ÉMI NON-PROFIT LIMITED LIABILITY COMPANY FOR
QUALITY CONTROL AND INNOVATION IN BUILDING
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ÉMI NON-PROFIT LIMITED LIABILITY COMPANY FOR QUALITY CONTROL AND INNOVATION IN BUILDING
ÉMI SOCIÉTÉ Á BUT NON LUCRATIF POUR LE CONTRÔLE DE QUALITÉ ET L'INNOVATION DU BÂTIMENT, RESPONSABILITÉ LIMITÉE
ÉMI NON-PROFIT GESELLSCHAFT FÜR QUALITÄTSKONTROLLE UND INNOVATION IM BAUWESEN MIT BESCHRÄNKTER HAFTUNG

A-23/2019

NMÉ
NATIONAL TECHNICAL ASSESSMENT

Product name:	**Manti Ceramic Architectural Medium Density**
Intended use of the product:	**For summer heat protection of residential, public and industrial buildings (halls), historic buildings and livestock and crop production buildings on concrete, brick, metal, bitumen surfaces**
Product area:	**Thermal insulation products** **Composite insulating kits/systems**
Manufacturer of the product:	**Műszer Automatika Kft.** **2040 Budaörs,** **Komáromi u. 22.**
NMÉ valid from *:	**10. 05. 2019**

Zoltán Budavári
Head of the Technical
Assessment Office

The National Technical Assessment consists of 7 pages including 0 numbered Annexes.

* The validity of the NMÉ is subject to certain conditions. The validity of the NMÉ shall be checked on the website of the ÉMI Non-profit Llc. (www.emi.hu).

Project number: É1-M202X-17473-2019
DK-M202X-19458-2020

Bizonylat azonosító: KBiA-XXI-04.1-20180115_NMÉ új_EN

I LEGAL BASES AND GENERAL CONDITIONS

1 This NMÉ has been issued by the ÉMI Non-profit Llc. for Quality Control and Innovation in Building based on
- Government Decree No. 275/2013 (VII. 16.) on the detailed rules relating to the planning and installation of construction products into construction works and the verification of performance during this process,
- the designation of the Hungarian Trade Licensing Office (MKEH-128/22/2013/FHÁ), as well as
- the data detailed in Performance Assessment Report No. A-23/2019 dated on 10.05.2019.

2 The holder of the NMÉ is the manufacturer of the construction product.

3 The holder of the NMÉ is not allowed to assign the NMÉ to third party. The NMÉ is valid exclusively for products manufactured in the indicated production plants.

4 The manufacturer of the product or their authorized representative shall notify if the important characteristics of the product, the quality of its raw materials or the production circumstances change and shall apply for the revision and, if necessary, for the amendment of NMÉ.

5 The ÉMI Non-profit Llc. withdraws the NMÉ for the product based on the request of the manufacturer or their authorized representative, based on the decision of the market surveillance authority or at the end of co-existence period, as stipulated in the Regulation No. 305/2011/EU Article 17 (5) of the European Parliament and Council, of the harmonized standard covering the construction product subject of this NMÉ.

6 ÉMI Non-profit Llc. shall issue the NMÉ in Hungarian, and on subsequent request of the manufacturer or their authorized representative for an additional fee in English language. The legal basis is the Hungarian version of the NMÉ.

7 The NMÉ may only be copied or published by means of other data medium in its entirety. Extracts are only allowed on the prior written approval of ÉMI Non-profit Llc. The fact of publishing extracts shall be indicated. Text and figures of advertising materials cannot be contrary to the content of the National Technical Assessment and cannot give rise to misunderstanding.

8 The NMÉ will not replace other permits and certificates (e.g. environment protection and property protection, building authorities' permits) necessary for distribution, installation and use of the product specified by separate provision of law and the documents relating to the constancy of product performance (e.g. product certificate, factory production control certificate, declaration of performance).

9 The declaration of performance issued on the basis of the NMÉ shall not entitle either the manufacturer or their authorized representative to use CE conformity marking on the product or on its packaging or accompanying documents.

10 The NMÉ does not state the fitness for purpose of the product for the particular use. It provides only performance values for essential characteristic as a basis for the declaration of performance. Based on the performances specified in the declaration of performance issued by the manufacturer the product can be installed into construction works in which it complies with the expected technical performance.

