



Instytut Techniki Budowlanej

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European Technical Assessment

**ETA-14/0333
z 30/09/2014**

EKOSPAN ŚCIANA/EKOSPAN WALL

**Self-supporting composite panel
for use in internal and external walls**

*Kompozytowe płyty warstwowe
do stosowania jako elementy ścian
wewnętrznych i zewnętrznych*



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European Technical Assessment

**ETA-14/0333
of 30/09/2014**

General Part

Technical Assessment Body issuing the European Technical Assessment

Instytut Techniki Budowlanej

Trade name of the construction product

EKOSPAN ŚCIANA/EKOSPAN WALL

Product family to which the construction product belongs

Self-supporting composite panel for use in internal and external walls

Manufacturer

EKOSPAN Sp. z o.o.
Janówek, ul. Modrzewiowa 52
05-555 Tarczyn, Poland

Manufacturing plant(s)

EKOSPAN Sp. z o.o.
Janówek, ul. Modrzewiowa 52
05-555 Tarczyn, Poland

This European Technical Assessment contains

10 pages including 2 Annexes which form an integral part of this Assessment

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

Guideline for European Technical Approval ETAG 016 edition November 2003, Part 1: General, Part 3: Specific aspects relating to self-supporting composite lightweight panels for use in external walls and claddings, Part 4: Specific aspects relating to self-supporting composite lightweight panels for use in internal walls and ceilings, used as European Assessment Document (EAD)

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Specific Part

1 Technical description of the product

EKOSPAN ŚCIANA/EKOSPAN WALL is a self-supporting composite lightweight panel consisting of covering inner and upper layers made of OSB/3 board of 15 mm thickness and polyurethane rigid foam insulating core of 122 mm thickness.

The thickness of panel is 152 ± 4 mm. The width of panel is $1250 \text{ mm} \pm 5$ mm. The length of panel is 3000 ± 5 mm.

The drawings and properties of the EKOSPAN ŚCIANA/EKOSPAN WALL panel are given in Annex A.

This ETA applies to EKOSPAN ŚCIANA/EKOSPAN WALL panel. All other ancillary components of the roof or ceiling, which are necessary to fix panels and seal joints, are not part of the product covered by this ETA.

2 Specification of the intended use in accordance with the applicable EAD

The EKOSPAN ŚCIANA/EKOSPAN WALL panel is intended to be used as a self-supporting composite lightweight panel for internal and external walls. The prefabricated panel does not contribute to the loadbearing capacity of the works. Panel always requires external finishing layers to provide waterproofing. The sections of joint of EKOSPAN ŚCIANA/EKOSPAN WALL panels and fixing and the mounting of panels between top plate and substructure are given in Annex B.

The provisions given in this European Technical Assessment are based on an assumed working life of the product of 25 years, provided that the product is subjected to appropriate installation, use and maintenance. The indications given on the working life cannot be interpreted as a guarantee given by the producer or Technical Assessment 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.

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

3.1 Performance of the product

3.1.1 Mechanical resistance and stability (BWR 1)

The EKOSPAN ŚCIANA/EKOSPAN WALL panel is no load - bearing part of works. Mechanical resistance is considered under BWR 4 Safety in use.

3.1.2 Safety in case of fire (BWR 2)

The EKOSPAN ŚCIANA/EKOSPAN WALL panels are classified in class E of reaction to fire in accordance with EN 13501-1, if the side edges and other uncovered PU core surfaces of the boards are protected by OSB/3 boards, solid wood elements or other products of A1 or A2 reaction to fire class.

3.1.3 Hygiene, health and the environment (BWR 3)

3.1.3.1 Water permeability

The water permeability of EKOSPAN ŚCIANA/EKOSPAN WALL panel has not been determined (NPD), since it does not have waterproofing function. The panel need a suitable waterproofing system over it.

3.1.3.2 Vapour permeability

No performance determined (NPD).

3.1.3.3 Content and/or release of dangerous substances

According to the manufacturer's declaration the EKOSPAN ŚCIANA/EKOSPAN WALL panel does not contain dangerous substances according to Directive 67/548/EEC and Regulation (EC) No 1272/2008. In accordance with EN 300, the OSB/3 board meet the requirements od Class E1 with regard to extractable formaldehyde content according to EN 300.

