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CZŁONEK EOTA i UEAtc



NATIONAL TECHNICAL ASSESSMENT ITB-KOT-2017/0062 issue 2

This National Technical Assessment has been issued in accordance with the regulation of the Minister of Infrastructure and Construction of 17 November 2016 regarding national technical assessments (Journal of Laws of 2016, item 1968) by the Building Research Institute in Warsaw, upon request:

MAGNEZYT POLSKA Sp. z o.o.
Wańkowicza Street 4A, unit 32, 02-796 Warsaw

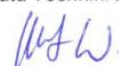
The National Technical Assessment ITB-KOT-2017/0062 issue 2 provides a positive assessment of the functional properties of the following construction products for their intended use:

MAGNECO Premium magnesium boards.

The expiry date of the National Technical Assessment:

March 28, 2029

DYREKTOR
Instytutu Techniki Budowlanej


dr inż. Robert Geryło



Warsaw, March 28, 2024.

The document of the National Technical Assessment ITB-KOT-2017/0062 issue 2 consists of 10 pages, including 1 Annex. The National Technical Assessment ITB-KOT-2017/0062 issue 2 replaces the National Technical Assessment ITB-KOT-2017/0062 issue 1. The text of this document may only be copied in its entirety. Publishing or disseminating any fragments of the text of the National Technical Assessment in any other form requires written agreement from the Building Research Institute..

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1. TECHNICAL DESCRIPTION OF THE PRODUCT

The subject of this National Technical Assessment is MAGNECO Premium magnesium boards, manufactured by MAGNEZYT POLSKA Sp. z o.o., located at ul. Wańkowicza 4A, office 32, 02-796 Warsaw, at the production plant in Ukraine.

The National Technical Assessment covers magnesium boards of the following types: MAGNECO Premium with a thickness of 8 mm, MAGNECO Premium with a thickness of 10 mm, and MAGNECO Premium with a thickness of 12 mm.

The surface dimensions of MAGNECO Premium boards are as follows:

- Length: 2400, 2500, 2600, 2700, or 3000 mm,
- Width: 1200 mm.

MAGNECO Premium magnesium boards are based on magnesium oxide and magnesium chloride and are covered on both sides with a layer of fiberglass mesh, with a grammage of 85 g/m², embedded into the surface of the board.

The identifying characteristics of MAGNECO Premium magnesium boards are provided in Annex A.

2. INTENDED USE OF THE PRODUCT

MAGNECO Premium magnesium boards are intended for indoor use in buildings, for finishing walls, ceilings, and floors, after covering them with a wear layer, excluding areas with elevated humidity (wet rooms).

MAGNECO Premium magnesium boards have been classified as A2-s1,d0 fire reaction class according to PN-EN 13501-1+A1:2010 standard and as non-flammable, non-dripping, and non-shedding under the influence of fire according to the regulation of the Minister of Infrastructure of April 12, 2002, regarding the technical conditions that buildings and their location should meet (Journal of Laws of 2002, item 1225), provided they are mounted directly to a substrate of at least A2-s3,d0 fire reaction class according to PN-EN 13501-1+A1:2019 standard or at any distance from it.

Due to the emission of volatile organic compounds, MAGNECO Premium magnesium boards can be used in rooms of category A and B, intended for human occupancy, according to the directive of the Minister of Health and Social Welfare of March 12, 1996, regarding permissible concentrations and intensities of harmful factors for health emitted by building materials, devices, and equipment in rooms intended for human occupancy (Official Journal of Poland No. 19/1996, item 231). Rooms in which MAGNECO Premium magnesium boards are used can be put into operation immediately after their application.

MAGNECO Premium magnesium boards should be fastened using mechanical connectors brought into rotation. The method of fastening MAGNECO Premium magnesium boards to substrates is not covered by this National Technical Assessment.

Products covered by this National Technical Assessment should be used in accordance with:

- the technical design developed for a specific application, Polish standards, and technical building regulations, especially with the regulation of the Minister of Infrastructure of April 12, 2002, regarding the technical conditions that buildings and their location should meet (Journal of Laws of 2022, item 1225),
- the provisions of this National Technical Assessment,
- the installation instructions developed by the manufacturer and provided to recipients.

