OFFICIAL TESTS

Egyptian Organization for
Standardization &Quality (EOS)

الهيئة المصرية العامة
للمواصفات والجودة

Quality control center
General department for testing
Chemical products, building&
Construction material

(Test results report for coated expanded polystyrene For coated EPS Foam)

EOS C2/3-1

Sample submitting entity : Chema Foam.
Date of Sample submission : 23/1/2024
Submitted sample : Expanded polystyrene Elements coated with protective layer of chemacoat acrylic based Coating (Foamina)
Assigned Lab. : Construction & Material Lab.
Code No : k/m/12698/1/2024
No. of testing results report Pages: 1 page.
Customer requirements : Analysis according to EN 13497- EN 1062-3- EN 13494
Date of report issuance : 7/2/2024

Inspection and testing have been conducted on the sample submitted by the customer according to EN 13497- EN 1062PART3- EN 13494
and the results were as follow :-

Test	Result
1 - The resistance to impact of the material for external facade thermal insulation systems: - At 10 J: 1000g - At 20 J: 2000g	 No damaging or affecting the protective layer of coating. No damaging or affecting the protective layer of coating.
2 - Liquid water permeability ($Kg/m^2.h^{0.5}$)	0.256
3 - The tensile bond strength of the base coat (KP_a)	337

It is noteworthy that the testing results of this sample is not representing anything except itself and it is not permitted to rely on this testing results for approval of quantitative production or for approval if any commodities in tenders or purchasing practices or in exporting. This testing results report could not be authorized as conformity certificate.

Ramadan Hehi

General Manager
(Ch / Hesham Mostafa Mohamed)

16 Tadreeb El-Modarrebeen St., Ameriya. CAIRO - EGYPT
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١٦ شارع تدريب المدربين - الأميرية - القاهرة
خدمة الإدارات: ٢٢٨٤٥٥٢٢ / ٢٢٨٤٥٥٢٤
الفاكس : ٢٢٨٤٥٥٠١ / ٢٢٨٤٥٥٠٤

Egyptian Organization for
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الهيئة المصرية العامة
للمواصفات والجودة

مركز ضبط جودة الإنتاج الصناعي
الإدارة العامة لاختبارات المنتجات الكيماوية و التشييد

" تقرير نتائج اختبار عينة " مادة عازلة بوليسترين EPS foam "
EOS C2/3-1

الجهة الوارد منها العينة :	كيمافوم	تاريخ دخول العينة :	٢٠٢٤/١/٢٣
العينة المقدمة :	Expanded polystyrene Elements coated *with protective layer of chemacoat acrylic based Coating (Foamina)*	المعمل المختص :	مواد البناء
الرقم كودي / السري :	ك/م/ ٢٠٢٤/١/١٢٦٩٨	عدد صفحات التقرير :	١
متطلبات العميل :	إجراء الاختبارات طبقا EN 13497- EN 1062PART3- EN 13494	تاريخ إصدار التقرير :	٢٠٢٤/٢/٧

تم إجراء الفحوص و الاختبارات علي العينة المقدمة بمعرفتكم طبقاً لـEN 13497- EN 1062PART3- EN 13494
وكانت نتائج الاختبارات كالتالي:

الاختبار	النتيجة
١- مقاومة الصدم لانظمة العزل الخارجية: - عند ١٠جول: ١٠٠٠ جرام - عند ٢٠ جول: ٢٠٠٠ جرام	لم يسبب ضررا أو تأثيرا على طبقة الحماية لم يسبب ضررا أو تأثيرا على طبقة الحماية
٢- نفاذية الماء (كجم/متر^{٢}.ساعة^{٠,٥})	٠,٢٥٦
٣- قوة شد طبقة الحماية(كيلوباسكال)	٣٣٧

هذا وتجدر الإشارة إن نتائج اختبارات هذه العينة لا تمثل إلا نفسها ولا يعتد بها لاعتماد إنتاج كمي أو في الممارسات أو التوريدات أو التصدير ولا يعتد بها كشهادة مطابقة.