In addition to the specific clauses relating to dangerous substances contained in this ETA, there may be other requirements applicable to the product falling within its scope (e.g. transported European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation No 305/2011, these requirements need also to be complied with, when and where they apply.

3.1.3.4 Dimensional variations

The dimensional behaviour of EKOSPAN ŚCIANA/EKOSPAN WALL panel has not been determined (NPD), since panel is never the outer layer.

3.1.4 Safety in use (BWR 4)

3.1.4.1 Mechanical resistance

3.1.4.2 Mechanical resistance of panels subjected to positive loads

Bending tests of two span configuration of EKOSPAN ŚCIANA/EKOSPAN WALL panels were performed in accordance with ETAG 016. The characteristic ultimate load using 1,5 m span in two span configuration is equal $13,0 \text{ kN/m}^2$ and in one span configuration (3,0 m) is equal $4,2 \text{ kN/m}^2$.

3.1.4.3 Mechanical resistance of panels subjected to negative loads

The resistance of the panel on its supports, subjected to negative loads (wind suction loads) is limited by the pull through resistance of the panel, i.e. the local resistance of the panel around the fixings. The mechanical resistance of panels subjected to negative loads were performed in accordance with ETAG 016. The fixing elements $220 \times 8,0 \text{ mm}$ were spaced at least 30 cm, four fixing elements per panel width. The characteristic ultimate load per fixing point is 1,7 kN. There are no damages of panel and the head of screw does not break the layer of the panel.

3.1.4.4 Thermal effect

Thermal effect of EKOSPAN ŚCIANA/EKOSPAN WALL panel has been performed in accordance with ETAG 016. The maximum deflection value of one span configuration (3,0 m) is equal 0,9 mm with the radius of curvature 1347 m. There

were no damages of panel with 60°C temperature difference. The maximum deflection value of two span configuration (1,5 m) is equal 1,67 mm with the radius of curvature 737 m and 1,82 mm with the radius of curvature 642 m . The response to the intermediate support board under the influence of thermal effect is 59 daN/m. There were no damages of panel with 60°C temperature difference.

3.1.4.5 Impact resistance

Hard (1 x 10 J) and soft body (1 x 700 J) impact resistance of EKOSPAN ŚCIANA/EKOSPAN WALL panel is satisfactory, damages have not occurred.

3.1.4.6 Resistance to fixings

The resistance of the panel to suspend eccentrically elements is satisfactory. The permissible eccentric load per fixing point using 8 x 55 mm fixings with 50 cm spacing is 600 N. The permissible vertical load per fixing point using 4 x 52 mm fixings in distance 40 cm is 100 N.

3.1.5 Protection against noise (BWR 5)

No performance determined.

3.1.6 Energy, economy and heat retention (BWR 6)

No performance determined.

3.1.7 Sustainable use of natural resources (BRW 7)

No performance determined.

3.1.8 Aspects of durability, serviceability and identification

3.1.8.1 Durability

3.1.8.1.1 Thermal agents

3.1.8.1.1.1 Climate cycles

The EKOSPAN ŚCIANA/EKOSPAN WALL panel requires placement of a finishing covering systems that provides waterproofing on the outer face, so the panel will not be in contact with water. For this reason climatic testing cycles are considered as not relevant.

3.1.8.1.1.2 Thermal shock

No performance determined.

3.1.8.1.3 Biological agents

Due to a possibility of biological attack (for example geographical location, high risk of insects, proximity or contact with wood which has suffered xylophages attacks, etc), it might be necessary to apply exclusive treatment against these risks to panel components. The panels described in this ETA are exempt from protection against these attacks.

3.1.8.2 Serviceability

3.1.8.2.1 Resistance to hard body impact

The resistance to hard body impact of EKOSPAN ŚCIANA/EKOSPAN WALL panel has been tested and it is satisfactory, damages have not occurred (no cracks, no indentation, etc).

3.1.8.2.2 Resistance to soft body impact

The resistance to soft body impact of EKOSPAN ŚCIANA/EKOSPAN WALL panel has been tested and it is satisfactory, damages have not occurred (no cracks, no indentation, etc).

