



European Technical Approval ETA-13/0529

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung
Trade name

ArsRatio Systembodenelemente
ArsRatio System Flooring Elements

Zulassungsinhaber
Holder of approval

ArsRatio GmbH
Perlmooserstraße 2
6322 KIRCHBICHL
ÖSTERREICH

Zulassungsgegenstand
und Verwendungszweck
*Generic type and use
of construction product*

Verbundbodenbelagssysteme
Composite floor coverings

Geltungsdauer:
Validity: vom
from
bis
to

26 June 2013
26 June 2018

Herstellwerk
Manufacturing plant

ArsRatio GmbH
Perlmooserstraße 2
6322 KIRCHBICHL
ÖSTERREICH

Diese Zulassung umfasst
This Approval contains

10 Seiten einschließlich 1 Anhang
10 pages including 1 annex

I LEGAL BASES AND GENERAL CONDITIONS

- 1 This European technical approval is issued by Deutsches Institut für Bautechnik in accordance with:
 - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products¹, modified by Council Directive 93/68/EEC² and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council³;
 - *Gesetz über das In-Verkehr-Bringen von und den freien Warenverkehr mit Bauprodukten zur Umsetzung der Richtlinie 89/106/EWG des Rates vom 21. Dezember 1988 zur Angleichung der Rechts- und Verwaltungsvorschriften der Mitgliedstaaten über Bauprodukte und anderer Rechtsakte der Europäischen Gemeinschaften (Bauproduktengesetz - BauPG) vom 28. April 1998⁴, as amended by Article 2 of the law of 8 November 2011⁵;*
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC⁶.
- 2 Deutsches Institut für Bautechnik is authorized to check whether the provisions of this European technical approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European technical approval and for their fitness for the intended use remains with the holder of the European technical approval.
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- 6 The European technical approval is issued by the approval body in its official language. This version corresponds fully to the version circulated within EOTA. Translations into other languages have to be designated as such.

¹ Official Journal of the European Communities L 40, 11 February 1989, p. 12
² Official Journal of the European Communities L 220, 30 August 1993, p. 1
³ Official Journal of the European Union L 284, 31 October 2003, p. 25
⁴ *Bundesgesetzblatt Teil I 1998*, p. 812
⁵ *Bundesgesetzblatt Teil I 2011*, p. 2178
⁶ Official Journal of the European Communities L 17, 20 January 1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of the product and intended use

1.1 Definition of the construction product

This European Technical Approval applies for the composite floor covering "ArsRatio System Flooring Elements".

The "ArsRatio System Flooring Elements" consist of a flooring material and a supporting layer, both embedded in a frame of hard-wearing polyurethane. More information is given in Table 1, 2, 3 and Annex 1.

Table 1: Composition of a single "ArsRatio System Flooring Element"

Type	Composition	Dimension [mm x mm]	Thickness [mm]	Mass per unit area [kg/m ²]
1	<ul style="list-style-type: none"> - Ceramic tiles - polystyrene panel reinforced by a metal mesh - polyurethane frame 	600 x 600 1200 x 1200 750 x 750 800 x 800 900 x 900 1000 x 1000 600 x 1200	27	25 - 40
2	<ul style="list-style-type: none"> - Ceramic tiles - gypsum panel - polyurethane frame 	600 x 600 1200 x 1200 750 x 750 800 x 800 900 x 900 1000 x 1000 600 x 1200	27	40 – 55

All data ± 10 %, unless otherwise stated.

Table 2: Specific data of the applied flooring material

Flooring material	Producer	Group/Product serie/ Product name	Thickness [mm]	Dimension [mm]
Extruded ceramic tiles according to EN 14411 ⁷	Deutsche Steinzeug Cremer & Breuer AG, Germany	Group "Ala", unglazed	8 - 12	Length: 200; 300; 400; 450; 500; 600; 750; 800; 900; 1000; 1200
Dry pressed ceramic tiles according to EN 14411		Group "Bla", unglazed		Width: 200; 300; 400; 450; 500; 600; 750; 800; 900; 1000

⁷ EN 14411:2012

Ceramic tiles – Definitions, classification, characteristics, evaluation of conformity and marking

Flooring material	Producer	Group/Product serie/ Product name	Thickness [mm]	Dimension [mm]
Ceramic tiles according to EN 14411	Casalgrande Padana S.P.A, Italy	Group "Bla", unglazed Granitogres: - Surface: Naturale: - Marte - Architecture - Granito1 - Surface: Gloss: - Architecture Gloss Group "Bla", glazed Granitoker: - Newood - Metalwood	8 - 12	Length: 200; 300; 400; 450; 500; 600; 750; 800; 900; 1000; 1200 Width: 200; 300; 400; 450; 500; 600; 750; 800; 900; 1000
All data ± 10 %, unless otherwise stated.				

