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

DIBt

Mitglied der EOTA
Member of EOTA

European Technical Approval ETA-10/0117

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung *Trade name*	"ROKU Strip"
Zulassungsinhaber *Holder of approval*	Rolf Kuhn GmbH Jägersgrund 10 57339 Erndtebrück DEUTSCHLAND
Zulassungsgegenstand und Verwendungszweck *Generic type and use of construction product*	Biegsamer aufschäumender Brandschutzstreifen "ROKU Strip" *Flexible Intumescent Fire Sealing Strip "ROKU Strip"*
Geltungsdauer: vom *Validity: from*	3. Juni 2010
bis *to*	2. Juni 2015
Herstellwerk *Manufacturing plant*	01

Diese Zulassung umfasst *This Approval contains*	9 Seiten einschließlich 1 Anhang *9 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 products[1], modified by Council Directive 93/68/EEC[2] and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council[3];
- 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 1998[4], zuletzt geändert durch Gesetz vom 06.01.2004[5];
- Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC[6];
- Common Understanding of Assessment Procedure for European Technical Approvals according to Article 9.2 of the CPD for "Flexible Intumescent Fire Sealing Strips", accepted version of 12/2008.

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.

3 This European technical approval is not to be transferred to manufacturers or agents of manufacturers 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 Deutsches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of 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 Deutsches Institut für Bautechnik. 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 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, 11.2.1989, p. 12
2 Official Journal of the European Communities L 220, 30.8.1993, p. 1
3 Official Journal of the European Union L 284, 31.10.2003, p. 25
4 Bundesgesetzblatt I, p. 812
5 Bundesgesetzblatt I, p.2, 15
6 Official Journal of the European Communities 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 product

This European technical approval (ETA) applies to the construction product "ROKU®Strip".

"ROKU®Strip" is an anthracite, flexible strip made of a reactive material. The strip may be equipped with a polyester-foil or a self-adhesive tape on one side.

The flexible intumescent strip "ROKU®Strip" essentially consists of intumescent substances and a binder.[7].

The fire protective effect of the flexible intumescent strip "ROKU®Strip" is based on developing foam in the case of fire which fills and seals gaps, voids and cavities and thus restricts the passage of heat, flames and/or smoke.

The flexible, intumescent fire sealing strip "ROKU®Strip" is manufactured in thicknesses of 1,0 mm up to 8,0 mm and in any widths of up to 320 mm. "ROKU®Strip" is be delivered in coils or rolls and can arbitrarily be cut to size.

The properties and the fire protective performance criteria of the flexible, intumescent fire sealing strip "ROKU®Strip" were determined[8] as follows:

• nominal thicknesses:	1,0 mm to 8,0 mm
tolerance:	± 10 % for each
• tolerance of the width dimension:	± 0,5 mm
• weight per unit area:	1,7 kg/m2 (nominal thickness 1,5 mm) to
	8,4 kg/m2 (nominal thickness 7,0 mm)
tolerance:	± 10 % for each
• expansion ratio:	tested at 550 °C for 30 min with a top load
	18,0 to 38,0 (nominal thickness 1,5 mm)
	11,0 to 34,0 (nominal thickness 7,0 mm)
• expansion pressure	tested at 300°C, method B.2
	≥ 0,8 N/mm2 (nominal thickness 1,5 mm)
	≥ 0,4 N/mm2 (nominal thickness 7,0 mm)

1.2 Intended use

The flexible, intumescent fire sealing strip "ROKU®Strip" is a construction product intended to be used in construction elements and special assemblies which shall meet requirements concerning the safety in case of fire.

The flexible, intumescent fire sealing strip "ROKU®Strip" may be used in construction elements e.g. as framed seal of a fire door, in fire resistant shutters, fire dampers, fire insulation devices, fire resistant cabinets, between partition penetrations or floor elements, for pipe penetration seals or cable penetration seals.

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7 The chemical composition was presented to DIBt for assessment.

8 The characteristic values for identification were determined according to EOTA TR 024:2009-07 "Characterisation, Aspects of Durability and Factory Production Control for Reactive Materials, Components und Products".

