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Rakennustuotedirektiivin (89/106/EEC) artiklan 10,
neuvoston direktiivi 21. joulukuuta 1988,
mukaisesti notifioitu tuotehyväksyntälaitos

EOTAN JÄSEN

Eurooppalainen tekninen hyväksyntä ETA-13/0624 European Technical Approval

Kauppanimi:

Trade name

Stonel julkisivuverhous
Stonel facade cladding

Hyväksynnän haltija:

Holder of approval:

Stonel Oy
Ahlmaninkatu 2 E
FI-40100 Jyväskylä

Tuotetyyppi ja sen käyttötarkoitus:

Generic type and use of construction
product:

Julkisivuverhousjärjestelmä

Facade cladding kit

Voimassaoloaika:

Validity from/to

From June 28, 2013 to June 27, 2018

Valmistuspaikka:

Manufacturing plants:

Stonel Oy
Ratamestarintie 2, Oulainen, Finland

Tämä hyväksyntä sisältää

This European Technical Approval
contains

sivuja/liitteitä

10 sivua sisältäen 1 liitteen jossa 2 sivua

pages/annexes

10 pages including 1 annex with two pages



Eurooppalainen tekninen hyväksyntäorganisaatio
European Organisation for Technical Approvals

I LEGAL BASES AND GENERAL CONDITIONS

1. This European Technical Approval is issued by VTT Expert Services Ltd 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 the Council Directive 93/68/EEC², and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council³,
 - - Laki rakennustuotteiden hyväksynnästä (230/2003) luvut 3 ja 10, Ympäristöministeriön asetus rakennustuotteiden hyväksynnästä 3 § sekä Ympäristöministeriön 18.12.2009 antama valtuutus päätös (19/629/2009).
 - Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex of Commission Decision 94/23/EC⁴;
 - Commonly agreed assessment method of June 2004.
2. VTT Expert Services Ltd is authorised to check whether the provisions of this European Technical Approval are met. Checking may take place in the manufacturing plant(s). 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.
3. This European Technical Approval is not to be transferred to manufacturers or agents of manufacturer other than those indicated on page 1; or manufacturing plants other than those indicated on page 1 of this European Technical Approval.
4. This European Technical Approval may be withdrawn by VTT Expert Services Ltd pursuant to Article 5 (1) of the Council Directive 89/106/EEC.
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6. The European Technical Approval is issued by VTT Expert Services Ltd in English. This version corresponds to the version circulated within EOTA. Translations into other languages have to be designated as such.

1 Official Journal of the European Communities N° L 40, 11.2.1989, p. 12
2 Official Journal of the European Communities N° L 220, 30.8.1993, p. 1
3 Official Journal of the European Commission N° L 284, 31.10.2003, p 25
4 Official Journal of European Communities N° L 17, 20.1.1994, 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

The standard façade cladding kit consists of panels of the size 1200 (width) x 600 (height). Corner panels and other panel sizes can be made according to detail façade design; 150–1400 mm (width) 200–1300 mm (height). Panels consist of steel sheet, brick strip tiles and polymer modified grout for fastening brick tiles on to steel and used also as jointing grout. Normal strip tile size is 285x85x20 mm, other tile sizes can be made on request. Steel sheet behind bricks is galvanized (Zn amount $\geq 275 \text{ g/m}^2$ and thickness 0,7 mm). Steel sheet contain gaps for and folds for fastening the panel on to rails and tooth for fastening the grout together with brick tiles on to steel sheet.

Kit includes galvanized steel sheet fastenings (depth 15 – 300 mm, thickness 2 mm), which are fastened to load bearing wall with anchors or screws. Anchors or screws shall be CE-marked. Kit include also vertical galvanized steel rails (thickness 1,25 mm), which are fastened to steel sheet fastenings with screws and horizontal installation rails made of galvanized steel (thickness 1,25 mm), which are fastened to vertical rails with screws. Screws are of the size M8x12 8.8.

Fastenings to lad bearing wall are not part of the ETA. Depending on the material and condition of the façade different types and amounts of fastenings is used.

Panels will freely hang on the installation rails.

When wanted additional insulation can be installed on the existing faced during installation of the façade cladding kit, by choosing mode deep steel sheet fasteners. Insulation is not part of this ETA.

