BUtgb vzw - UBAtc asbl

H894

SEMI-FINISHED PRODUCTS FOR WINDOW AND DOOR SYSTEMS WITH PROFILES MADE FROM ALUMINUM

INSULATING STRIPS FOR ALUMINIUM PROFILES WITH THERMAL BREAK

STACMID

Valid from 08/10/2024 to 07/10/2029

Approval holder:

SISTEMAS TÉCNICOS DEL ACCESORIO Y COMPONENTES SL
Poligono Picusa - La Mantanza, s/n
15900 PADRON (LA CORUÑA)
España
Tel.: + 34 981 817 036
Fax: + 34 981 817 037
Website: www.stac.es
E-mail: recepcion@stac.es

ATG H894

A technical approval is a favourable assessment of a construction product by a competent, independent and impartial approval operator appointed by the UBAtc, for a specified intended use.

The technical approval documents the results of the approval examination. This examination is organised as follows:

- identification of the relevant product properties taking into account its intended use and method of installation (or execution),
- product conception,
- production reliability.

The technical approval provides a high level of reliability, due to the statistical interpretation of control results, recurrent monitoring, adjustments in order to keep abreast of the latest technical developments and quality control by the approval holder.

For technical approval to be maintained, the approval holder must continuously provide evidence that he is taking all necessary steps to demonstrate that the product is fit for the intended use. In this respect, monitoring the conformity of the product with the technical approval is essential. This monitoring is entrusted by the UBAtc to a competent, independent and impartial certification operator.

The technical approval and certification of conformity of the product with the technical approval are independent of individual construction works. The contractor and/or architect remain fully responsible for the conformity of the completed works with the provisions contained in works' specifications.

Apart from specifically introduced provisions, the technical approval does not cover site related safety provisions, health aspects and the sustainable use of raw materials. As a result, the UBAtc cannot be held responsible, under any circumstances, for any damage caused by the failure of the approval holder, contractor(s) and/or architect to respect provisions relating to site related safety, health aspects and the sustainable use of raw materials.

Approval operators

Buildwise

Kleine Kloosterstraat 23 1932 Sint-Stevens-Woluwe
info@buildwise.be - www.buildwise.be

SECO Belgium

Siège social : Cantersteen 47 1000 Bruxelles
Bureaux : Hermeslaan 9 1831 Diegem
mail@seco.be - www.groupseco.be

Certification operator*

BCCA

Siège social : Cantersteen 47 1000 Bruxelles
Bureaux : Hermeslaan 9 1831 Diegem
mail@bcca.be - www.bcca.be

* Certification Operator designated by UBAtc asbl operates in compliance with a system that is set to be accredited by BELAC (www.belac.be).

FOREWORD

This technical approval concerns a amendment of ATG H894 valid from 10/04/2020 to 09/04/2025 . The modifications compared to the previous version are listed below:

Modifications compared to the previous version
– Adjustment of criterion tensile strength of Polyamide PA66 GF25; – Adjustment of criterion of density and tensile strength of HITEP.

Technical approvals are updated regularly. It is recommended to always use the version published on the UBAtc website (www.butgb-ubatc.be).

The most recent version of the technical approval can be consulted by scanning the QR code on the front page.

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NORMATIVE AND OTHER REFERENCES

AGCR-RGAC	2022-06-30	UBAtc General Regulations for Approval and Certification
NBN EN 14024	2023	Metal profiles with thermal barrier - Mechanical performance - Requirements, proof and tests for assessment

1 Object

This technical approval describes the properties of STACMID insulating strips, made from polyamide PA66 GF25 and STACMID PA66 GF25 HITEP reinforced with 25% of glass fibre, which are used as a thermal break in aluminium profiles, resulting in improved thermal performance for door and window systems. These strips are in compliance with NBN EN 14024, in terms of the suitability of the thermal break material (NBN EN 14024, § 5.2) and mechanical durability of the thermal break (NBN EN 14024, § 5.3, § 5.4 and § 5.5).