The flexible, intumescent fire sealing strip "ROKU®Strip" in end use conditions may be subjected to conditions for the use categories[9] type Z2 (normal dry indoor use at temperatures ≥ 0 °C), type Z1 (indoor use at high humidity and temperatures ≥ 0 °C), type Y2 (use at temperatures as well below 0 °C and occasional development of condensate but without UV and driving rain stress), type Y1 (use at temperatures as well below 0 °C and occasional development of condensate and UV stress but without driving rain) or type X (outdoor use).

The provisions made in this European technical approval are based on an assumed working life in the end use application of the flexible intumescent fire sealing strip "ROKU®Strip" of 10 years, provided that the conditions laid down in sections 4.2, 5.1 and 5.2 for 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 or the approval body, 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 Mechanical resistance and stability

Not relevant

2.2 Safety in case of fire

2.2.1 Reaction to fire

The flexible intumescent fire sealing strip "ROKU®Strip" corresponds to the reaction-to-fire class E according to EN 13501-1[10].

Note:

A European reference fire scenario for façades is not available. In some Member States the classification of the flexible, intumescent fire sealing strip "ROKU®Strip" according to EN 13501-1 may possibly not be sufficient for the use in façades. In order to comply with the provisions of such Member States, an additional assessment of the flexible, intumescent fire sealing strip "ROKU®Strip" according to national provisions (e.g. on the basis of a large-scale test) may be necessary, until the European classification system has been amended.

2.2.2 Resistance to fire

The flexible, intumescent fire sealing strip "ROKU®Strip" was tested as effective fire protective component of a pipe penetration seal for combustible pipes (test according to EN 1366-3:2004).

On the basis of the test results relating to resistance to fire the pipe penetration seal tested can be classified according to EN 13501-210 as EI 240 u/c.

This test basically qualifies the flexible intumescent fire sealing strip "ROKU®Strip" for fire protective applications. The performance "resistance to fire" is not being considered in more detail in this ETA. It shall be tested separately for the final elements concerned.

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9 See EOTA Technical Report 024(TR 024), version July 2009, clause 4.1, "Use categories"

10 EN 13501 Classification of construction products and building elements – Part 1+ A1:2009: Classification using test data from reaction to fire tests; Part 2:2007: Classification using data from fire resistance tests, excluding ventilation services;

NOTE:

The performance "resistance to fire" stated in this ETA as an example applies to the tested assembly only. Uses in other executions or deviating configuration than those tested for this ETA shall be tested before the application on site.

2.3 Hygiene, health and the environment

2.3.1 Air and water permeability

Not relevant

2.3.2 Release of dangerous substances

According to the manufacturer's declaration and the chemical composition deposited, the product specification of the intumescent fire sealing strip "ROKU®Strip" were compared with the dangerous substances as detailed in the Council Directive 76/769/EEC (as amended) and listed in the database of the European Commission. It was determined that the admissible limit values of these dangerous substances are not being exceeded or rather no dangerous substances are contained.

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 Safety in use (mechanical resistance and stability)

Not relevant

2.5 Protection against noise

Not relevant

2.6 Energy, economy and heat retention

Not relevant

2.7 Aspects of durability and serviceability

The product was tested according to the determinations of EOTA Technical Report 024 for the use category type X. No essential changes of the intumescent properties could be detected.

Conclusion:

The product can be exposed to indoor conditions with and without humidity and occasional condensation as well as external weathering without expecting essential changes of its intumescent properties (expansion ratio, expansion pressure)[11].

Voluntarily the following additional verifications for the behaviour of the product were provided:

- exposure to a permanent temperature of 80 °C,
- subsequent over-painting with paints on the basis of:
  - acrylic dispersion
  - alkyd resin
  - polyurethane acrylic (PUR)
  - epoxy resin
- exposure to permanent wetness (water-immersion),

11 See EOTA Technical Report 024, Note 5

- exposure to solvents:
  - butyl acetate
  - butanol
  - solvent naphtha
  - fuel oil
- in case of contact with plastics (PVC, PE).

After the exposure according to EOTA Technical Report 024 no essential changes of the intumescent properties (expansion ratio, expansion pressure) were detected.

3 Evaluation and attestation of conformity and CE marking

3.1 System of attestation of conformity

According to the Decision 1999/454/EC of the European Commission[12] system 1 of the attestation of conformity applies.