II SPECIFIC CONDITIONS OF THE NATIONAL TECHNICAL ASSESSMENT

1 DATA

1.1 Manufacturing site of the product

Site of Műszer Automatika Kft. in Celldömölk
9500 Celldömölk,
Tó utca 4.

1.2 Description of the product

Product name: Manti Ceramic Architectural Medium Density
Product code: MK/00009

Water-based, solvent-free thin coating that can be painted easily and effectively and forms a stable coating containing micro-sized vacuum ceramic spheres. It forms an air and vapour-permeable, water-repellent, uniform coating, provides good adhesion on various surfaces, promotes natural ventilation of buildings, eliminates thermal bridges, thereby reducing mould formation. This is an environment-friendly product that does not generate any hazardous waste during its use.

It provides significant heat protection against sunlight, mainly due to reflective and infrared emission capabilities.

Main properties of the raw material of the product:

Properties	Value	Assessment method
Raw material: Manti Ceramic Architectural Medium Density		
Appearance [-]	easy to mix, white suspension	by visual inspection
Non-volatile-matter content [%(m/m)] (at 105 °C, 1 hour)	63,1 ± 5 rel.%	MSZ EN ISO 3251:2009
Residue on ignition [%(m/m)] (at 600 °C)	40,0 ± 5 rel.%	MSZ EN ISO 14680-2:2006
Organic content [%(m/m)] (at 500 °C)	23,1 ± 5 rel.%	MSZ EN 13820:2004
Volatile organic compound content (V.O.C.) [g/l]	1,27	MSZ EN ISO 11890-2:2013
Density [g/cm^3] (at 20 °C)	0,699 ± 5 rel.%	MSZ ISO 2811-1:2016
pH value [-] (in 10% aqueous suspension)	9,5 ± 0,1	MSZ ISO 787-9:1991
Yield [g/m^2/layer]	550 – 600	MSZ 9650-22:1989, point 2
Through-dry time [hour] (complete drying)	24	MSZ ISO 9117-1:2009
Conditioning time [day]	28	MSZ EN 23270:1993
Colour coordinates (D65/10) [rel.%] L a b	 94,54 ± 5 rel.% -0,08 1,02	MSZ 9619/3:1975/M:1978

1.3 Description of the intended use of the product

For summer heat protection of residential, public and industrial buildings (halls), historic buildings and livestock and crop production buildings on concrete, brick, metal, bitumen surfaces.

2 ESSENTIAL CHARACTERISTICS, PERFORMANCE AND ASSESSMENT METHODS

2.1 Mechanical resistance and stability

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2.2 Safety in case of fire

Essential characteristics	Performance	Assessment method
Product code: Manti Ceramic Architectural Medium Density		
Reaction to fire class [-]	A2 – s1, d0*	MSZ EN 13501-1:2007+A1:2010
Resistance to external fire exposure– class of fire propagation on roofs	NPD**	MSZ EN 13501-5:2016

* The classification applies to the following product characteristics:

- thickness: ≤ 0,4 mm
- density (for dry material): (547±10) kg/m^3

The classification applies to the following end use:

- reaction to fire class of the substrate: min. A2 – s1, d0

** NPD (No performance determined)

2.3 Hygiene, health and the environment

Essential characteristics	Performance	Assessment method
Product code: Manti Ceramic Architectural Medium Density		
Water vapour permeability - water vapour diffusion equivalent air layer thickness (V) [g/m^2/day]; - water vapour diffusion resistance factor (μ) [-]	273 ≤ 39	MSZ EN ISO 7783-2:2000 (withdrawn standard)
Water permeability, w [kg/m^{2}h$^{0.5}$]	1,753*	MSZ EN 1062-3:2009

*It applies to material applied in a layer thickness of 2 mm.

2.4 Safety and accessibility in use

Essential characteristics	Performance	Assessment method
Product code: Manti Ceramic Architectural Medium Density		
Bond strength [N/mm^2] (by perpendicular pull-off, on fibre cement specimen)	2,6 ± 0,5*	MSZ EN 1542:2000

*It applies to material applied in a layer thickness of 2 mm.