Table 3: Specific data of the applied supporting layers

Layer	Supplier/ Producer	Product name	Thick- ness [mm]	Mass per unit area [kg/m ²]	Density [kg/m ³]
Expanded polystyrene (EPS ⁸) panels reinforced by a metal mesh	Taracell, R.Meier's Söhne AG, Schweiz	k.A.	16 - 19	8,8 - 11,6	550 - 610 ± 30
Gypsum boards with fibrous reinforcement according to EN 15283-2 ⁹	Lindner GFT GmbH, Germany	Norit-IP G	16 - 19 ± 0,3	20 - 23,75	1250
All data ± 10 %, unless otherwise stated.					

The frame and the joints consist of polyurethane. All joints measure 3.0 mm wide after installation.

The adhesion between ceramic tiles and supporting layers is achieved by means of a thin polyurethane layer.

1.2 Intended use

The product is used as a floor covering in interiors, only in non permanent wet rooms.

⁸ EPS: Expanded polystyrene

⁹ EN 15283-2:2008+A1:2009 Gypsum boards with fibrous reinforcement – Definitions, requirements and test methods – Part 2: Gypsum fibre boards

1.3 Assumed

The provisions made in this European technical approval are based on an assumed working life of the "ArsRatio System Flooring Elements" of ten years provided the conditions of the intended use are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

2 Characteristics of the product and methods of verification

2.1 Composition and production methods

The information about the composition of the "ArsRatio System Flooring Elements" is deposited at the Deutsches Institut für Bautechnik.

2.2 Reaction to fire

The reaction to fire of the "ArsRatio System Flooring Elements" (see clause 1.1) is classified as C_{fi} - s1 according to EN 13501-1¹⁰, if using the product on substrates of wood or wood-based materials as well as of construction materials of classes A1 or A2 - s1,d0 according to EN 13501-1, each with an apparent density of ≥ 470 kg/m³ and a thickness ≥ 10 mm.

2.3 Content and release of dangerous substances

The composite floor covering does contain volatile organic compounds and dangerous substances in small amounts as specified in TR 034¹¹ which cannot be avoided for technical reasons. The release of volatile organic compounds was tested and assessed.

The composite floor covering does meet the requirements according to the "Principles for the health assessment of construction products used in interiors"¹².

Note: In addition to the specific clauses relating to dangerous substances contained in this European technical approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Directive, these requirements need also to be complied with, when and where they apply.

2.4 Slip resistance

The slip resistance of the composite floor covering depends on the surface characteristic and dimension of the respective ceramic tile. For that reason, only the applied ceramic tiles (see Table 2) were tested in accordance with CEN/TS 16165¹³, Annex B and Annex D. Following parameters are declared (see Table 4):

¹⁰ EN 13501-1:2010 Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests

¹¹ Technical Report 034: General ER3 Checklist for ETAGs/CUAPS: Content and/or release of dangerous substances in products/kits. Version 2013, siehe <http://www.eota.be>

¹² see notification No 167/2005/D at Tris database, http://ec.europa.eu/enterprise/tris/public_info/index_en.htm or <http://www.dibt.de>

¹³ CEN/TS 16165:2012 Determination of slip resistance of pedestrian surfaces - Methods of evaluation

Table 4: Slip resistance verification according to CEN/TS 16165

Flooring material	Supplier/ Producer	Group/Product serie/ Product name	Slip resistance according to CEN/TS 16165:2012	
			Critical Angle α_{shod}	Sliding friction coefficient μ
Extruded ceramic tiles according to EN 14411	Deutsche Steinzeug Cremer & Breuer AG, Germany	Group "Ala", unglazed - Riva Flatile	10,6°	0,69
		- Bosco	10,5°	0,63
Dry pressed ceramic tiles according to EN 14411		Group "Bla", unglazed - Emotion	7,6°	0,51
Dry pressed ceramic tiles according to EN 14411	Casalgrande Padana S.P.A, Italy	Group "Bla", unglazed Granitogres:		
		- Surface: Naturale:		
		- Marte	6,1°	0,54
		- Architecture	8,1°	0,51
		- Granito1	8,8°	0,58
		- Surface: Gloss:		
- Architecture Gloss	6,0°	0,25		
		Group "Bla", glazed Granitoker:		
		- Newood	8,6°	0,61
		- Metalwood	3,5°	0,28

3 Evaluation and attestation of conformity and CE marking

3.1 System of attestation of conformity

According to the communication of the European Commission¹⁴ system 1 of the attestation of conformity laid down in Decision 97/808/EC¹⁵ of the European Commission for rigid flooring products for internal uses, amended by Decision 1999/453/EC¹⁶ and 2001/596/EC¹⁷ and 2006/190/EC¹⁸ shall also be applied to the composite floor coverings.