Example drawings of the product and fixings are in the annex 1.

1.2 Intended use

The façade cladding kit is used on load bearing facade to protect structure from rain and snow, Behind façade cladding there is 15 -35 mm (normal 25 mm) air gap for ventilation.

The provisions made in this ETA are based on an assumed intended working life of the façade cladding kits of at least 25 years provided that the conditions laid down in sections 4.2, 5.1 and 5.2 for the packaging, transport, storage, installation, use maintenance and repair 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 product and methods of verification

The methods of verification and characteristics of the facade cladding kit evaluated in this ETA are as follows:

CUAP Table 1	Characteristic	Assessment of the characteristic
ER2	2.2 Safety in case of fire	NPD
ER 3	2.3 Hygiene, health and environment Watertightness of joints Water permeability Water vapour permeability Drainability Dangerous substances	NPD NPD NPD Water can be freely drained downwards if it gets through the cladding. Holes and forms of rails prevent water collection on the rails or into the load bearing façade. Air gap (15-35 mm) behind the cladding ventilates air space. No dangerous materials *)
ER 4	2.4 Safety in use Wind load resistance, wind suction test ETAG 034, 5.4.1 Bending resistance of the cladding panel ETAG 034, 5.4.2 Horizontal load capacity of vertical rails Horizontal load capacity of horizontal rails Combined horizontal and vertical loads of horizontal rails Vertical load test of the whole panelling system Design horizontal load capacity Design vertical load capacity	Cladding resisted wind suction load up to 3200 Pa Vertical direction average strength 1,1 N/mm ² Vertical direction Characteristic strength 0,8 N/mm ² Horizontal direction average strength 5,1 N/mm ² Horizontal direction characteristic strength 4,5 N/mm ² Average failure load 2,49 kN Average failure load 1,97 kN Average failure load 2,63 kN Average failure load 3,90 kN 2,2 kN/m ² (2,8 fixings/ m ²) 4,2 kN/m ² (2,8 fixings/ m ²)
ER 5	2.5 Protection against noise Sound insulation	NPD
Durability	2.7 Related aspects of serviceability Corrosion resistance of the metallic parts Bricks and grouts	Galvanized steel used Bricks and grout have been tested to be frost resistant

*In addition of 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 compiled with, when and where they apply.

3. Evaluation and attestation of conformity and CE marking

3.1 System of attestation of conformity

According to the decision 96/580/EC of 24.06.1996 of the European Commission the system 2+ of attestation of conformity applies.

This system of attestation of conformity is defined as follows:

(a) Tasks for the manufacturer:

- (1) initial type-testing of the product;
- (2) factory production control;
- (3) testing of samples taken at the factory in accordance with a prescribed test plan;

(b) Tasks for the approved body:

- (4) certification of factory production control on the basis of:
 - initial inspection of factory and of factory production control;
 - continuous surveillance, assessment and approval of factory production control.

Note: Approved bodies are also referred to as "notified bodies".

3.2 Responsibilities

3.2.1 Tasks of 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 the 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 initial constituent materials stated in the technical documentation of this European Technical Approval.

The factory production control shall be in accordance with the "Control plan (x.x.2013) relating to the European technical approval ETA-13/0624 issued on June 28, 2013, 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 at VTT Expert Services Ltd.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the "Control plan"⁵.

3.2.1.2 Corner stones of the control plan

The manufacturer shall conduct internal quality control, which include the following stages:

- *Controls of incoming raw materials, tiles, grout, steel, profiles (appearance, dimensions, material certificates)*
 - *Controls of the ready made panels (appearance, dimensions)*
 - *Control of out going delivery (comparison of request with the content of sending)*
 - *Handling of reclamations*
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⁵ The "control plan" is a confidential part of the European technical approval and only handed over to approved body or bodies involved in the procedure of attestation of conformity. See section 3.2.2

3.2.1.2 Initial type testing of the product

The initial type testing refers to the product properties stated in this ETA.

If the verifications underlying this ETA have been furnished on samples from the current production, these will replace the initial type testing.

Otherwise the necessary initial type testing shall be carried out in accordance with the provisions of the control plan and observance of the required property values shall be ascertained by the manufacturer.

After changing the production process or starting the production in another manufacturing plant the initial type testing shall be repeated.