Approval with certification requires continuous monitoring of production by the manufacturer, in addition to regular monitoring of production by a certification body designated by the UBAtc.

The technical product approval with certification covers the actual strips, but not the systems and assembly process used to manufacture the window profiles, the manufacture or installation of windows or quality of execution.

2 Materials

2.1 Polyamide 66 GF25

The strips are made from polyamide reinforced with 25% glass fibre.

Table 1– Strip characteristics

Characteristics	Unit	Norm	Criteria for dry extrusion
Volume mass	g/cm^3	NBN EN ISO 1183-1	1,30 ± 0,05
Maximum tensile strength	N/mm^2	NBN EN ISO 527-2/4	≥ 75
Rupture elongation	%	NBN EN ISO 527-2/4	≥ 2
Elasticity modulus	N/mm^2	NBN EN ISO 527-2/4 (1 mm/min)	≥ 3500
Shore Hardness	ShD	NBN EN ISO 868	82 ± 5
Shock resistance CHARPY	KJ/m^2	NBN EN ISO 179-1/2	≥ 30
Ash content	%	NBN EN ISO 3451-1	25 ± 2,5
Melting point	°C	NBN EN ISO 11357-3	≥ 250
Heat conductivity coefficient	W/mK	NBN EN ISO 10456	0,30
Expansion coefficient (longitudinally)	K^{-1}	ISO 11359-2	$(2,5\text{-}3,5).10^{-5}$
Water absorption	%	NBN EN ISO 62	1,3 ± 0,3

2.2 Polyamide 66 GF25 HITEP

The strips are made from polyamide reinforced with 25% glass fibre.

Table 2 – Strip characteristics

Characteristics	Unit	Norm	Criteria for dry extrusion
Volume mass	g/cm³	NBN EN ISO 1183-1	0.,9-1,1
Maximum tensile strength	N/mm²	NBN EN ISO 527-2/4	≥ 45
Rupture elongation	%	NBN EN ISO 527-2/4	≥ 3
Elasticity modulus	N/mm²	NBN EN ISO 527-2/4 (1 mm/min)	≥ 2800
Shore Hardness	ShD	NBN EN ISO 868	75 ± 5
Shock resistance CHARPY	KJ/m²	NBN EN ISO 179-1/2	≥ 20
Ash content	%	NBN EN ISO 3451-1	25 ± 2,5
Melting point	°C	NBN EN ISO 11357 -3	≥ 250
Heat conductivity coefficient	W/mK	NBN EN ISO 10456	0,19
Expansion coefficient (longitudinally)	K^{-1}	ISO 11359-2	$(2,5\text{-}3,5).10^{-5}$
Water absorption	%	NBN EN ISO 62	

3 Geometric characteristics of strips

3.1 Standard strips

The standard strips are available in different shapes and sizes, except for the crimping areas, which are always shaped like a dovetail (see example in FigFig. 11).

The strips are available in different heights and thicknesses.

3.2 Special strips

- Strips with adhesive thread
- Strips with T
- Strips with additional functions

Specially shaped strips can be prepared, such as strips with cavities, hooks, bridge, asymmetric strips, ... (see example in Fig. 1).

Thickness tolerances: ± 0.05 mm, maximum height tolerances: ± 0.15 mm.

4 Manufacture and marketing

The strips are extruded from PA 66 polyamide reinforced with glass fibre.

They are manufactured using extrusion at a plant of Sistemas Técnicos del Accesorio y Componentes SL, Poligono Picusa, La Mantanza, s/n, E-15900 Padrón, La Coruña.

The strips are packaged and information is added to the packaging (label including the ATG No., customer No., date & certification body). The standard packaging consists of wood or metal boxes.

Regular checks on self-monitoring are conducted at the plant laboratory and an external independent laboratory. These tests are conducted on test pieces taken by a representative of the UBAtc, during its approval inspection visits.

5 Performance

5.1 Suitability of the thermal break material

Evaluation of the suitability of the strip material is based on the results taken from the measurement of characteristics after immersion in water, exposure to humidity and the fragility test described in NBN EN 14024 § 5.2. The results of these tests proved satisfactory.