¹⁴ Letter of the European Commission of 02/03/2012 to EOTA

¹⁵ Official Journal of the European Communities L 331/18 of 03/12/1997

¹⁶ Official Journal of the European Communities L 178/50 of 14/07/1999

¹⁷ Official Journal of the European Communities L 209/33 of 02/08/2001

¹⁸ Official Journal of the European Communities L 66/47 of 08/03/2006

This system of attestation of conformity is defined as follows:

System 1: Certification of the conformity of the product by an approved certification body on the basis of:

- (a) Tasks for the manufacturer:
 - (1) factory production control;
 - (2) further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan;
- (b) Tasks for the approved body:
 - (3) initial type-testing of the product;
 - (4) initial inspection of factory and of factory production control;
 - (5) continuous surveillance, assessment and approval of factory production control.

3.2 Responsibilities

3.2.1 Tasks for the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall insure that the product is in conformity with this European technical approval.

The manufacturer may only use raw and constituent materials stated in the technical documentation of this European technical approval.

The factory production control shall be in accordance with the control plan which is part of the technical documentation of this European technical approval. The control plan is laid down in the context of the factory production control system operated by the manufacturer and deposited with Deutsches Institut für Bautechnik¹⁹.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

3.2.1.2 Other tasks for the manufacturer

The manufacturer shall, on the basis of a contract, involve bodies which are approved for the tasks referred to in section 3.1 in the field of composite floor coverings in order to undertake the actions laid down in section 3.2.2. For this purpose, the control plan referred to in sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the approved bodies involved.

3.2.2 Tasks for the approved bodies

The approved bodies shall perform the

- initial type-testing of the product,
 - initial inspection of factory and of factory production control,
 - continuous surveillance, assessment and approval of factory production control,
- in accordance with the provisions laid down in the control plan.

¹⁹ The control plan is a confidential part of the European technical approval and only handed over to the approved bodies involved in the procedure of attestation of conformity. See section 3.2.2.

The approved bodies shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in written reports.

The approved certification body involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European technical approval.

In cases where the provisions of the European technical approval and its control plan are no longer fulfilled the certification body shall withdraw the certificate of conformity and inform Deutsches Institut für Bautechnik without delay.

3.3 CE marking

The CE marking shall be affixed on the product, the packaging or the accompanying commercial document. The letters "CE" shall be followed by the identification number of the approved certification body, where relevant, and be accompanied by the following additional information:

- the name and address of the producer (legal entity responsible for the manufacture)
- the last two digits of the year in which the CE marking was affixed
- the number of the EC certificate of conformity for the product
- the number of the European technical approval
- identification of the product (specific name)
- composite floor covering for use in interiors, not in permanent wet rooms
- reaction to fire: class according to EN 13501-1, indicating the substrate
- the release of dangerous substances: passed
- the slip resistance: declared value indicated as critical angle α_{shod} according to CEN/TS 16165, Annex B and sliding friction coefficient μ according to CEN/TS 16165, Annex D

4 Assumptions under which the fitness of the product for the intended use was favourably assessed

4.1 Manufacturing

The European technical approval is issued for the product on the basis of agreed data/information, deposited with Deutsches Institut für Bautechnik, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to Deutsches Institut für Bautechnik before the changes are introduced. Deutsches Institut für Bautechnik will decide whether or not such changes affect the approval and consequently the validity of the CE marking on the basis of the approval and if so whether further assessment or alterations to the approval shall be necessary.

4.2 Installation

The "ArsRatio System Flooring Elements" consist of integrated adjustment mechanisms on all sides which facilitate the installation of the system elements. With low pressure the system elements are automatically locked together on all sides.

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5 Indications to the manufacturer

5.1 Packaging, transport and storage

The "ArsRatio System Flooring Elements" must be wrapped so that they are protected from moisture during transport and storage.