3.2.1.2 Other tasks for the manufacturer

The manufacturer shall, on the basis of a contract, involve a body which is approved for the tasks referred to in section 3.1 in the field of the product 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 body or bodies involved.

The manufacturer shall make a declaration of conformity, stating that the product is in conformity with the provisions of this ETA and shall mark the product with CE mark according to the clause 3.3.

3.2.2 Tasks of approved bodies

3.2.2.1 Initial inspection of the factory and factory production control

The appropriate part of the control plan states the information on the properties which have to be controlled by the notified body involved for the initial inspection of the factory and factory production control. The notified body shall control devices and equipments and the documentation of the factory production control of the manufacturer when starting the production.

The notified body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

The notified certification body involved by the manufacturer shall issue an EC certificate of conformity of the factory production control stating the conformity with the provisions of this ETA,

After changing the production process or starting the production in another manufacturing plant the initial inspection of the factory and factory production control shall be repeated. The notified body shall issue a new certificate of conformity of the factory production control stating the conformity with the provisions of this ETA.

3.2.2.2 Continuous surveillance assessment and approval of the factory and factory production control

The appropriate part of the control plan states the information on the properties which have to be controlled by the notified body involved. The frequency of this task should be once a year.

The notified body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

In cases where the provisions of this ETA and its control plan are no longer fulfilled the certification body involved shall withdraw the certificate of factory production control and inform VTT Expert Services Ltd without delay.

3.3 CE-marking

The CE-marking⁶ shall be affixed on the packaging or on the delivery tickets put into the packages. The symbol "CE" shall 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 European Technical Approval, ETA-13/0624
- wind pressure resistance
-

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 information deposited with VTT Expert Services Ltd, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited information being incorrect, should be notified to VTT Expert Services Ltd before the changes are introduced. VTT Expert Services Ltd will decide whether or not such changes affect the ETA and consequently the validity of CE-marking on the basis of the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

4.2 Installation

,Facade cladding systems are intended to be used only in applications that fulfil the criteria of the clause 2. Installation work shall be performed according to the instructions of the manufacturer.

Special attention shall be paid to the instructions concerning fastening and fastening screws or anchors used to fasten the facade system to the load bearing construction. The fastening devices for load bearing structures shall be corrosion resistant wedges or expansion anchors or bolts of the sized defined in the installation instructions of the manufacturer.

⁶Notes on the CE-marking are stated in Guidance Paper D of the European Commission "CE-marking under the Constructions products Directive, Brussels 01 January 2002

5. Indications to the manufacture

5.1 Packaging transport and storage

Transport and storage of the components of the facade cladding system shall be according to the instructions of the manufacturer. Facade panels are transported and stored so that they are not susceptible for bending.

5.2 Use, maintenance and repair

The use and maintenance instructions are included in each delivery.

On behalf of VTT Expert Services Ltd

Espoo June 28, 2013



Tiina Ala-Outinen
Service Manager



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Figure 1. Example of the Stonel façade

