 09
Analytical balance WAX 60/220	3 04 14

The metrological relationships of the device are defined in the metrological registration card of the device, this card is expressly identified by the metrological registration number of the device.

Measured quantity			**Expanded maesurement uncertainty**
Name	Symbol	Unit	
Ambient air temperature	T	°C	< 0.7
Calorimeter temperature	Q	°C	< 0.001
Ambient air relative humidity	φ	%	< 2.6
Water mass, specimen mass	m	g	< 0.12
Specimen mass	m	g	< 0.0001
Specimen size	d	mm	< 0.1

The reported expanded uncertainties of measurement are stated as the standard uncertainties of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95 %.

The standard uncertainty of measurement has been determined in accordance with EA-16/02 and GUM.

ANNEX 2: MEASUREMENT

Component mass and temperature rise during the individual determination:

Specimen	Specimen mass (g)	Benzoic acid mass (g)	Temperature rise ΔT (K)
1_022/16	0.50157	0.40480	1.165
2_022/16	0.46681	0.58123	1.675
3_022/16	0.48179	0.49215	1.419

In all three cases a firing wire with 30 J gross heat of combustion and a cotton thread with 50 J gross heat of combustion has been used. The gross heat of combustion of the benzoid acid was 26 460 J/g.

Calculation of the gross heat of combustion:

$$Q_{PCS} = \frac{E(T_m - T_i + c) - b}{m}$$

Where:
Q_{PCS}.. gross heat of combustion (MJ/kg)
E..... water equivalent of calorimeter with accessories (in this case 9 292 by the 1st bomb ..... and 9 288 by the 2nd bomb) (J/K)
ΔT..... temperature rise $(T_m - T_i)$ (K)
b ..... correction to combustion supporting means (MJ)
c ..... temperature correction required for the exchange of heat with the outside (zero in this case) (K)
m ..... mass of the test specimen (kg)

From the above expression the final values given in chapter 4 have been calculated.

In determination 1_022/16 and 3_022/16 was used the 1st bomb, in determination 2_022/16 was used the 2nd bomb.

PAVUS, a.s.
AUTHORIZED BODY AO 216
NOTIFIED BODY 1391
EGOLF MEMBER

L 1026

Order No: Z210160063

FIRE TESTING LABORATORY VESELÍ NAD LUŽNICÍ
Testing Laboratory No. 1026 accredited by ČIA

REACTION TO FIRE TEST REPORT

No. Pr-16-1.069-En

Issued on 2016-04-06

for product

MgO board

Sponsor: **Technický a zkušební ústav stavební Praha s.p.**
Branch Brno
Hněvkovského 228/77
617 00 Brno
Czech Republic

For company: **Ambient Building Products**
8230 Preston Court Unit C
Jessup MD 20794
United States

Test method:

EN ISO 1182
» Reaction to fire tests for building products
– Non-combustibility test «

Report contains: 5 pages
(3 text pages + 2 annexes)

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1 INTRODUCTION

The non-combustibility tests were determined following the order of the company Technický a zkušební ústav stavební Praha s.p., Branch Brno in the Fire Testing Laboratory of PAVUS, a.s. in Veselí nad Lužnicí.

In case of dispute, the Czech version of the text shall prevail.

The tests were prepared, performed and evaluated on the basis of following documents:

[1] EN ISO 1182:2010 Reaction to fire tests for building products
– Non-combustibility test

[2] EN 13238:2010 Reaction to fire tests for building products
– Conditioning procedures and general rules for selection of substrates

[3] Cover form of the test product (delivered by the sponsor)

For the purposes of this report the definitions stated in [1] and [2] are valid together with following abbreviation:

ČIA Český institut pro akreditaci, o.p.s. (Czech Accreditation Institute)
ATL accredited testing laboratory

2 TEST SUBJECT

Product name:	MgO boards
Product identification:	MgO boards
Manufacturer:	**Ambient Building Products** 8230 Preston Court Unit C Jessup MD 20794 United States
Product thickness:	12 mm
Density:	1,100 kg/m^3
Product composition:	MgO (52.0-55.0) %, $MgCl_2$ (25.0-30.0) %, Fiberglass (1.0-1.5) %, Perlite (5.5-6.5) %, wood powder (3.0-3.5) %, $CaCO_3$ (5.5-6.0) %.
Product use:	interiors and exteriors claddings boards
Date of sample arrival:	2016-02-16
Sampling procedure:	sponsor without ATL participation
Conditioning:	according to [2]

Subject of the tests were 5 specimens of cylindrical shape with a diameter of 45 mm and height of 50 mm and made by the sponsor.

Composition and technical details have been taken from the sponsor.

3 TEST PERFORMANCE

Tests were performed according to [1] without deviations from the test method.

Auxiliary thermocouples weren't used in the tests.

The testing and measuring equipment used is given in Annex 1.

The tests were performed in the laboratory on 6th April 2016. The ambient air temperature was 20 °C with 35 % relative ambient air humidity.