5.2 Mechanical durability of thermal break

The evaluation of the mechanical durability of strips is based on the results taken from the measurement of characteristics before (§ 5.3 and 5.4) and after accelerated artificial aging, as described in § 5.5 of NBN EN 14024. The results of these tests proved satisfactory.

6 Fitting

The strips are crimped into lacquered or anodised aluminium profiles before or after surface treatment (see Fig. 2).

After crimping, the aluminium penetrates the strip by 0.1 mm – 0.3 mm.

The actual crimping is not covered by the approval.

7 Diagrams

Fig. 1 Examples of strips

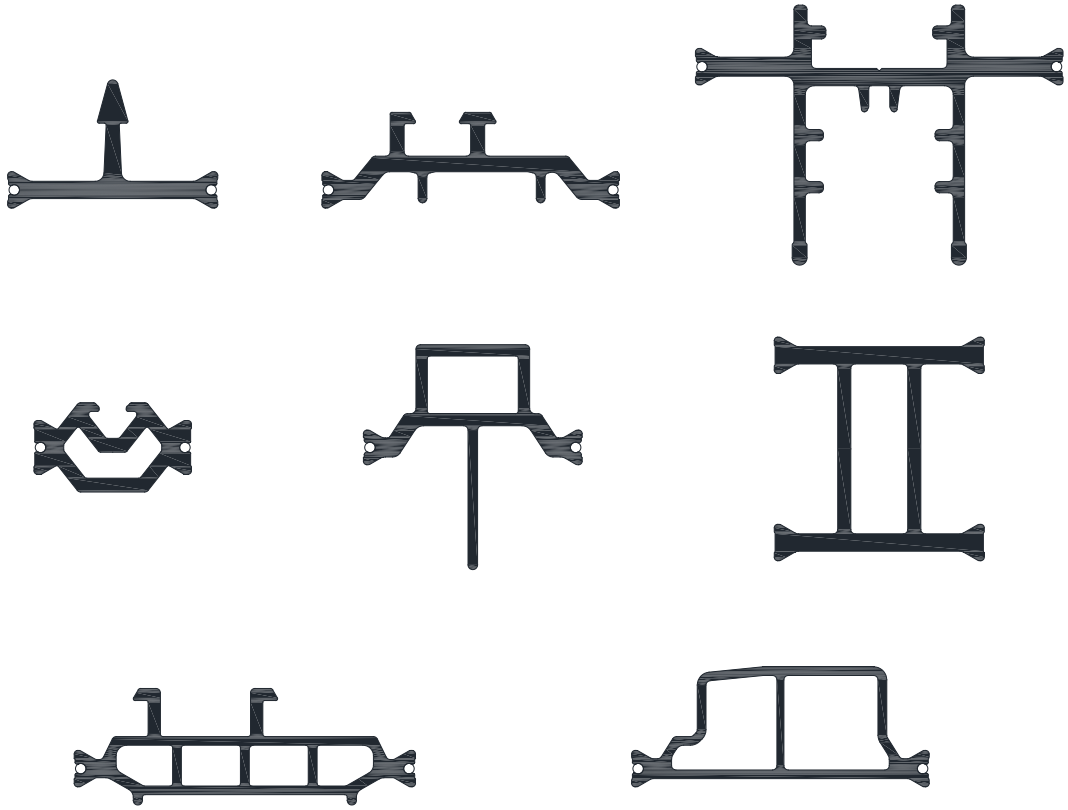
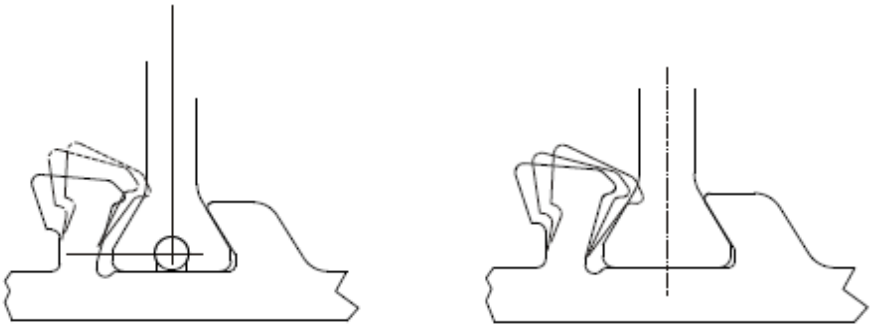


