TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.

Prosecká 811/76a
CZ-190 00 Praha 9
Tel.: +420 286 019 458
Internet: www.tzus.cz

Authorised and notified according to Article 10 of the Council Directive 89/106/EC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products

MEMBER OF EOTA

European Technical Approval ETA-13/0392

(English language translation, the original version in Czech language)

Obchodní název *Trade name*	**R116 A101, R117 A101, R120 A101, R131 A101, R131 A101N, R161 A101, R163 A101, R178 A101, R123 A101, R137 A101, G120, R 122 A101, R 118 A101 C+, R 129 A101, R 131 A101 C+, R 178 A102 C+, R 165 A101, R 131 A 102 C+, R 288 A 101, R 275 A 101, R 267 A 101 R 148 A 101, R 170 A 101, R 326 A 101, R 585 A 101, G 96**
Držitel schválení: *Holder of approval:*	SAINT-GOBAIN ADFORS CZ s.r.o. Sokolovská 106 570 21 Litomyšl Czech Republic
Druh a použití výrobku: *Generic type and use of construction product:*	Skleněné síťoviny pro vyztužování omítkovin na bázi cementu *Glass fibre meshes for reinforcement of cement based renderings*
Platnost od do *Validity from* *to*	29.06.2013 11.06.2018
Výrobce: *Manufacturer:*	SAINT-GOBAIN ADFORS CZ s.r.o. Sokolovská 106 570 21 Litomyšl Czech Republic
Toto Evropské technické schválení obsahuje: *This European Technical Approval contains:*	13 stran *13 pages*
Toto Evropské technické schválení nahrazuje: *This European Technical Approval replaces:*	ETA-13/0392 vydané 12.06.2013 s platností do 11.06.2018 *ETA-13/0392 issued on 12.06.2013 valid to 11.06.2018*

I LEGAL BASES AND GENERAL CONDITIONS

1. This European Technical Approval is issued by the Technical and Test Institute for Construction Prague (Technický a zkušební ústav stavební Praha, s.p.) 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 products[1], modified by the Council Directive 93/68/EEC[2] and Regulation (EC) No. 1882/2003 of the European Parliament and of the Council[3]
   - Government Decree No. 190/2002 Coll., as amended[4];
   - Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex of Commission Decision 94/23/EC[5];

2. The Technical and Test Institute for Construction Prague 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 with 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 laid down in the context of this European Technical Approval.

4. This European Technical Approval may be withdrawn by the Technical and Test Institute for Construction Prague in particular pursuant to information by the Commission according to Article 5.1 of the Council Directive 89/106/EEC.

5. Reproduction of this European Technical Approval including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of the Technical and Test Institute for Construction Prague. In this case, partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European Technical Approval.

6. The European Technical Approval is issued by the approval body in its official language. This version fully 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 Union n° L 284, 31.10.2003, p. 1
4 Collection of laws of the Czech Republic No. 79/2002, 21.5.2002 as amended
5 Official Journal of the European Communities n° L 17, 20.1.1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of product and intended use

The product is a glass fibre mesh which is half leno woven fabrics made of glass fibres. To provide resistance to alkali conditions, the strands are coated by an organic layer.

The product is delivered as ready to use rolls.

1.1. Intended use

The product is used as reinforcement of cement based renderings (mortars) with the thickness of 2 - 10 mm. The reinforcement shall be embedded in a fresh mortar and sufficiently covered. The reinforcement prevents the hardened mortar from cracking, caused especially by dilatation.

The glass fibre meshes are also used in base coats of façade systems with rendering.

2 Characteristics of product and methods of verification

2.1. General

The ETA is issued for the product on the basis of agreed data, deposited with the Technical and Test Institute for Construction Prague, which identifies the product that has been assessed and judged. Changes to the product production process or the product, which could result in this deposited data being incorrect, should be notified to the Technical and Test Institute for Construction Prague before the changes are introduced. The Technical and Test Institute for Construction Prague will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment and /or alteration to the ETA, shall be necessary.

2.2. Product characteristics

2.2.1. Reaction to fire

Classified as F - without testing.

2.2.2 Dangerous substances

No performance determined.

For dangerous substances falling under the scope of the CPD for which “no performance determined” is declared there might be the necessity for an additional assessment.