3.2 Methods used for the assessment

The assessment of fitness of the self-supporting composite panels for declared intended use in walls has been made in accordance with the ETAG 016 edition November 2003, Part 1: *General*, Part 3: *Specific aspects relating to self-supporting composite lightweight panels for use in external walls and claddings*, Part 4: *Specific aspects relating to self-supporting composite lightweight panels for use in internal walls and ceilings*

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

According to the Decision 2000/447/EC of the European Commission the systems of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table apply.

Product	Intended use	Level or class	System
Self-supporting composite lightweight panels	For uses contributing to stiffening the structure	–	3
	For uses subject to reaction to fire regulations	A ⁽¹⁾ , B ⁽¹⁾ , C ⁽¹⁾	1
		A ⁽²⁾ , B ⁽²⁾ , C ⁽²⁾	3
		A ⁽³⁾ , D, E, F	4

⁽¹⁾ Products/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)

⁽²⁾ Products/materials not covered by footnote ⁽¹⁾

⁽³⁾ Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of Class A according to Commission Decision 96/603/EC)

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

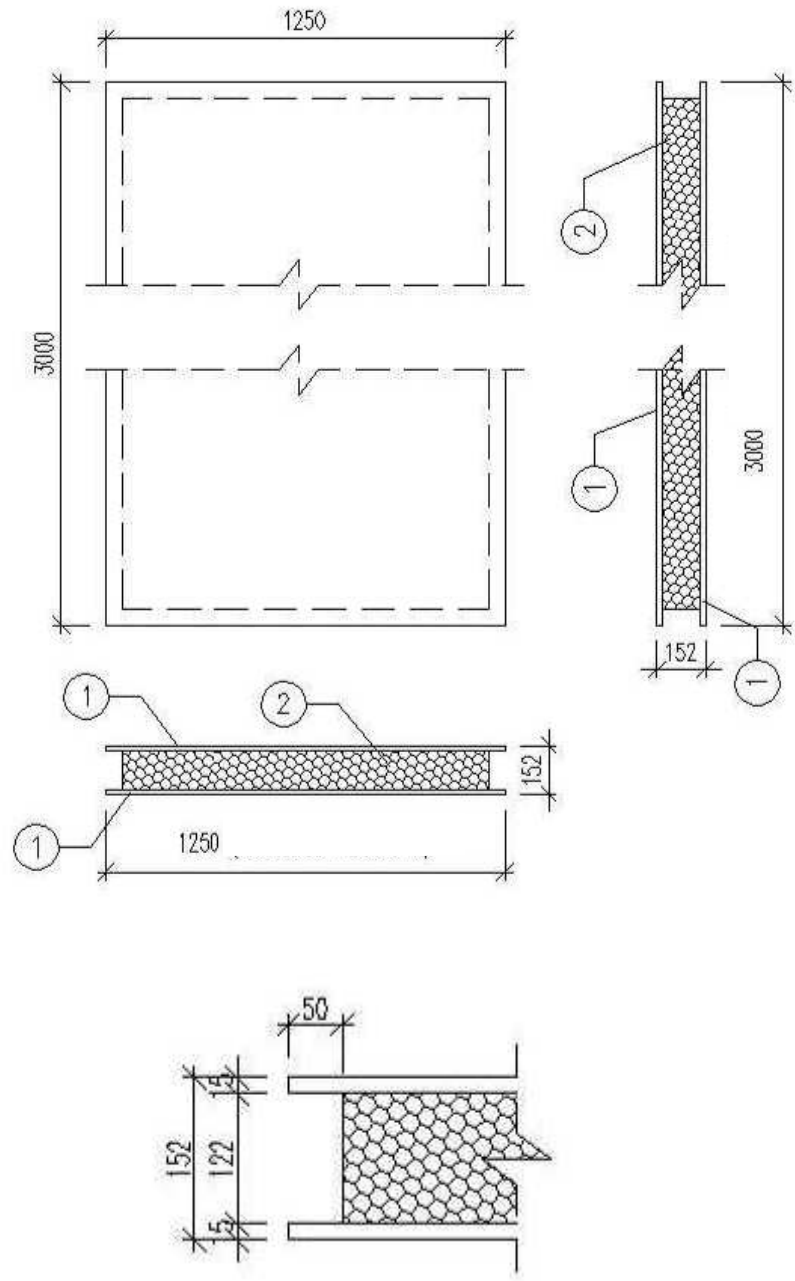
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Instytut Techniki Budowlanej.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