Fig. 2 Example of strip installation



CONDITIONS FOR THE USE AND MAINTENANCE OF THE ATG

A. This technical approval applies exclusively to the construction products referred to on the cover page of this document.

B. The approval holder and, if applicable, the distributor are not permitted to make any use of the name of the UBAtc, its logo, the ATG mark, the technical approval or the approval reference to claim assessments of products which do not comply with the technical approval or for a product (and its properties or characteristics) which is not the subject of the technical approval.

C. The technical approval is based on the available technical and scientific knowledge and information, together with the information provided by the applicant and completed by an approval examination taking into account the specific nature of the product. Nevertheless, users remain responsible for selecting the product as described in the technical approval, for specific uses intended by the user.

D. Only the approval holder and, if applicable, the distributor may assert rights based on the technical approval.

E. Any references to the technical approval shall be accompanied by the ATG reference H894 and the validity period.

F. The approval holder and, if applicable, the distributor obliged to comply with the examination results specified in the technical approval when making information available to third parties. The UBAtc or the certification operator may take any appropriate action if the approval holder [or the distributor] fails to do so (sufficiently) on its own initiative.

G. Information made available in any way by the approval holder, distributor or a recognized contractor or by their representatives to (potential) users of the product covered by the technical approval (e.g. for clients, contractors, architects, consultants, designers, etc.), may not be incomplete or contradict the content of the technical approval or information referred to in the technical approval.

H. The UBAtc, the approval operator and the certification operator cannot be held responsible for any damage or adverse consequences caused to third parties as a result of the failure of the approval holder or distributor to comply with the provisions of this document.

I. This technical approval shall remain valid, provided that the product, its manufacture and all related processes:

- are maintained, in order to achieve, as a minimum, the examination results specified in this technical approval;
- are continuously monitored by the certification operator, which confirms that the certification continues to be valid.

If these conditions are no longer met, the technical approval shall be suspended or withdrawn and the technical approval shall be removed from the UBAtc website. Technical approvals are regularly updated. It is recommended to always use the version published on the UBAtc website.

J. The approval holder is at all times obliged to inform in advance the UBAtc, the approval operator and the certification operator of any possible adjustments made to raw materials and products, installation instructions and/or the manufacturing and installation processes and equipment. Depending on the information provided, the UBAtc, the approval operator and the certification operator will assess whether or not it is necessary to adapt the technical approval.

This technical approval has been published by UBAtc, under the responsibility of the approval operator, SECO/Buildwise, and based on a favourable opinion by specialised group "FACADES", expressed on 14 March 2014.
In addition, the certification operator, BCCA, confirmed that the production process meets the conditions for certification and that a certification agreement has been signed by the ATG holder.

Date of issue: 8 October 2024.

For the **UBAtc**, as validating the approval process

Eric Winnepenninckx
Director

Frederic De Meyer
Director

For the operators

Buildwise

Olivier Vandooren
Director

SECO Belgium

Bernard Heiderscheidt
Director

BCCA

Olivier Delbrouck
Director

BUtgb vzw - UBAtc asbl

Belgische Unie voor de technische goedkeuring in de bouw vzw

Union belge pour l'Agrément technique de la construction asbl

Registered address and offices:

Kleine Kloosterstraat 23
1932 Sint-Stevens-Woluwe

Phone: +32 (0)2 716 44 12
info@butgb-ubatc.be
www.butgb-ubatc.be

VAT: BE 0820.344.539
RLP Brussels

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