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European Technical Assessment

ETA-16/0551
of 22.08.2016

General part

Technical Assessment Body issuing the European Technical Assessment

Österreichisches Institut für Bautechnik (OIB)
Austrian Institute of Construction Engineering

Trade name of the construction product

Pneumatit

Product family to which the construction product belongs

Type I addition for concrete, mortar and screed materials – Aqueous solution

Manufacturer

Pneumatit GmbH
Klosterplatz 1
8462 Rheinau
Switzerland

Manufacturing plant

Pneumatit GmbH
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This European Technical Assessment contains

8 pages.

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of

European Assessment Document
EAD 260007-00-0301, Type I addition for concrete, mortar and screed materials – Aqueous solution, edition July 2016.

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Remarks

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Specific parts

1 Technical description of the product

1.1 General

The European Technical Assessment – ETA – applies to a product, the Type I addition for concrete, mortar, and screed material.

Pneumatit.

The Type I addition is an aqueous solution and free of particulate and except a dye free of organic matter.

NOTE 1 The dye serves to colour the Type I addition and not concrete, mortar, or screed material.

NOTE 2 According to EN 206¹ a Type I addition is a “nearly inert addition” for concrete.

According to the declaration of the ETA holder, the Type I addition for concrete, mortar, and screed material does not contain any dangerous substance.

2 Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

2.1 Intended use

The Type I addition is intended to be used in concrete, mortar, and screed material.

2.2 Assumptions

2.2.1 General

Concerning product packaging, transport, storage, maintenance, replacement, and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his clients on transport, storage, maintenance, replacement, and repair of the product as he considers necessary.

It is assumed that the product will be installed according to the manufacturer’s instructions or – in absence of such instructions – according to the usual practice of the building professionals.

2.2.2 Use

The performances of the Type I addition for concrete, mortar, and screed material according to Clause 3.1 meet the recommendations of EN 1008, EN 12620, and EN 12878. The slightly increased value of total carbon is expected to cause no harm.

¹ Standards, Guidelines, and other documents referred to in the European Technical Assessment, are listed in page 7.

3 Performances of the product and references to the methods used for its assessment

3.1 Essential characteristics

The performances of the Type I addition for concrete, mortar, and screed material for the essential characteristics are given in Table 1.

Table 1 Essential characteristics and performances of the product

No	Essential characteristic	Product performance
(1)	(2)	(3)
Basic requirement for construction works 1: Mechanical resistance and stability		
1	Harmful content – Colour	Light blueish
2	Harmful content – Suspended matter	No suspended matter
3	Harmful content – Odour	Odourless
4	pH-value	6.95
5	Chlorides	40 mg/l
6	Sulphates	100 mg/l
7	Lead	< 0.01 mg/l
8	Zinc	0.015 mg/l
9	Equivalent Na ₂ O content	64 mg/l
10	Total carbon	54 mg/l
11	Setting time	See Clause 3.1.1.1.
12	Compressive strength	See Clause 3.1.1.2.
Basic requirement for construction works 2: Safety in case of fire		
—	Not relevant. No characteristic assessed.	—
Basic requirement for construction works 3: Hygiene, health, and the environment		
—	No characteristic assessed.	—
Basic requirement for construction works 4: Safety and accessibility in use		
13	Same as basic requirement for construction works 1	—
Basic requirement for construction works 5: Protection against noise		
—	Not relevant. No characteristic assessed.	—
Basic requirement for construction works 6: Energy economy and heat retention		
—	Not relevant. No characteristic assessed.	—

№	Essential characteristic	Product performance
(1)	(2)	(3)
Basic requirement for construction works 7: Sustainable use of natural resources		
—	No characteristic assessed.	—

3.1.1 Mechanical resistance and stability

3.1.1.1 Setting time

The Type I addition for concrete, mortar, and screed material, as described in the ETA, meets the acceptance criteria of EN 12878, clause 4.1.2.1 and 4.1.2.2.

Initial setting time for the mix composed of a cement without Type I addition for concrete, mortar, and screed material is 220 minutes and with Type I addition for concrete, mortar, and screed material is 230 minutes. Final setting time for the mix composed of a cement without Type I addition for concrete, mortar, and screed material is 240 minutes and with Type I addition for concrete, mortar, and screed material is 250 minutes.

Initial setting time for the mix composed of a calcium sulphate binder without Type I addition for concrete, mortar, and screed material is 240 minutes and with Type I addition for concrete, mortar, and screed material is 215 minutes. Final setting time for the mix composed of a calcium sulphate binder without Type I addition for concrete, mortar, and screed material is 300 minutes and with Type I addition for concrete, mortar, and screed material is 250 minutes.

NOTE The absolute values of setting time depend on the binders, i.e. cement and calcium sulphate binder.

3.1.1.2 Compressive strength

The Type I addition for concrete, mortar, and screed material, as described in the ETA, meets the acceptance criteria of EN 12620, clause 6.4.1. The ratio f_c , prisms with cement, is 1.06 and the ratio f_s , prisms with calcium sulphate binder, is 1.04.

3.2 Assessment methods

The assessment of the essential characteristics in Clause 3.1 of the Type I addition for concrete, mortar, and screed material, for the intended uses and in relation to the requirements for mechanical resistance and stability and for safety and accessibility in use in the sense of the basic requirements for construction works № 1 and 4 of Regulation (EU) № 305/2011 has been made in accordance with the European Assessment Document EAD 260007-00-0301, Type I addition for concrete, mortar, and screed material – Aqueous solution, edition July 2016.

3.3 Identification

The European Technical Assessment for the Type I addition for concrete, mortar, and screed material is issued on the basis of agreed data that identify the assessed product². Changes to materials, to composition, or to characteristics of the product, or to the production process could result in these deposited data being incorrect. Österreichisches Institut für Bautechnik should be notified before the changes are implemented, as an amendment of the European Technical Assessment is possibly necessary.