Prior to the actual test the specimens were dried in a ventilated furnace at a constant temperature of (60 ± 5) °C for a period of 20 to 24 hours and cooled down in a desiccator to ambient temperature to be

put into the testing equipment. Individual specimens were weighed and then inserted into the electric furnace with stabilized temperature of (750 ± 5) °C.

4 TEST RESULTS

4.1 Observation of specimens

The occurrence of bluish radiation and permanent flaming of specimens was not observed. There was only the occasional blowback of flame length less than 5 sec. The occurrence of smoke generation and material melting were not observed. The appearance of specimens after the test was not significantly changed.

4.2 Tests Results

Specimen number	1	2	3	4	5	Average
ΔT (°C)	4.1	5.3	3.2	2.9	2.5	3.6
t_f (s)	0	0	0	0	0	0
Δm (%)	40.08	40.30	40.50	39.62	39.93	40.09

The product – MgO Board – showed the following average results under specific test conditions:

- increase of in-furnace temperature **ΔT = 3.6 °C**
- a total period of permanent flaming **t_f = 0 s**
- decrease in body weight **Δm = 40.09 %.**

4.3 Application of test results

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Report and annexes sheets are valid with embossed stamp only.

Požární zkušebna Veselí nad Lužnicí
AKREDITOVANÁ ZKUŠEBNÍ LABORATOŘ č. 1026
PAVUS, a. s.

Elaborated by: ..... Pavla HEJNÁ, ATL Technician

Approved by: ..... Jiri KÁPL, ATL Manager

ANNEX 1: TESTING AND MEASURING EQUIPMENT, MEASUREMENT UNCERTAINTY

Test apparatus	Registration number
Furnace for non-combustibility test	0062
Programmable control device	0062
Thermoregulation furnace	0060
Desiccator	0090

Measuring equipment	Metrological registration number
Stop-watch	3 05 09
Thermometer and hydrometer D4130	3 13 08, 3 09 11
KERN EW 600 – 2M balance	3 04 13
Data logger ALMEMO 2590-9	3 10 35
Constant K-network thermocouple ∅ 1.5 mm	3 10 72
Calliper	3 01 49

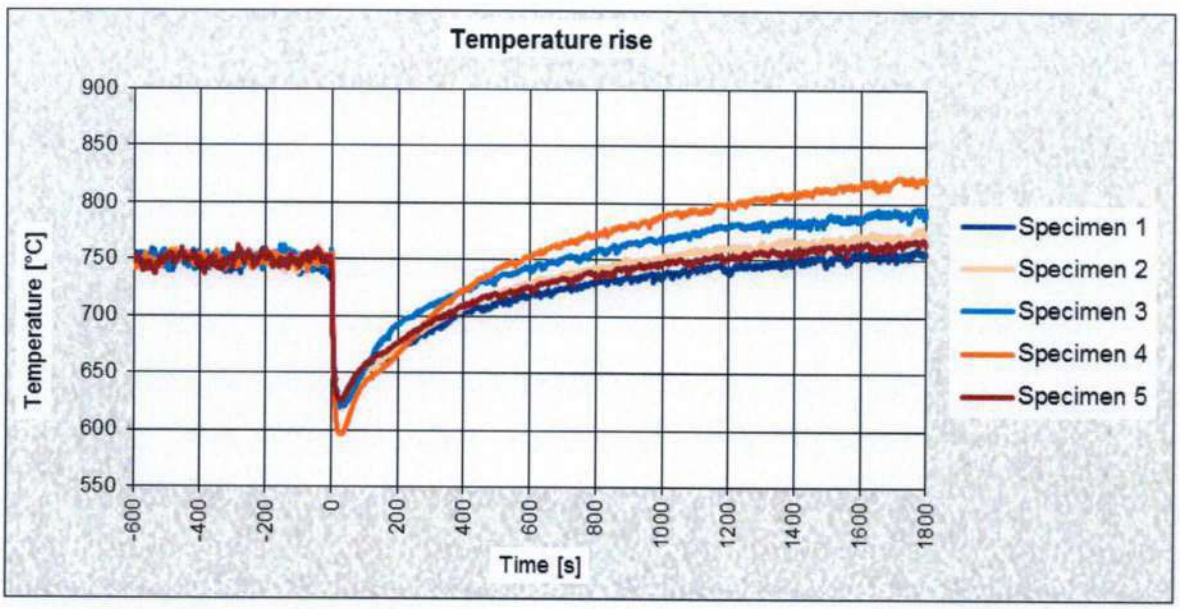
Metrological relationships of the device are specified in the metrological registration card of the device, which is expressly identified by the metrological registration number of the device.

Measured quantity			Extended measurement uncertainty
Name	Symbol	Unit	
Time since the beginning of test	t	s	2
Ambient air temperature	T	°C	< 0.7
Ambient air relative humidity	φ	%	< 2.6
Linear measures	l	mm	< 0.02
Weight	m	g	< 0.012
Temperature of constant K-network thermocouple	T	°C	$\sqrt{(2.76 \times 10^{-5} \times T^2 + 3.03 \times °C^2)}$, for 375 °C ≤ T ≤ 1000 °C

The reported expanded uncertainties of measurement are stated as the standard uncertainties of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95 %.