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 EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

2.2.3 Aspect of durability and serviceability

Table 1. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics			
products type/ product characteristic	**R116 A101**	**R117 A101**	**R120 A101**
Minimum mesh size	(4,0 x 4,5) mm	(4,0 x 4,5) mm	(6,5 x 6,5) mm
Roll width	1000 or 1100 mm	1000 or 1100 mm	1000 mm
Weaving accuracy	pass	pass	pass
Organic content	(20 ± 4) %	(20 ± 4) %	(20 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 3,8 % elongation in standard conditions	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 3,8 % elongation in standard conditions	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 3,8 % elongation in standard conditions
Mass per unit area	≥ 145 g/m^2	≥ 145 g/m^2	≥ 159 g/m^2
Thickness	(0,5 ± 0,2) mm	(0,5 ± 0,2) mm	(0,65 ± 0,2) mm

Table 2. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics			
products type/ product characteristic	**R131 A101**	**R131 A101N**	**R161 A101**
Minimum mesh size	(3,5 x 3,8) mm	(3,5 x 3,8) mm	(7,0 x 6,5) mm
Roll width	1000 or 1100 mm	1000 or 1100 mm	1000 mm

Weaving accuracy	pass	pass	pass
Organic content	(20 ± 4) %	(20 ± 4) %	(20 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 3,8 % elongation in standard conditions	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 4,0 % elongation in standard conditions	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 4,0 % elongation in standard conditions
Mass per unit area	≥ 160 g/m^2	≥ 160 g/m^2	≥ 195 g/m^2
Thickness	(0,52 ± 0,2) mm	(0,52 ± 0,2) mm	(0,66 ± 0,2) mm

Table 3. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics			
products type/ product characteristic	**R163 A101**	**R178 A101**	**G120**
Minimum mesh size	(5 x 5) mm	(8 x 8) mm	(40 x 40) mm
Roll width	1000 mm	1000 mm	1000 mm
Weaving accuracy	pass	pass	pass
Organic content	(20 ± 4) %	(20 ± 4) %	(20 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 3,5 % elongation in standard conditions	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 3,5 % elongation in standard conditions	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 6,5 % elongation in standard conditions
Mass per unit area	≥ 200 g/m^2	≥ 219 g/m^2	≥ 145 g/m^2
Thickness	(0,65 ± 0,2) mm	(0,82 ± 0,2) mm	(1,1 ± 0,2) mm

Table 4. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics		
products type/ product characteristic	**R123 A101**	**R137 A101**
Minimum mesh size	(6 x 6) mm	(6 x 6) mm
Roll width	1000 or 1100 mm	1000 mm
Weaving accuracy	pass	pass
Organic content	(20 ± 4) %	(20 ± 4) %

Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 3,8 % elongation in standard conditions	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; 4,5 % elongation in standard conditions
Mass per unit area	≥ 150 g/m^2	≥ 165 g/m^2
Thickness	(0,64 ± 0,2) mm	(0,65 ± 0,2) mm

Table 5. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics			
products type/ product characteristic	**R 122 A 101**	**R 118 A 101 C+**	**R 129 A 101**
Minimum mesh size	(6,0 x 6,0) mm	(9,0 x 10,0) mm	(5,7 x 5,45) mm
Roll width	1000 mm	1000 mm	1000 or 1100 mm
Weaving accuracy	no defect	no defect	no defect
Organic content	(20 ± 4) %	(20 ± 4) %	(20 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,0 % elongation in standard conditions;	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 3,5 % elongation in standard conditions;	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 3,8 % elongation in standard conditions;
Mass per unit area	≥ 155 g/m^2	≥ 145 g/m^2	≥ 160 g/m^2
Thickness	(0,65 ± 0,2) mm	(0,67 ± 0,2) mm	(0,55 ± 0,2) mm

Table 6. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics			
products type/ product characteristic	**R 131 A 101 C+**	**R 178 A 102 C+**	**R 165 A 101**
Minimum mesh size	(3,5 x 3,8) mm	(7,4 x 7,9) mm	(4,9 x 4,2) mm
Roll width	1000 or 1100 mm	1000 mm	1000 mm
Weaving accuracy	no defect	no defect	no defect
Organic content	(20 ± 4) %	(20 ± 4) %	(20 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,3 % elongation in standard conditions;	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,0; 4,5 % elongation in standard	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,3 % elongation in standard conditions;

		conditions;	
Mass per unit area	≥ 160 g/m^2	≥ 225 g/m^2	≥ 196 g/m^2
Thickness	(0,52 ± 0,2) mm	(0,82 ± 0,2) mm	(0,6 ± 0,2) mm