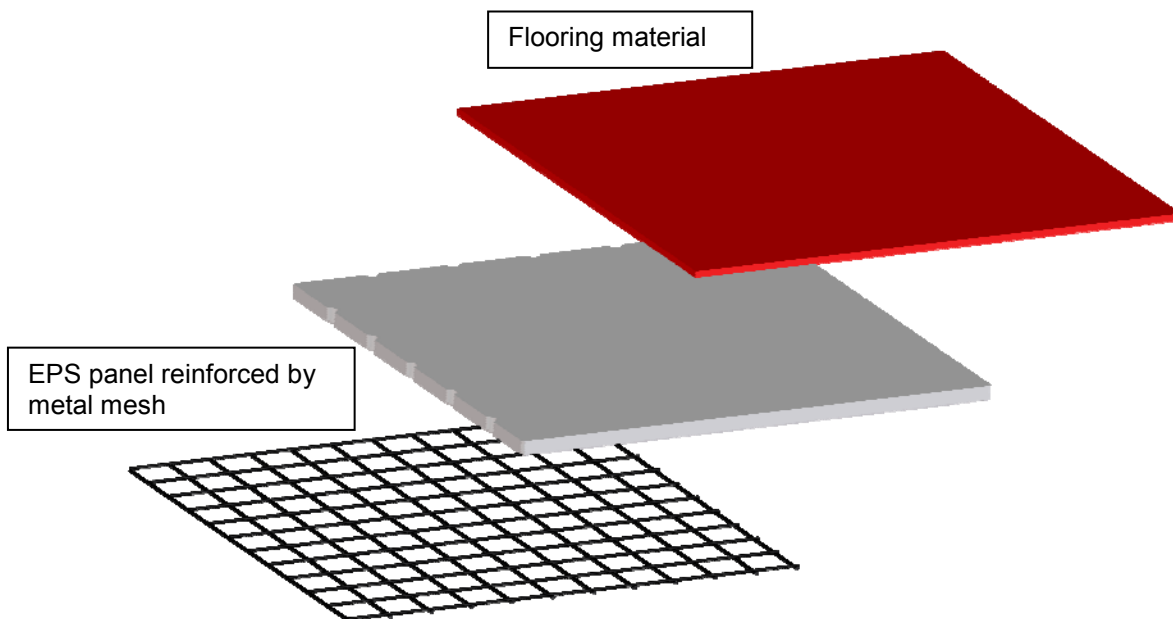
5.2 Use, maintenance, repair

The "ArsRatio System Flooring Elements" can be picked up again and reused more times.

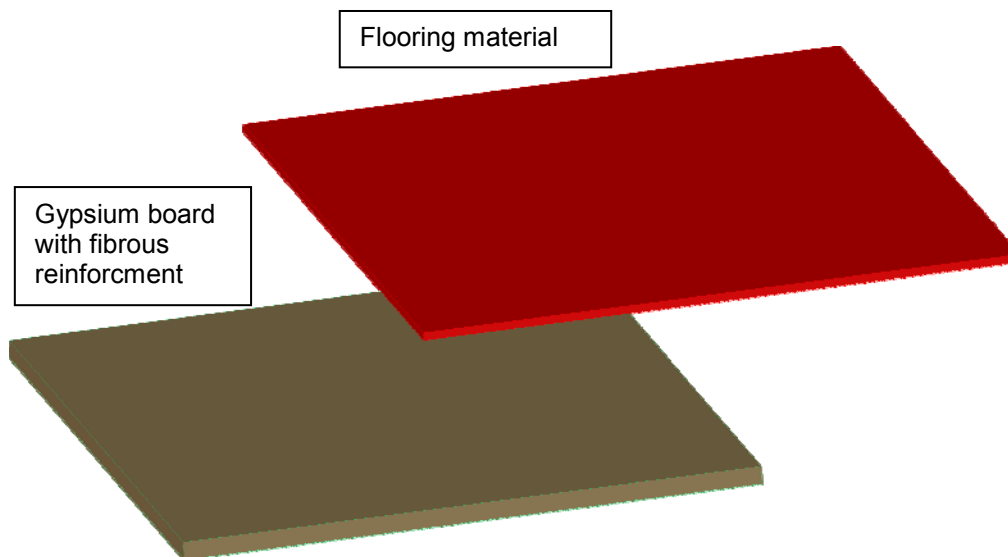
Uwe Bender
p. p. Head of Department

beglaubigt:
Dr.-Ing. Kirchner

Type 1: Flooring material and EPS panel, reinforced with a metal mesh



Type 2: Flooring material and gypsum board with fibrous reinforcement



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ArsRatio System Flooring Elements	Annex 1
Description of the product	