The standard uncertainty of measurement has been determined in accordance with EA-16/02 and GUM.

ANNEX 2: GRAPHICAL REPRESENTATION AND PHOTOGRAPHIC DOCUMENTS



Temperature course diagram for individual specimens under the test

Specimens after the test

PAVUS, a.s.
AUTHORIZED BODY 216
NOTIFIED BODY 1391
ACCREDITED CERTIFICATION BODY FOR PRODUCTS N° 3041

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REACTION TO FIRE CLASSIFICATION REPORT

The object of classification:	***Construction products excluding floorings and linear pipe thermal insulation products in accordance with EN 13501-1+A1:2010, clause 11*** ***Floor coverings in accordance with EN 13501-1+A1:2010, clause 12***
Issue number:	***PK1-01-16-019-E-0***
Product name and type:	*Ambient MagPanel MgO Board*
Sponsor:	***Technický a zkušební ústav stavební Praha, s.p.*** *Branch Brno* *Hněvkovského 228/77* *617 00 Brno* *Czech Republic*
For company:	***Ambient Building Products*** *8230 Preston Court Unit C* *Jessup, MD 20794* *United States*
Issuing organization:	*PAVUS, a.s.* *Authorized Body 216* *Notified Body 1391* *Accredited certification body for products No 3041* *- Accreditation issued by Czech Accreditation Institute, Public Service Company* *- Certificate of Accreditation N° 525/2015* *Prosecká 74* *190 00 PRAHA 412/9* *Order no. Z210160063*
Date of issue:	*2016-04-06*
Copies in total:	*4*
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Pages in total:	*3*

1. INTRODUCTION

1.1. This Classification Report specifies classification method for *MgO Board* in conformity with the procedures set forth in EN 13501-1+A1:2010.

1.2. This Classification Report has 3 pages and it can be used or reproduced as a whole only.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. General

The product - *MgO Board* is made by the company *Ambient Bamboo Products, Inc. 8230 Preston Court Unit C, Jessup MD 20794 United States*. It is used as an interior and exterior claddings board.

2.2. Product description

MgO board is made in the thickness of 12 mm and density of 1,100 kg/m^3. The product composites from MgO (52-55) %, $MgCl_2$ (25-30) %, Fiberglass (1.0-1.5) %, Perlite (5.5-6.5) %, wood powder (3.0-3.5) %, $CaCO_3$ (5.5-6.0) %. The organic content is of (3.0-3.5) % of the weight.

3. REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

3.1. Reports

Name of the Laboratory **Address** **Accreditation number:**	**Name of sponsor** **of the Test Report**	**Report number** **Date of issue**	**Test method**
PAVUS, a. s. *Veseli nad Luznici* *Accr.T.Lab. No. 1026*	*Technický a zkušební ústav stavební Praha, s.p.* *Branch Brno* *Hněvkovského 228/77* *617 00 Brno* *Czech Republic*	*Pr-16-1.068* *2016-04-06*	*EN ISO 1716:2010*
		Pr-16-1.069 *2016-04-06*	*EN ISO 1182:2011*

3.2. Results

Test method and test number	**Parameter**	**Number of tests**	**Results**	
			Continuous parameter-mean	**Compliance with parameters**
EN ISO 1716 *Pr-16-1.068*	Q_{PCS}	*3*	*0.15 MJ/kg*	*≤ 2,0 MJ/kg (A1, A1$_{fl}$)*
EN ISO 1182 *Pr-16-1.069*	ΔT Δm t_f	*5*	*3.6 °C* *40.09 %* *0 s*	*≤ 30 °C (A1, A1$_{fl}$)* *≤ 50 % (A1, A1$_{fl}$)* *0 s (A1, A1$_{fl}$)*

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. Reference of classification

This classification has been carried out in accordance with clause 11 and 12, EN 13501-1+A1:2010.

4.2 Classification

The product – *MgO Board* - in relation to its reaction to fire behaviour is classified:

Reaction to fire classification: A1

Reaction to fire classification: $A1_{fl}$

4.3. Field of application

This classification applies for the following parameters of the product:

Parameters of the product noticed in the clause 2.2.

This classification applies for the following end-use applications:

The product – *MgO Board* is determined for use as an interior and exterior claddings board.

5. LIMITATIONS

This Classification Report does substitute neither the type approval nor the product certificate.

This classification is valid, unless the conditions, under which it was issued, have been changed. The sponsor may request the issuing authority to review the influence of changes to the classification validity.

Therefore the Testing Laboratory has no part in preparing the product specimens for tests although the Laboratory provides, on manufacturer's request, a suitable certification that the Laboratory took part in monitoring the preparation of specimens for tests.

In the case of a dispute wording of the Czech version of the test report is decisive.

Elaborated by:

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AKREDITOVANÝ CERTIFIKAČNÍ ORGÁN Č. 3041 PRO CERTIFIKACI VÝROBKŮ
PAVUS, a.s.