3. FUNCTIONAL PROPERTIES OF THE PRODUCT AND METHODS USED FOR THEIR ASSESSMENT

The functional properties of MAGNECO Premium magnesium boards and the methods used for their assessment are provided in Table 1.

Table 1

ITEM	ESSENTIAL CHARACTERISTICS	VALUES	REPORT REFERENCE
1	Total water absorption, % boards with a thickness of 8 mm boards with a thickness of 10 and 12 mm	≤ 20 ≤ 28	PN-EN 520+A1:2012
2	Flexural strength, MPa: boards with a thickness of 8 mm boards with a thickness of 10 and 12 mm	$\geq 10,0$ $\geq 7,0$	PN-EN 12467+A2:2018
3	Flexural strength after soaking in water for 24 hours, MPa boards with a thickness of 8 mm boards with a thickness of 10 and 12 mm	$\geq 8,0$ $\geq 5,0$	
4	Hardness determined by the indentation diameter, mm	≤ 15	PN-EN 15283-2+A1:2012
5	Adhesion of fiberglass mesh to the surface of the board, MPa	$\geq 0,6$	PN-EN 311:2004
6	Impact resistance with a hard body, mm/mm	≥ 18	PN-EN 1128:2000
7	Compressive strength, MPa	≥ 15	PN-EN 826:2013
8	Dimensional stability under specified temperature and humidity conditions: - Relative change in length with humidity change from 65 to 85% and from 65 to 30%, mm/m - Relative change in thickness with humidity change from 65 to 85% and from 65 to 30%, %	≤ 1 ≤ 1	PN-EN 318:2004
9	Shear strength, N	≥ 750	PN-EN 520+A1:2012
10	Water vapor diffusion resistance coefficient, μ : - boards with a thickness of 8 and 10 mm - boards with a thickness of 12 mm	$11 \pm 0,5$ $7,0 \pm 0,5$	PN-EN 12572:2016
11	Diffusively equivalent air layer thickness, S_d , m	$\leq 0,1$	
12	Classification regarding fire reaction, class	A2-s1,d0	PN-EN 13501-1+A1:2010
13	Emission of volatile organic compounds (VOC) - time required to reach permissible concentrations of harmful substances for health, days	≤ 28	PN-EN ISO 16000-9:2009

4. PACKAGING, TRANSPORT, AND STORAGE, AS WELL AS PRODUCT MARKING

Products covered by this National Technical Assessment should be delivered in manufacturer's packaging and stored and transported in a manner that ensures the integrity of their technical properties.

The method of marking the products with a construction mark should comply with the regulation of the Minister of Infrastructure and Construction of November 17, 2016, regarding the manner of declaring the functional properties of construction products and the method of marking them with a construction mark (Journal of Laws of 2023, item 873).

The product marking with a construction mark should be accompanied by the following information:

- the last two digits of the year in which the construction mark was first placed on the construction product,
- the name and address of the manufacturer or an identification mark allowing to unequivocally determine the name and address of the manufacturer's headquarters,
- the name and designation of the type of construction product,
- the number and year of issue of the national technical assessment, according to which the functional properties were declared (ITB-KOT-2017/0062 issue 2),
- the number of the national declaration of performance,
- the level or class of declared functional properties,
- the name of the certification body that participated in the assessment and verification of the constancy of the construction product's functional properties (if applicable),
- the manufacturer's website address, if the national declaration of performance is available on it.

Along with the national declaration of performance, a safety data sheet and/or information on hazardous substances contained in the construction product, as referred to in Article 31 or 33 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the registration, evaluation, authorization and restriction of chemicals (REACH) and establishing a European Chemicals Agency, should be provided or made available in appropriate cases.