مدير الإدارة

المدير العام
(أ.د / هشام مصطفى محمد)

الهيئة المصرية العامة للمواصفات والجودة
التاريخ ١٨/٢/٢٠٢٤
رقم الصادر ٤٩٩ مرفقات
المختص

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خدمة الإدارات: ٢٢٨٤٥٥٢٢ / ٢٢٨٤٥٥٢٤
الفاكس : ٢٢٨٤٥٥٠١ / ٢٢٨٤٥٥٠٤

NATIONAL RESEARCH CENTRE
TAHRIR St. DOKKI, CAIRO, EGYPT
Central Unit For Analysis And
Scientifical Services (CUASS)
Material Test Lab.

المركز القومى للبحوث
الدقى . القاهرة . جمهورية مصر العربية
وحدة التحاليل و الخدمات العلمية المركزية
معمل اختبار المواد

Test Report

Report No.	***MO1 3861 02 2024***
Client	***CHEMA FOAM CO.***
Authority & date	*Request Orders 21/2/2024*
Items Tested	***Chema adhesive 102 white***
Results	*The detailed test results are given on the following pages of this report (5 pages) .*
Report Typist	**** Mis. Naglaa Mohamed-Sara Abdel Reheam Noha Samir***
Test carried by	**** Mis . Fatma El Zahraa Fikry***
	**** H.Eng. Ahmed Said***
	**** Chem. Amr El Shafey***
	**** Dr. Abou El Ftouh Abd El Hakem***
Authorized by	***Prof. Dr. Mostafa Zaki Mostafa***
	**** The Supervisor of ceramics, Polymer and Solid Matter Department.***
	**** Management Representative and Quality Assurance Manager.***
Issue date	*4/4/2024*
Condition of Test & Issue	*The test speciemen was conditioned at 23 °C with a humidity of 60 % and the needed calibrations as well as balancing of the all used machines were always done .*

شارع التحرير - الدقى - القاهرة
مباشر ٣٣٣٨٧٨٠٣ فاكس
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E-mail : nrc1302a@yahoo.com

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وحدة التحاليل و الخدمات العلمية المركزية
معمل اختبار المواد

To / CHEMA FOAM CO.

Dear Sir.,

With correspondence to your request dated 21/2/2024 concerning the testing sample of Chema adhesive 102 white , We would like to inform you that the all following needed tests were carried out which namely:

1- Initial tensile adhesion strength test after 28 days (Regular condition) - according to EN 12004-2-2017

2- Tensile adhesion strength test after 20 days water immersion according to EN 12004-2-2017

3- Tensile adhesion strength test after 14 days heat ageing at 70°C according to EN 12004-2-2017

4- Open time test according to EN 12004-2-2017

5- Vertical slip test according to EN 12004-2-2017

We would like to inform you that the needed test was carried out taking into consideration the following conditions :

1- In all mechanical properties GALDABINI – QUASAR 600 – Made In Italy Universal Testing Machine was used This type has a self calibration , zero adjusting and automatic balance , which are done daily before testing or during testing this testing instrument is accompanied by a highly reliable system for evaluating the mechanical properties .

2-Measuring drum of sensitivity ± 0.01mm was used for dimensions evaluation.

3- On heating a Memmert West Germany oven was used .

4- Weighing Balance with tolerance + 0.0001 g was used in determining the weights .

5- JSR digital water bath model JSWB - 30T made in Korea .

5- All used Machineries and apparatuses were calibrated periodically

The following tables give the obtained results representing the sample delivered from your company .

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مباشر ٣٣٣٨٧٨٠٣ فاكس
داخلى ١٨١٠ ١٤٢٤
٣٣٣٧١٣٦٢ - ٣٣٣٧١٦١٥
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وحدة التحاليل و الخدمات العلمية المركزية
معمل اختبار المواد

Test results on a sample of Chema adhesive 102 white

Delivered from CHEMA FOAM CO.