Table 7. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics			
products type/ product characteristic	**R 131 A 102 C+**	**R 288 A 101**	**R 275 A 101**
Minimum mesh size	(3,5 x 3,8) mm	(16,4 x 11,5) mm	(6,0 x 6,0) mm
Roll width	1100 mm	1000 or 1100 mm	1000 or 1100 mm
Weaving accuracy	no defect	no defect	no defect
Organic content	(20 ± 4) %	(20 ± 4) %	(20 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,5; 5,0 % elongation in standard conditions;	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 5,0 % elongation in standard conditions;	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,5; 4,0 % elongation in standard conditions;
Mass per unit area	≥ 160 g/m^2	≥ 345 g/m^2	≥ 330 g/m^2
Thickness	(0,52 ± 0,2) mm	(1,5 ± 0,2) mm	(0,8 ± 0,2) mm

Table 8. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics		
products type/ product characteristic	**R 148 A 101**	**R 326 A 101**
Minimum mesh size	(8,0 x 6,5) mm	(4,0 x 4,0) mm
Roll width	1000 mm	1000 mm
Weaving accuracy	no defect	no defect
Organic content	(20 ± 4) %	(20 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,5; 5,5% elongation in standard conditions;	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,0; 4,5 % elongation in standard conditions;
Mass per unit area	≥ 167 g/m^2	≥ 380 g/m^2
Thickness	(0,67 ± 0,2) mm	(0,9 ± 0,2) mm

Table 9. - product characteristics regarding assessment of aspect of durability and serviceability

Declared/required values of product characteristics		
products type/ product characteristic	**R 585 A 101**	**G 96**
Minimum mesh size	(5,5 x 4,5) mm	(25,0 x 25,0) mm
Roll width	1000 mm	1000 mm
Weaving accuracy	no defect	no defect
Organic content	(18 ± 4) %	(18 ± 4) %
Tensile strength and elongation	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 4,7 % elongation in standard conditions;	≥ 36 N/mm; ≥ 20 N/mm after conditioning; ≥ 50 % residual strength; ≤ 5,5% elongation in standard conditions;
Mass per unit area	≥ 653 g/m^2	≥ 120 g/m^2
Thickness	(1,2 ± 0,2) mm	(1,0 ± 0,2) mm

3 Evaluation and attestation of Conformity and CE marking

3.1. System of attestation of conformity

The systems of attestation of conformity specified by the European Commission Decisions are system 1 or 2 + described in Council Directive (89/106/EEC) Annex III, 2 (i) or 2 (ii) first possibility respectively and detailed as follows:

According to the decision of the European Commission 97/556/EC the system of attestation of conformity 2+ applies.

In addition, according to the decision of the European Commission 2001/596/EC, the systems of attestation of Conformity 1 and 2+ apply to products with regard to reaction to fire

The systems of attestation of conformity referred to above are defined as follows:

System 1 for products for which the following is valid:
- intended use in external walls subject to reaction to fire regulations,
- reaction to fire classes A1, A2 B or C,
- made of materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material),

is described in Council Directive (89/106/EEC) Annex III, 2 (i) and is detailed as follows:

Certification of the conformity of the product by a Notified Body on the basis of:

a) Tasks of the manufacturer
- factory production control,
- further testing of samples taken at the factory by the manufacturer in accordance with a prescribed control plan[6].

b) Tasks of the approved Notified Body
- initial type-testing of the product (reaction to fire),
- initial inspection of the factory and of factory production control,
- continuous surveillance, assessment and approval of factory production control.

System 2+ for all other products is detailed as follows:

Declaration of conformity of the product by the manufacturer on the basis of:

a) Tasks of the manufacturer
- initial type-testing of the product,
- factory production control.
- testing of samples taken at the factory in accordance with a prescribed control plan

b) Tasks of the approved Notified Body

Certification of factory production control on the basis of:
- initial inspection of factory and factory production control,
- continuous surveillance, assessment and approval of factory production control.

[6] The control plan has been deposited at the Technical and Test Institute for Construction Prague and is handed over only to the notified bodies involved in the conformity attestation procedure.

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. This production control system shall ensure that the product is in conformity with the European Technical Approval (ETA).

Manufacturers having an FPC system which complies with EN ISO 9001 and which addresses the requirements of an ETA are recognized as satisfying the FPC requirements of the Directive.

3.2.1.2 Testing of samples taken at the factory (only for system 2+)

The tests shall only be carried out on the final product or samples which are representative of the final product.

3.2.1.3 Declaration of Conformity

When all the criteria of the Conformity Attestation are satisfied the manufacturer shall make a Declaration of Conformity.