Furthermore, the marking of a construction product that constitutes a hazardous mixture according to the REACH regulation should comply with the requirements of Regulation (EC) No 1272/2008 of the European Parliament and of the Council on the classification, labeling, and packaging of substances and mixtures (CLP), amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

5. ASSESSMENT AND VERIFICATION OF THE CONSISTENCY OF FUNCTIONAL PROPERTIES

5.1 The national system for assessing and verifying the consistency of functional properties

According to the regulation of the Minister of Infrastructure and Construction of November 17, 2016, regarding the manner of declaring the functional properties of construction products and the method of marking them with a construction mark (Journal of Laws of 2023, item 873), systems for assessing and verifying the consistency of functional properties apply according to Table 2.

Table 2

The group of construction products	Intended use of construction products	Classes	National system for assessment and verification of the consistency of functional properties
Boards	- for applications subject to fire reaction requirements	A1 *, A2 *, B *, C *	1
		A1 **, A2 **, B **, C **, D, E	3
		(A1 do E) ***, F	4
	- for other applications	-	3
* Products (materials) for which at a clearly definable stage of production, the functional properties related to fire reaction are improved (e.g., by adding flame-retardant products or limiting the content of organic materials). ** Products (materials) for which at a clearly definable stage of production, the functional properties related to fire reaction are not improved (e.g., by adding flame-retardant products or limiting the content of organic materials). *** Products (materials) for which there is a European legal basis (decisions or delegated regulations of the Commission) allowing for the classification of their functional properties related to fire reaction without conducting tests.			

5.2 Type testing

The functional properties assessed in section 3 constitute type testing of the product until changes occur in the raw materials, components, production line, or production facility.

5.3 Factory production control

The manufacturer should have implemented a system of factory production control at the production facility. All elements of this system, requirements, and provisions adopted by the manufacturer should be systematically documented in the form of principles and procedures, including records from conducted tests. Factory production control should be adapted to the production technology and ensure the maintenance of declared functional properties of the product in serial production.

Factory production control includes specification and verification of raw materials and components, control and testing in the manufacturing process, as well as control testing (according to section 5.4), conducted by the manufacturer according to an established testing plan and according to the principles and procedures specified in the documentation of factory production control.

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The results of production control should be systematically recorded. The records of the register should confirm that the products meet the criteria for assessing and verifying the consistency of functional properties. Each individual product or batch of products and related production details must be fully identifiable and reproducible.

5.4 Control testing

Control testing should be conducted according to an established testing plan and according to the principles and procedures specified in the documentation of factory production control, but no less frequently than indicated in Table 3.

Table 3

Scope of control testing	The frequency
External appearance	For each batch of products ¹⁾
Dimensional deviations	For each batch of products ¹⁾
Flatness	For each batch of products ¹⁾
Density	For each batch of products ¹⁾
Total water absorption	For each batch of products ¹⁾
Flexural strength (under laboratory conditions)	For each batch of products ¹⁾
Compressive strength	Once every 5 years
Dimensional stability	Once every 5 years
Hardness	Once every 5 years
Water vapor diffusion resistance coefficient	Once every 5 years
Fire reaction	Once every 5 years
¹⁾ The size of product batches should be specified in the documentation of factory production control.	

6. NOTICE

6.1. The National Technical Assessment ITB-KOT-2017/0062 issue 2 replaces the National Technical Assessment ITB-KOT-2017/0062 issue 1.

6.2. The National Technical Assessment ITB-KOT-2017/0062 issue 2 is a positive assessment of the functional properties of the essential characteristics of MAGNECO Premium magnesium boards, which, according to the intended use resulting from the provisions of the Assessment, affect the fulfillment of essential requirements by the construction works in which the product will be used.

6.3. The National Technical Assessment ITB-KOT-2017/0062 issue 2 is not a document authorizing the marking of the construction product with a construction mark.

In accordance with the Act of April 16, 2004 (Journal of Laws of 2021, item 1213) on construction products, products covered by this National Technical Assessment may be placed on the market or made available on the domestic market if the manufacturer has assessed and verified the consistency of the functional properties, prepared a national declaration of performance in accordance with the National Technical Assessment ITB-KOT-2017/0062 issue 2, and marked the products with a construction mark, in accordance with applicable regulations.