1- Initial tensile adhesion strength test after 28 days

(Regular condition) - according to EN 12004-2-2017

No.	*Results (N/mm2)*	*The mean value (N/mm2)*	*EN 12004 C2 limit (N/mm2)*
1	*1.32*	*1.31*	*≥ 1.0*
2	*1.27*		
3	*1.29*		
4	*1.31*		
5	*1.35*		

** Failure pattern CF-A*

2- Tensile adhesion strength test after 20 days water immersion according to EN 12004-2-2017

No.	*Results (N/mm2)*	*The mean value (N/mm2)*	*EN 12004 C2 limit (N/mm2)*
1	*1.21*	*1.16*	*≥ 1.0*
2	*1.17*		
3	*1.15*		
4	*1.13*		
5	*1.12*		

** Failure pattern CF-A*

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معمل اختبار المواد

Test results on a sample of Chema adhesive 102 white

Delivered from CHEMA FOAM CO.

3- Tensile adhesion strength test after 14 days heat ageing at 70°C

according to EN 12004-2-2017

No.	*Results (N/mm2)*	*The mean value (N/mm2)*	*EN 12004 C2 limit (N/mm2)*
1	*1.11*	*1.11*	*≥ 1.0*
2	*1.12*		
3	*1.09*		
4	*1.10*		
5	*1.13*		

** Failure pattern CF-A*

5- Open time test according to EN 12004-2-2017

Open time = 47 min

EN 12004 E limit ≥ 30min

6- Vertical slip test according to EN 12004-2-2017

Vertical slip = 0.32 mm

EN 12004 T limit ≤ 0.5mm

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وحدة التحاليل و الخدمات العلمية المركزية
معمل اختبار المواد

This report was given to you representing only the results for the testing Sample of Chema adhesive 102 white , Delivered from CHEMA FOAM CO. , These results and conclusions were given to you without any responsibility on THE CERAMICS, ***POLYMERS AND SOLID MATTER DEP.*** *of* ***THE MATERIAL TEST LAB*** *in* ***THE NATIONAL RESEARCH CENTRE*** *for pick up the samples to be tested .*

Head of Director of The Board of Central Depertment
for Scientifical Analysis and Tests
&
SUPERVISOR
OF CERAMICS, POLYMER AND
SOLID MATTER DEPARTMENT

PROF.DR. MOSTAFA ZAKI MOSTAFA

شارع التحرير - الدقى - القاهرة
مباشر ٣٣٣٨٧٨٠٣ فاكس
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معمل اختبار المواد

Test Report

Report No.	***MO1 3855 02 2024***
Client	***CHEMA FOAM CO.***
Authority & date	*Request Orders 21/2/2024*
Items Tested	***Chema adhesive 102 grey***
Results	*The detailed test results are given on the following pages of this report (5 pages) .*
Report Typist	**** Mis. Naglaa Mohamed-Sara Abdel Reheam Noha Samir***
Test carried by	**** Mis . Fatma El Zahraa Fikry***
	**** H.Eng. Ahmed Said***
	**** Chem. Amr El Shafey***
	**** Dr. Abou El Ftouh Abd El Hakem***
Authorized by	**** Prof. Dr. Mostafa Zaki Mostafa***
	**** The Supervisor of ceramics, Polymer and Solid Matter Department.***
	**** Management Representative and Quality Assurance Manager.***
Issue date	*4/4/2024*
Condition of Test & Issue	*The test speciemen was conditioned at 23 °C with a humidity of 60 % and the needed calibrations as well as balancing of the all used machines were always done .*

شارع التحرير - الدقى - القاهرة
مباشر ٣٣٣٨٧٨٠٣
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داخلى ١٨١٠
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وحدة التحاليل و الخدمات العلمية المركزية
معمل اختبار المواد

To / CHEMA FOAM CO.