² The technical file of the European Technical Assessment is deposited at Österreichisches Institut für Bautechnik.

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

4.1 System of assessment and verification of constancy of performance

According to Commission Decision 1999/469/EC the system of assessment and verification of constancy of performance to be applied to the Type I addition for concrete, mortar, and screed material is System 2+. System 2+ is detailed in Commission Delegated Regulation (EU) № 568/2014 of 18 February 2014, Annex, 1.3, and provides for the following items.

- (a) The manufacturer shall carry out
 - (i) an assessment of the performance of the construction product on the basis of testing (including sampling), calculation, tabulated values, or descriptive documentation of that product;
 - (ii) factory production control;
 - (iii) testing of samples taken at the manufacturing plant by the manufacturer in accordance with the prescribed test plan³.
- (b) The notified factory production control certification body shall decide on the issuing, restriction, suspension, or withdrawal of the certificate of conformity of the factory production control on the basis of the outcome of the following assessments and verifications carried out by that body
 - (i) initial inspection of the manufacturing plant and of factory production control;
 - (ii) continuing surveillance, assessment, and evaluation of factory production control.

4.2 AVCP for construction products for which a European Technical Assessment has been issued

Manufacturers undertaking tasks under System 2+ shall consider the European Technical Assessment issued for the construction product in question as the assessment of the performance of that product. Manufacturers shall therefore not undertake the tasks referred to in Clause 4.1, point (a) (i).

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

5.1 Tasks for the manufacturer

5.1.1 Factory production control

In the manufacturing plant the manufacturer establishes and continuously maintains a factory production control. All procedures and specifications adopted by the manufacturer are documented in a systematic manner. Purpose of factory production control is to ensure the constancy of performances of the Type I addition for concrete, mortar, and screed material with regard to the essential characteristics.

The manufacturer only uses raw materials supplied with the relevant inspection documents as laid down in the control plan. The incoming raw materials are subjected to controls by the manufacturer before acceptance. Check of incoming materials includes control of inspection documents presented by the manufacturer of the raw materials.

³ The prescribed test plan has been deposited with Österreichisches Institut für Bautechnik and is handed over only to the notified factory production control certification body involved in the procedure for the assessment and verification of constancy of performance. The prescribed test plan is also referred to as control plan.

Testing within factory production control is in accordance with the prescribed test plan. The results of testing are recorded and evaluated. The records are kept at least for ten years after the construction product has been placed on the market and are presented to the notified factory production control certification body involved in continuous surveillance. On request the records are presented to Österreichisches Institut für Bautechnik.

If test results are unsatisfactory, the manufacturer shall immediately implement measures to eliminate the defects. Construction products or components that are not in conformity with the requirements are removed. After elimination of the defects, the respective test – if verification is required for technical reasons – is repeated immediately.

5.1.2 Declaration of performance

The manufacturer is responsible for preparing the declaration of performance. When all the criteria of the assessment and verification of constancy of performance are met, including the certificate of conformity of the factory production control issued by the notified factory production control certification body, the manufacturer draws up the declaration of performance. Essential characteristics to be included in the declaration of performance for the corresponding intended use are given in Clause 3.1, Table 1.

5.2 Tasks for the notified factory production control certification body

5.2.1 Initial inspection of the manufacturing plant and of factory production control

The notified factory production control certification body verifies the ability of the manufacturer for a continuous and orderly manufacturing of the Type I addition for concrete, mortar, and screed material according to the European Technical Assessment. In particular the following items are appropriately considered.

- Personnel and equipment
- Suitability of the factory production control established by the manufacturer
- Full implementation of the prescribed test plan

5.2.2 Continuing surveillance, assessment, and evaluation of factory production control

The notified factory production control certification body visits the manufacturing plant at least once a year for routine inspection. In particular the following items are appropriately considered.

- Manufacturing process including personnel and equipment
- Factory production control
- Implementation of the prescribed test plan

The results of continuous surveillance are made available on demand by the notified factory production control certification body to Österreichisches Institut für Bautechnik. When the provisions of the European Technical Assessment and the prescribed test plan are no longer fulfilled, the certificate of conformity of the factory production control is withdrawn by the notified factory production control certification body.

Reference documents

EAD 260007-00-0301	Type I addition for concrete, mortar, and screed material – Aqueous solution, edition July 2016
EN 206, 12.2013	Concrete – Specification, performance, production and conformity
EN 1008, 06.2002	Mixing water for concrete – Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete

- EN 12620+A1, 04.2014 Aggregates for concrete
- EN 12878, 04.2014 Pigments for the colouring of building materials based on cement and/or lime – Specifications and methods of test
- 1999/469/EC Commission Decision 1999/469/EC of 25 June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards products related to concrete, mortar and grout, OJ L 184 of 17 July 1999, p. 27, amended by Commission Decision 2001/596/EC of 8 January 2001, OJ L 209 of 2 August 2001, p. 33
- 305/2011 Regulation (EU) № 305/2011 of the European Parliament and of the Council of 09 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC, OJ L 088 of 04 April 2011, p. 5, amended by Commission Delegated Regulation (EU) № 568/2014 of 18 February 2014, OJ L 157 of 27 May 2014, p. 76 and Commission Delegated Regulation (EU) № 574/2014 of 21 February 2014, OJ L 159 of 28 May 2014, p. 41
- 568/2014 Commission Delegated Regulation (EU) № 568/2014 of 18 February 2014 amending Annex V to Regulation (EU) № 305/2011 of the European Parliament and of the Council as regards the assessment and verification of constancy of performance of construction products, OJ L 157 of 27 May 2014, page 76

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