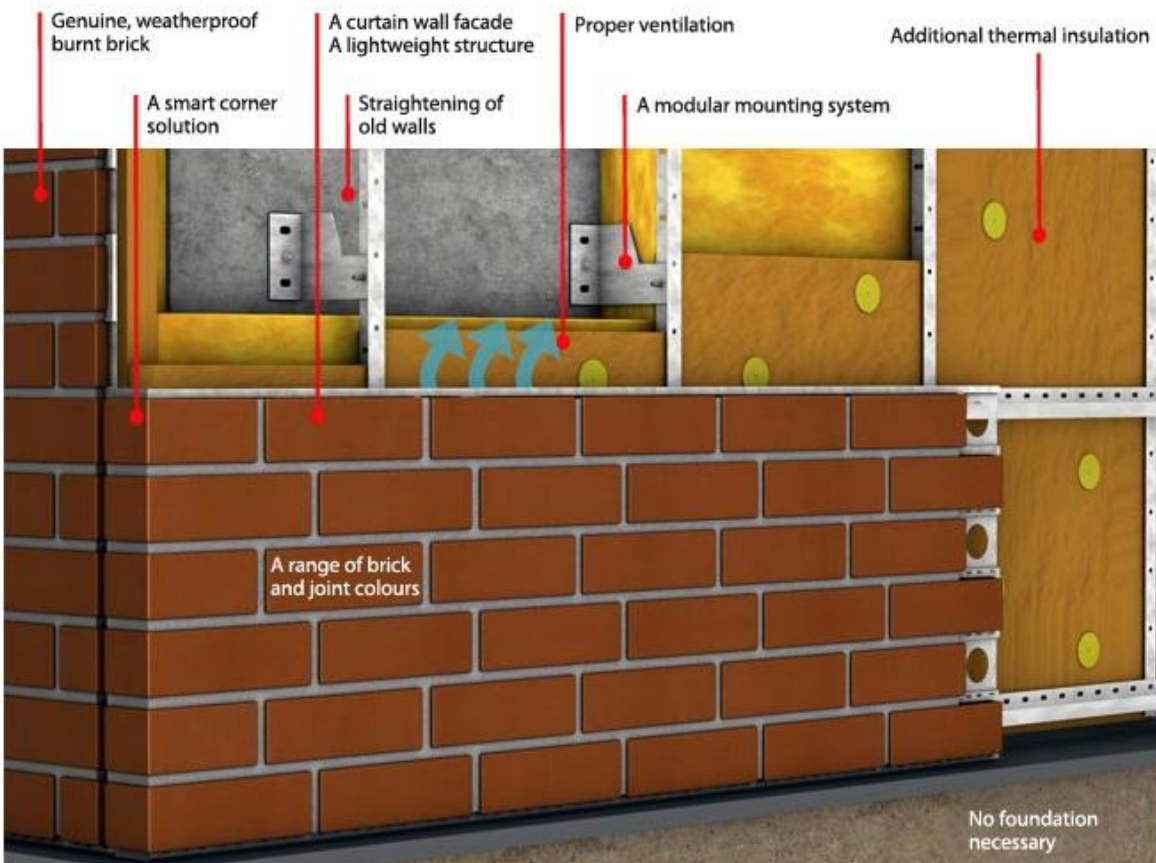


Figure 2. Structure of Stonel façade cladding kit (insulation is not part of the kit)



Figure 3. Standard parts of Stonel cladding kit

Materials used in steel fastenings and screws:

Fastenings to wall,	2,0 mm,	EN 10346:2009 DX51DZ275
Fastening rail horizontal,	1,25 mm,	EN 10346:2009 DX51DZ350
Vertical rails,	1,25 mm,	EN 10346:2009 DX51DZ350
Fastening screws for rails	M 8	M8 x 12 8.8 ZN
Steel sheet behind tiles	0,7 mm	EN 10346:2009 DX51DZ350

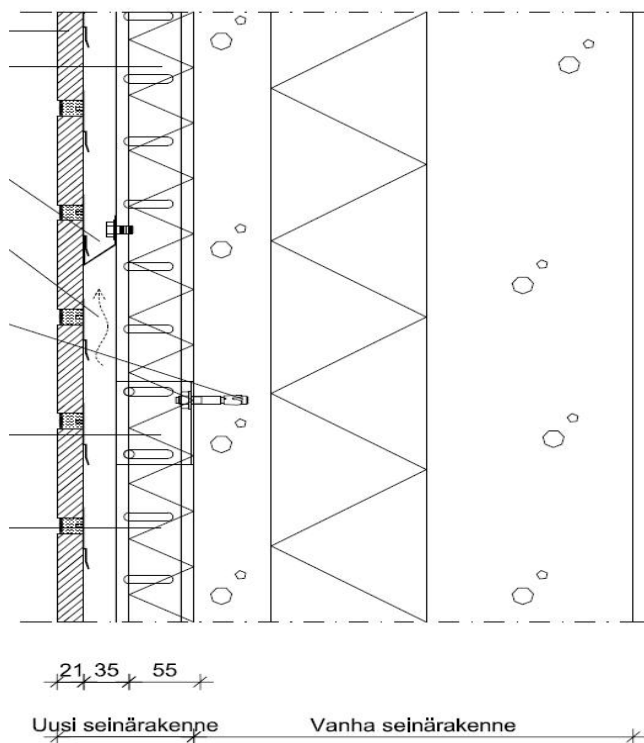


Figure 4. Example of the façade cross section