Dear Sir.,

With correspondence to your request dated 21/2/2024 concerning the testing sample of Chema adhesive 102 grey , We would like to inform you that the all following needed tests were carried out which namely:

1- Initial tensile adhesion strength test after 28 days (Regular condition) - according to EN 12004-2-2017

2- Tensile adhesion strength test after 20 days water immersion according to EN 12004-2-2017

3- Tensile adhesion strength test after 14 days heat ageing at 70°C according to EN 12004-2-2017

4- Open time test according to EN 12004-2-2017

5- Vertical slip test according to EN 12004-2-2017

We would like to inform you that the needed test was carried out taking into consideration the following conditions :

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2-Measuring drum of sensitivity ± 0.01mm was used for dimensions evaluation.

3- On heating a Memmert West Germany oven was used .

4- Weighing Balance with tolerance + 0.0001 g was used in determining the weights .

5- JSR digital water bath model JSWB - 30T made in Korea .

5- All used Machineries and apparatuses were calibrated periodically

The following tables give the obtained results representing the sample delivered from your company .

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مباشر ٣٣٣٨٧٨٠٣ فاكس
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معمل اختبار المواد

Test results on a sample of Chema adhesive 102 grey

Delivered from CHEMA FOAM CO.

3- Tensile adhesion strength test after 14 days heat ageing at 70°C

according to EN 12004-2-2017

No.	*Results (N/mm2)*	*The mean value (N/mm2)*	*EN 12004 C2 limit (N/mm2)*
1	*1.17*	*1.16*	*≥ 1.0*
2	*1.18*		
3	*1.13*		
4	*1.15*		
5	*1.17*		

** Failure pattern CF-A*

5- Open time test according to EN 12004-2-2017

Open time = 46 min

EN 12004 E limit ≥ 30min

6- Vertical slip test according to EN 12004-2-2017

Vertical slip = 0.35 mm

EN 12004 T limit ≤ 0.5mm

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١٤٢٤ فاكس
٣٣٣٧١٦١٥ - ٣٣٣٧١٣٦٢
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معمل اختبار المواد

Test results on a sample of Chema adhesive 102 grey

Delivered from CHEMA FOAM CO.

1- Initial tensile adhesion strength test after 28 days

(Regular condition) - according to EN 12004-2-2017

No.	*Results (N/mm2)*	*The mean value (N/mm2)*	*EN 12004 C2 limit (N/mm2)*
1	*1.41*	*1.36*	*≥ 1.0*
2	*1.37*		
3	*1.33*		
4	*1.35*		
5	*1.34*		

** Failure pattern CF-A*

2- Tensile adhesion strength test after 20 days water immersion according to EN 12004-2-2017

No.	*Results (N/mm2)*	*The mean value (N/mm2)*	*EN 12004 C2 limit (N/mm2)*
1	*1.30*	*1.25*	*≥ 1.0*
2	*1.21*		
3	*1.25*		
4	*1.23*		
5	*1.27*		

** Failure pattern CF-A*



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مباشر ٣٣٣٨٧٨٠٣
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٣٣٣٧١٣٦٢ - ٣٣٣٧١٦١٥
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Head of Director of The Board of Central Depertment for Scientifical Analysis and Tests
&
SUPERVISOR OF CERAMICS, POLYMER AND SOLID MATTER DEPARTMENT

PROF.DR. MOSTAFA ZAKI MOSTAFA

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معمل اختبار المواد

Test Report

Report No.	***MO1 3645 07 2020***
Client	***CHEMA FOAM Co.***
Authority & date	*Request Orders 27/7/2020*
Items Tested	***Sample of EPS white foam thickness 50mm***
Results	*The detailed test results are given on the following pages of this report (5 pages) .*
Report Typist	**** Mis. Sara Abdel Reheam – Naglaa Mohamed - Noha Samir***
Test carried	**** Mis . Fatma El – Zahraa Fikry***
	**** H.Eng. Ahmed Said***
	**** Chem. Amr El Shafey***
supervised by	**** Dr. Abou El Ftouh Abd El Hakem***
Authorized by	***Prof. Dr. Mostafa Zaki Mostafa***
	**** The Supervisor of ceramics, Polymer and Solid Matter Department.***
	**** Management Representative and Quality Assurance Manager.***
Issue date	*13/8/2020*
Condition of Test & Issue	*The test specimen was conditioned at 23 °C with a humidity of 60 % and the needed calibrations as well as balancing of the all used machines were always done*

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داخلى ١٨١٠ ١٤٢٤
٣٣٣٧١٦١٥_٣٣٣٧١٣٦٢
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وحدة التحاليل والخدمات العلمية المركزية
معمل اختبار المواد

To / CHEMA FOAM Co.