Issued in Warsaw on 30/09/2014 by Instytut Techniki Budowlanej

Michał Wójtowicz

Head of ITB



EKOSPAN ŚCIANA/EKOSPAN WALL composite lightweight panel
 1 - OSB/3 board, 2 - polyurethane rigid foam insulating core

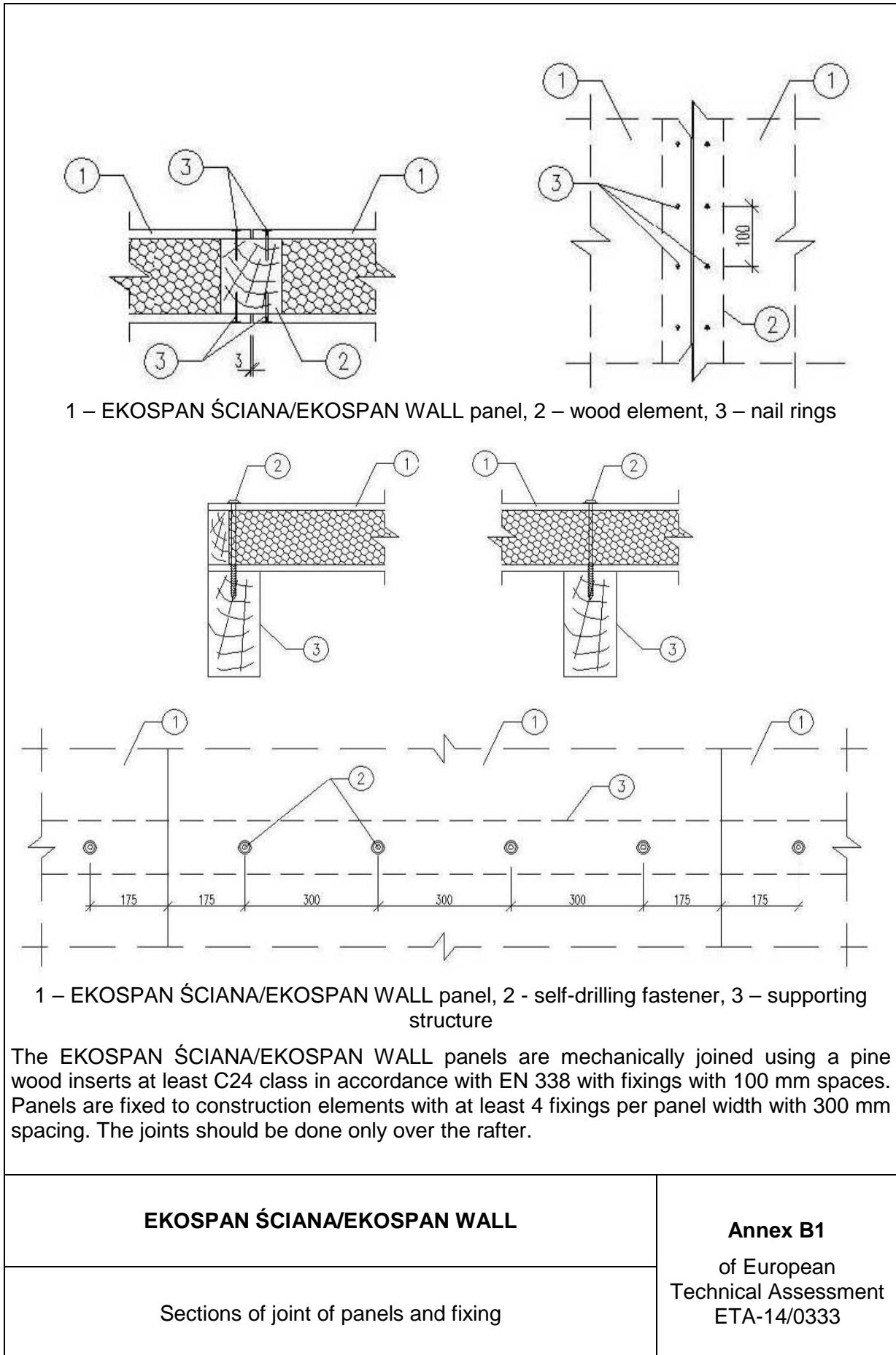
EKOSPAN ŚCIANA/EKOSPAN WALL	Annex A1 of European Technical Assessment ETA-14/0333
Dimensions	