6.4. The National Technical Assessment ITB-KOT-2017/0062 issue 2 does not infringe on the rights arising from industrial property protection regulations, in particular the Act of June 30, 2000 - Industrial Property Law (Journal of Laws of 2023, item 1170). Ensuring these rights is the responsibility of those benefiting from this National Technical Assessment ITB.

6.5. ITB, issuing the National Technical Assessment, is not responsible for any infringement of exclusive and acquired rights.

6.6. The National Technical Assessment does not release the manufacturer of products from the responsibility for their proper quality, and construction contractors from the responsibility for their proper use.

6.7. The validity of the National Technical Assessment may be extended for subsequent periods, not exceeding 5 years.

7. LIST OF DOCUMENTS USED IN THE PROCEEDINGS

7.1 Reports, research reports, assessments, classifications

- 1) LZM01-01940/23/Z00NZM. Report on the tests of Magneco Premium magnesium boards, Department of Building Materials Engineering, ITB, Warsaw 2023.
- 2) LZM02-01940/23/Z00NZM. Report on the tests of Magneco Premium magnesium boards, Department of Building Materials Engineering, ITB, Warsaw 2023.
- 3) NZM.411.326.2022 02840.25.MW. Supplementary opinion regarding magnesium boards, Department of Building Materials Engineering, ITB, Warsaw 2024.
- 4) LZM01-00652/16/Z00NK, Department of Building Materials Engineering, ITB, Warsaw 2017.
- 5) LZM02-00652/16/Z00NK, Department of Building Materials Engineering, ITB, Warsaw 2016.
- 6) LZF00-00652/16/Z00NK, Department of Thermal Physics, Acoustics and Environment, ITB, Warsaw 2016.
- 7) LZF00-2103/16/Z00NZF, Department of Thermal Physics, Acoustics and Environment, ITB, Warsaw 2016.
- 8) 00652.1/16/Z00NZP. Fire classification. Fire Research Department, ITB, Warsaw 2017.

7.2 Standards and related documents

PN-EN 311:2004	<i>Wood-based panels. Surface layer delamination resistance. Test method.</i>
PN-EN 520+A1:2012	<i>Gypsum plasterboards. Definitions, requirements, and test methods</i>
PN-EN 825:2013	<i>Building thermal insulation products. Determination of flatness</i>
PN-EN 826:2013	<i>Building thermal insulation products. Determination of compressive behavior</i>
PN-EN 1128:2000	<i>Cement-bonded particleboards. Determination of impact resistance by a hard body</i>

PN-EN 318:2004	<i>Wood-based panels. Determination of dimensional changes caused by changes in relative air humidity</i>
PN-EN 12467+A2:2018	<i>Flat fiber-cement sheets. Product characteristics and test methods</i>
PN-EN 13501-1+A1:2010	<i>Classification of the fire resistance of building products and elements. Part 1: Classification based on fire reaction test results</i>
PN-EN ISO 15283-2+A1:2012	<i>Gypsum boards reinforced with fibers. Definitions, requirements, and test methods. Part 2: Gypsum-fiber boards</i>
PN-EN ISO 12572:2016	<i>Thermal and moisture properties of building materials and products. Determination of properties related to water vapor transport</i>
PN-EN ISO 16000-9:2009	<i>Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishings - Chamber method</i>
ITB-KOT-2017/0062 issue 1	<i>Magnesium boards MAGNECO Standard</i>

Attachment A. Identification characteristics of MAGNECO Premium boards

Item	Identification characteristics	Requirements	Test methods
1	2	3	4
1	External appearance	Creamy color, smooth surface layer, visible mesh pattern embedded in the subsurface layer	Visual assessment
2	Permissible deviations in dimensions: - Thickness, % - Width, mm - Length, mm	± 5 ± 3 ± 5	PN-EN 12467+A2:2018
3	Flatness, mm	± 1	PN-EN 825:2013
4	Density, g/cm ³ : - Thickness of 8 mm boards - Thickness of 10 mm boards - Thickness of 12 mm boards	$0,85 \pm 10\%$ $0,82 \pm 10\%$ $0,73 \pm 10\%$	PN-EN 12467+A2:2018