Dear Sir.,

With correspondence to your request dated 27/7/2020 concerning the testing samples of EPS white foam thickness 50mm , We would like to inform you that the all following needed tests were carried out which namely:-

1- Density Test according to ASTM D1622

2- Compressive strength at 10% deflection according to ASTM D1621

3- Flexural Strength Test according to ASTM C203

4- Water absorption test according to ASTM C272

We would like to inform you that the all needed tests were carried out taking into consideration the following conditions :

1- In all mechanical properties GALDABINI – QUASAR 600 – Made In Italy Universal Testing Machine was used This type has a self calibration , zero adjusting and automatic balance , which are done daily before testing or during testing this testing instrument is accompanied by a highly reliable system for evaluating the mechanical properties .

2- On heating a Memmert West Germany oven was used .

3- Weighing Balance with tolerance + 0.0001 g was used in determining the weights .

4- Measuring drum of sensitivity ± 0.01mm was used for dimensions evaluation

5-The all used Machinery and the apparatus were calibrated periodically

The following tables are give the obtained results representing delivered from your company .

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وحدة التحاليل والخدمات العلمية المركزية

(2/5-3645)

شارع التحرير - الدقى - القاهرة
مباشر ٣٣٣٨٧٨٠٣ وفاكس
داخلى ١٨١٠ ١٤٢٤
٣٣٣٧١٣٦٢ - ٣٣٣٧١٦١٥
٣٣٣٥٥١٩٢ - ٣٧٦٠٧٥٤١
E-mail: nrc1302a@yahoo.com

NATIONAL RESEARCH CENTRE
TAHRIR St. DOKKI, CAIRO, EGYPT
Central Unit For Analysis And
Scientifical Services (CUASS)
Material Test Lab.

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Density Test according to ASTM D1622

On a sample of EPS white foam thickness 50mm Density 25 Kg/m^3

Delivered from CHEMA FOAM Co.

No.	*Density (Kg/m3)*	*The mean (Kg/m3)*
1	*25.91*	
2	*26.17*	
3	*25.93*	*25.78*
4	*25.23*	
5	*25.67*	

Compressive strength at 10% deflection according to ASTM D1621

No.	*Compressive strength (Kpa)*	*The mean (Kpa)*
1	*165.46*	
2	*166.33*	
3	*168.19*	*167.3*
4	*167.11*	
5	*169.41*	

Flexural strength Test according to ASTM C203

No.	*Flexural strength (Kpa)*	*The mean (Kpa)*
1	*347.21*	
2	*349.19*	
3	*353.61*	*348.46*
4	*352.08*	
5	*340.21*	

المركز القومى للبحوث
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(3/5-3645)

شارع التحرير - الدقى - القاهرة
مباشر ٣٣٣٨٧٨٠٣ وفاكس
داخلى ١٨١٠ ١٤٢٤
٣٣٣٧١٦١٥ - ٣٣٣٧١٣٦٢
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Water absorption test according to ASTM C272

On a sample of EPS white foam thickness 50mm Density 25 Kg/m^3

Delivered from CHEMA FOAM Co.

No.	*Volume change (%)*	*The mean (%)*
1	*0.691*	
2	*0.711*	
3	*0.682*	*0.6948*
4	*0.706*	
5	*0.684*	



(4/5-3645)

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٣٣٣٥٥١٩٢_٣٧٦٠٧٥٤١
داخلى ١٨١٠
١٤٢٤
مباشر ٣٣٣٨٧٨٠٣
وفاكس
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E-mail: nrc1302a@yahoo.com