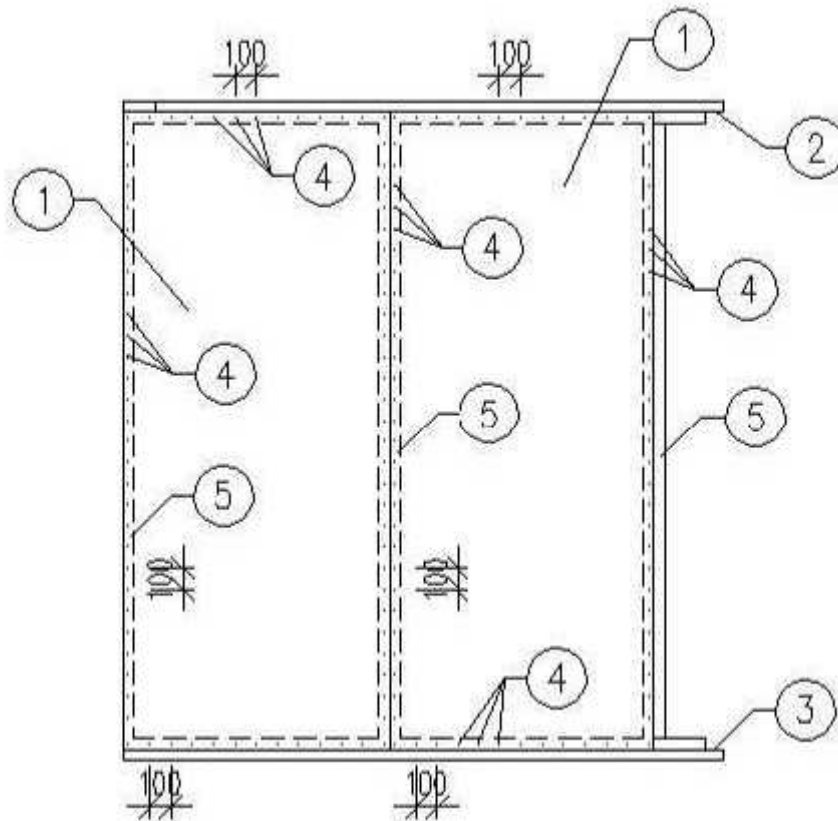
Table 1. Properties of the EKOSPAN ŚCIANA/EKOSPAN WALL panel

Density of polyurethane rigid foam insulating core, kg/m ³	≥ 32	EN 1602
Surface mass of panel, kg/m ²	≥ 22	EN ISO 23997
Compressive strength of the panel, kPa	≥ 150	EN 826
Compressive modulus of the panel, MPa	≥ 5	

The OSB/3 particle board is in accordance with EN 13986.

EKOSPAN ŚCIANA/EKOSPAN WALL	Annex A2 of European Technical Assessment ETA-14/0333
Properties of the product	





The scheme of the wall made of EKOSPAN ŚCIANA/EKOSPAN WALL panels (an example)

- 1- EKOSPAN ŚCIANA/EKOSPAN WALL panel, 2 - top plate,
- 3 - substructure, 4 - nail rings, 5 - wood element

The EKOSPAN ŚCIANA/EKOSPAN WALL panels are mechanically joined using a pine wood inserts at least C24 class in accordance with EN 338 between top plate and substructure. Panels are fixed to the wood inserts using 2,8 x 51 mm fixings with 100 mm spacing.

EKOSPAN ŚCIANA/EKOSPAN WALL	Annex B2 of European Technical Assessment ETA-14/0333
Mounting of panels between top plate and substructure	



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