3.2.2 Tasks of the manufacturer or the Notified Body

3.2.2.1 Initial Type Testing

Approval tests will have been conducted by the Approval Body or under its responsibility (which may include a proportion conducted by an approved laboratory or by the manufacturer, witnessed by the Approval Body) in accordance with section 2.4 (Methods of verification) of the CUAP. The Approval Body will have assessed the results of these tests in accordance with section 2.4 (Methods of assessing and judging) of the CUAP, as part of the ETA issuing procedure.

These tests can be used for the purposes of Initial Type Testing[(1)].

For system 1, this work shall be validated by the Notified Body for Certificate of Conformity purposes.

For system 2+, this work shall be taken over by the manufacturer for Declaration of Conformity purposes.

3.2.3 Tasks of the Notified Body

3.2.3.1 Assessment of the factory production control system - initial inspection and continuous surveillance

(1) In this respect Approval Bodies shall be able to have open arrangements with relevant Approved Bodies to avoid duplication, respecting each others responsibilities.

Assessment of the factory production control system is the responsibility of the Notified Body.

An initial assessment of the factory shall be carried out to demonstrate that the factory production control is in conformity with the ETA and any subsidiary information.

Subsequently continuous surveillance of factory production control is necessary to ensure continuing conformity with the ETA.

3.2.3.2 Certification

The Notified Body shall issue:
Certification of Conformity of product (for system 1)
Certification of Factory Production Control (for system 2+).

3.3. CE marking

According to Council Directive 93/68/EEC (Official Journal of the European Communities L 220 of 30.8.1993) the CE marking consists of the letter “CE” in the form laid down in the Directive, followed by the identification number of the Notified Body. For products subjected to Council Directive 89/106/EEC, the identification number of the Notified Body shall be given for the product for which systems 1 and/or 2+ of attestation of conformity apply.

The CE marking shall be placed on a package of the product and shall be accompanied by the following information:
- identification number of the Notified Body,
- name or identifying mark and address of the ETA-holder,
- last two digits of the year in which the marking was affixed,
- number of the EC certificate of conformity for the product (system 1)
- number of the EC certificate of conformity of Factory Production Control (system 2+)
- number of the ETA
- product trade name
- description of the product and the intended use
- reaction to fire
- information on release of dangerous substances
- declared mass per unit area
- nominal mesh size.
- organic content
- thickness:

Table 10 - example of the CE mark:

CE **Identification number of the Notified Body**
Name or identifying mark of the ETA-holder **Address of the ETA-holder**

last two digit of the year in which the marking was affixed
Number of the EC certificate of conformity
ETA-xx/xxxx
product trade name
description of the product and the intended use
reaction to fire:
information on release of dangerous substance:
declared mass per unit area:
nominal mesh size:
organic content:
thickness:

Provided that the CE mark is introduced in documents accompanying the product, a minimum CE marking according to Table 11 can be placed on a product package.

Table 11 - example of the minimum CE mark:

CE
Identification number of the Notified Body
Name or identifying mark of the ETA-holder
Address of the ETA-holder
last two digit of the year in which the marking was affixed
Number of the EC certificate of conformity
ETA-xx/xxxx
product trade name
description of the product and the intended use

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

4.1 DESIGN

When designing a rendering system reinforced by the glass fibre mesh, the aspects of both the render and the glass fibre mesh shall be taken into account. The rendering system as such should be assessed for durability when reinforced by a glass fibre mesh with certain characteristics specified (especially when applied on thermal insulation products).

The characteristics of the used glass fibre mesh shall conform to requirements laid down in the technical documentation for the render to be reinforced. The documentation should give a general guidance about overlapping of meshes and other construction details.

The design and/or other relevant documentation for the construction site shall clearly define position of the mesh and solution for construction details which are not determined generally.

4.2 PACKAGING, TRANSPORT, STORAGE

Packaging has to be such that the products are protected from moisture during transport and storage.

The components have to be protected against damage.

It is the responsibility of the manufacturer to ensure that information relating to packaging, protection against damage, and storage are made know to the concerned people and these provisions are easily accessible to the concerned people.

4.3 ASSEMBLY AND INSTALLATION OF PRODUCTS IN THE WORKS

The installation shall be done in accordance with the design and/or other relevant documentation for the construction site. The position of the mesh and the render thickness must guarantee the minimum cover. In any case, the minimum assumed thickness of the reinforced render shall be 2 mm.

4.4 USE, MAINTENANCE, REPAIR

The documentation for the reinforced render or rendering system should provide a detail of the procedure to be used for maintenance and repair.

Necessary repairs should be performed as soon as the need has been identified.

The original Czech version is signed by

Ing. Jozef Pôbiš
Head of the Approval Body