2.5 Protection against noise

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2.6 Energy economy and heat retention

Essential characteristics	Performance	Assessment method
Product code: Manti Ceramic Architectural Medium Density		
Amount of solar radiation (W/m^2) transmitted through a painted construction	≤ 20 %*	unique method (based on summer heat protection experiments by BME)

*It applies material applied on external surface in a layer thickness of 1 mm and the substrate has a thermal resistance of at least 0,15 m^2K/W.

2.7 Sustainable use of natural resources

Essential characteristics	Performance	Assessment method
Product code: Manti Ceramic Architectural Medium Density		
Aging with Xenon lamps, colour change (ΔE) (1000 hours, Irradiation energy: 3923.4 KJ/m^2)	0,83*	MSZ EN ISO 16474-2:2014 MSZ EN ISO 11664-4:2011
Durability: Bond strength after 25 freeze-thaw cycles, f_h [rel.%] (on fibre cement)	1,7 ± 5 rel.%**	MSZ EN 1542:2000

* No blistering, peeling or cracking of the coating was observed on the sample plate.
** It applies to material applied in a layer thickness of 2 mm.
Place of breakage: in specimen material.

3 REQUIREMENTS FOR THE ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE

3.1 System for the assessment and verification of constancy of performance

On the basis of Commission Decision 99/91/EC and according to Annex V of the European Parliament and Council Regulation No. a 305/2011/EU:

System (3).

3.2 Tasks of the manufacturer

3.2.1 Factory production control (FPC)

The manufacturer shall develop, document and operate an FPC system that ensures that the performance of the products to be installed meets continuously the values specified in the present NMÉ in a verifiable way.

If the manufacturer's quality management system complies with standard EN ISO 9001 and their system is complemented with the requirements in relation to factory production control stipulated in this NMÉ, this factory production control system can be considered to have met the requirements.

Regarding the product the manufacturer shall develop, operate and control a factory production control system, which ensures the constancy of performance of the product.

The factory production control system shall include:

- the tasks and their responsible persons required in the procedure,
- the rules regarding the review of the qualifications and training of personnel, production and testing equipment, raw materials, supplied products, manufacturing process, handling of emerging non-compliances and complaints and the review of the factory production control system by the manufacturer,
- evaluation of the results of tests made in the framework of factory production control by comparing with the results of the performance assessment,
- tests to be carried out in the scope of the factory production control, according to the control plan of the factory control; requirements concerning the frequency and test methods in accordance with the table below:

Product characteristics	Test method	Minimum frequency of tests
Density [g/cm^3]	MSZ ISO 2811-1	1 / production batch
pH value [-]	MSZ ISO 787-9	
Yield [g/m^2/layer]	MSZ 9650-22	
Viscosity	EN ISO 3219	
Appearance [-]	by visual inspection	

3.2.2 Issuing the declaration of performance

The declaration to be issued by the manufacturer must contain the following data detailed in points:

- the identification number of the declaration,
- the individual identification code of the product type,
- the intended use(s) of the construction product specified by the manufacturer,
- the name, the registered trade name and the registered trade mark as well as the mailing address of the manufacturer,
- optionally the name and mailing address of the authorized representative,
- system or systems in relation to the assessment and verification of constancy of performance of the construction products,
- the name of the organization issuing the NMÉ and the identification number of the NMÉ,
- the performance values given in section 2,
- the following sentences:
    - The performance of the product specified in section 1.2 of NMÉ No A-23/2019 complies with the performance specified in the declaration.
    - Exclusively the manufacturer (or the authorized representative) is responsible for issuing this declaration of performance.
- person signing in the name and on behalf of the manufacturer (or the authorized representative) (name/position),
- place/date/signature.

3.3 Tasks of the designated testing laboratory

3.3.1 Assessment of the performance of the product

This NMÉ can be considered as the assessment of the performance of the product in accordance with point 1.6 in Annex V of the European Parliament and Council Regulation No. 305/2011/EU. Therefore, the designated testing laboratory shall not undertake this task.

4 ANNEXES

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The NMÉ prepared by:

Nikolett Mónos
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Professionally checked and approved by:

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