



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

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



# Test Report

<b>Report No.</b>	<b>MO1 8323 04 2022</b>
<b>Client</b>	<b>CHEMA FOAM CO.</b>
<b>Authority &amp; date</b>	<b>Request Orders 11/4/2022</b>
<b>Items Tested</b>	<b>CHEMA PROOF 109</b>
<b>Results</b>	The detailed test results are given on the following pages of this report ( 5 pages) .
<b>Report Typist</b>	* <b>Mis. Naglaa Mohamed-Sara Abdel Reheam</b>
<b>Test carried by</b>	<b>Noha Samir</b> * <b>Mis . Fatma El Zahraa Fikry</b> * <b>H.Eng. Ahmed Said</b> * <b>Chem. Amr El Shafey</b> * <b>Dr. Abou El Ftouh Abd El Hakem</b>
<b>Authorized by</b>	<b>Prof. Dr. Mostafa Zaki Mostafa</b> * <b>The Supervisor of ceramics, Polymer and Solid Matter Department.</b> * <b>Management Representative and Quality Assurance Manager.</b>
<b>Issue date</b>	17/5/2022
<b>Condition of Test &amp; Issue</b>	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 .





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**To / CHEMA FOAM CO.**

**Dear Sir.,**

*With correspondence to your request dated 11/4/2022 concerning the testing samples of CHEMA PROOF 109 , We would like to inform you that the all following needed tests were carried out which namely:*

- 1- Compressive strength test after 28 days according to ASTM C109**
- 2- Tensile strength and Elongation Test according to ASTM D 412**
- 3- Adhesion strength test after 28 days according to ASTM C321**
- 4- Water permeability test according to CRD C48**
- 5- Crack bridging test according to ASTM C1305**

*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  $\pm 0.01mm$  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 .*
- 6- All used Machineries and apparatuses were calibrated periodically*

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





***Test results on a sample of CHEMA PROOF 109***

***Delivered from CHEMA FOAM CO.***

***1- Compressive strength test after 28 days***

***according to ASTM C109***

No.	Compressive strength (N/mm <sup>2</sup> )	The mean (N/mm <sup>2</sup> )
1	41.23	41.86
2	42.35	
5	42.01	

***2- Tensile strength and Elongation Test***

***according to ASTM D 412***

No.	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)
1	5.33	51.01
2	5.29	59.21
3	5.49	52.36
Mean	5.37	54.19

***3- Adhesion strength test after 28 days***

***according to ASTM C321***

No.	Adhesion strength (N/mm <sup>2</sup> )	The mean (N/mm <sup>2</sup> )
1	1.34	1.39
2	1.33	
5	1.49	





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*Test results on a sample of CHEMA PROOF 109*

*Delivered from CHEMA FOAM CO.*

*4- Water permeability test according to CRD C48*

*\* The sample with a thickness 2mm un permeable up to 2 bars water pressure .*

*5- Crack bridging test according to ASTM C1305*

<i>No.</i>	<i>No. of cycles</i>	<i>Maximum (mm) movement</i>	<i>Observation</i>
<i>1</i>		<i>1.0</i>	
<i>2</i>	<i>10</i>	<i>1.0</i>	<i>No failure</i>
<i>3</i>		<i>1.0</i>	

*\* The sample resist the crack (1.0mm) without any observable changed .*





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*This report was given to you representing only the results for the testing sample of CHEMA PROOF 109 , 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 Department  
for Scientific Analysis and Tests**

&

**SUPERVISOR**

**OF CERAMICS, POLYMER AND  
SOLID MATTER DEPARTMENT**

**PROF.DR. MOSTAFA ZAKI MOSTAFA**