In addition, according to the Decision 2001/596/EC of the European Commission[13] system 3 of the attestation of conformity applies with regard to reaction to fire.

The systems of attestation of conformity are defined in the following:

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 (FPC);
  (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 (ITT);
  (4) initial inspection of factory and of factory production control;
  (5) continuous surveillance, assessment and approval of factory production control.

System 3: Declaration of conformity of the product by the manufacturer on the basis of:

(a) Tasks for the manufacturer:
  (1) factory production control (FPC);

(b) Tasks for the approved body:
  (2) initial type-testing of the product (ITT).

3.2 Responsibilities

3.2.1 Tasks for the manufacturer and the notified body/bodies

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 materials and constituent stated in the technical documentation of this European technical approval.

12 Official Journal of the European Communities L 178/42 of 14/07/99

13 Official Journal of the European Communities L 209/33 of 2.8.2001

The factory production control (FPC) shall be in accordance with the "control plan" of 10 May 2010 relating to the European technical approval ETA-10/0117 issued on 3 June 2010" 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 Bautechnik.[14]

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 a body/bodies which is/are approved for the tasks referred to in section 3.1 in the field of "Fire stopping and fire sealing products" 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/bodies involved.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of the European technical approval ETA-10/0117 issued on 3 June 2010.

3.2.2 Tasks for the approved bodies

The approved body/bodies shall perform the

- initial type-testing of the product (system 1 and 3),
- initial inspection of factory and of factory production control (system 1),
- continuous surveillance, assessment and approval of factory production control (system1),

in accordance with the provisions laid down in the control plan.

The approved body/bodies shall retain the essential points of its/their 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 itself or on the packaging and on the accompanying commercial document, e.g. the EC declaration of conformity. The letters ”CE” shall be followed by the identification number of the approved certification body and the following additional information:

- the name and address of the producer,
- 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 (System 1),
- the number of the European technical approval,
- type of product (here: flexible intumescent fire sealing strip)
- use categories: types X, Y1, Y2, Z1; Z2

Example: see Annex.

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

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 "ROKU®Strip" on the basis of agreed data and information, deposited with Deutsches Institut für Bautechnik, which identifies the product that has been assessed and judged. Changes of the product or the production process, which could result in incorrect deposited data and information shall 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

Mechanical cover sheets additionally installed must not constrict the creation of foam of the flexible, intumescent fire sealing strip "ROKU®Strip".

When assembling the substrate shall be dry and proper to ensure e.g. the sufficient adhesion of the self-adhesive tape.

Cut to size with appropriate tools on side is admissible.

The manufacturer's installation instruction shall be considered.

5 Indications to the manufacturer

5.1 Packaging, transport and storage

"ROKU®Strip" should be protected from weathering during transport.

The flexible, intumescent fire sealing strip "ROKU®Strip" is delivered in coils or rolls and should be stored in the sealed original packaging under dry internal conditions at temperatures between +2 and 50 °C and relative humidity between 50 % and 70 %.

5.2 Use, maintenance, repair

Damaged sections of the flexible, intumescent fire sealing strip "ROKU®Strip" shall only replaced by new, intact sections of the flexible, intumescent fire sealing strip "ROKU®Strip". The required quantity of material and total thickness shall be maintained.

Prof. Hoppe
Head, Division Fire Protection
Deutsches Institut für Bautechnik, 3 June 2010

beglaubigt:
Dr.-Ing. Dierke

ANNEX

Example of CE marking for a flexible, intumescent fire sealing strip "ROKU®Strip"

CE XXXX	Letters "CE" *Identification number of notified body issuing the attestation of conformity*
Rolf Kuhn GmbH Jägersgrund 10 D-57339 Erndtebrück	Name and address of the producer
XX	Two last digits of year of affixing CE marking
XXXX-CPD-XXXX	Number of EC certificate of conformity
ETA-10/0117	ETA number
flexible, intumescent fire sealing strip (biegsamer, aufschäumender Brandschutzstreifen) "ROKU®Strip"	Product incl trade name
Use categories Types X, Y1, Y2, Z1, Z2 *(outdoor and indoor use)*	use categories according to the ETA