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Authorized Body 204
empowered by the Decision of COSMT No. 5/2017
Branch Office 0600 – Brno
issues
in compliance with Act No. 22/1997 Coll. on Technical Requirements for Products and on Amendments to Some Acts as amended and Section 2 and 3 of Government Decree No. 163/2002 Coll., as amended by Government Decree No. 312/2005 Coll., No. 215/2016 Coll. and No. 119/2024 Coll.

NATIONAL TECHNICAL ASSESSMENT

No. 060-063055

construction product:

Non-metallic bed joint reinforcement for structural use in composite lintels and reinforced masonry

type / variant:

solidian Briksy
HYB-R222/28-HY-661(860)-AGS2-6x30

manufacturer:

Kelteks d.o.o.

INo:	41431665528
Address:	Dr. Slavka Rozgaja 3, 47000 Karlovac, Croatia
Plant:	**Kelteks d.o.o.**
Address:	Dr. Slavka Rozgaja 3, 47000 Karlovac, Croatia
Job No:	Z060260026

Authorized Body 204 attests by this National Technical Approval data about technical performance of the product in relation to its essential characteristics and methods of their tests in relation to the essential requirements listed in Annex 1 of Government Decree No. 163/2002 Coll. as amended by the Government Decree No. 312/2005 Coll., No. 215/2016 Coll. and No. 119/2024 Coll.

The technical Assessment is a technical specification intended for assessing of conformity of the mentioned product.

Number of pages of the Technical Assessment, including the front page: 5

This Technical Assessment is compiled by:

Ing. Marek Sopko
Chief Assessor

This Assessment is valid until: November 30, 2029

Person responsible for correctness of this Assessment:

Brno, November 6, 2026

Ing. Miroslav Procházka
Deputy Manager of the Authorized Body 204

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1. Information of the product and its intended use:

The construction product is non-metallic bed joint reinforcement for structural use, intended for incorporation in horizontal mortar bed joints of masonry. The product is mesh-type reinforcement. According to the manufacturer technical specification the type of the glass of fibre grid solidian Briksy is AR glass. The products do not use steel as the load-bearing reinforcement material.

The products are intended to be used as bed joint reinforcement for structural use in horizontal bed joints of masonry walls made of Group 1 and Group 2 masonry units in accordance with Eurocode 6.

The reinforcement may be used in internal or external walls and composite lintels and may be incorporated in normal-purpose mortar or thin-layer mortar of specified compressive strength. The intended mortar shall have minimum compressive strength of 5 N/mm² and the mortar layer between the bed faces of masonry units shall be of 3 mm to 12 mm thickness.

The reinforcement is designed to control crack formation and to improve the mechanical performance and durability of masonry. When used in composite lintels, it transfers the structural load from the masonry's self-weight and other external loads.

The assessment is based on the assumption that the solidian Briksy system of over-opening masonry composite lintels and in masonry designed for flexural strength will be made of blocks, mortar and composite reinforcement with the following properties and designs:

Requirements on masonry blocks:

- characteristic value of compressive strength on a head face of the blocks used shall be at least 3 N/mm²
- width of blocks min. 150 mm and max. 240 mm
- height of blocks min. 235 mm
- apparent density of blocks max. 1000 kg/m³ (only for composite lintels)
- blocks shall be set in two rows above each other with regular masonry bond in ordinary or thin-layer mortar (only for composite lintels)
- bottom layer of masonry under reinforcement made of brick blocks of the same width and bulk density, but with a maximum height of 125 mm, the compressive strength of the blocks of the lower layer is not prescribed (only for composite lintels).

Requirements on mortar:

- ordinary or thin-layer mortar
- compressive strength class of mortar at least M5 according to EN 998-2.

Requirements on composite reinforcement:

- reinforcement width for lintels at least 100 mm
- reinforcement width for masonry designed for flexural strength at least 40 mm
- characteristic tensile force in failure min. 10000 N / 50 mm as in the basic state, as after alkaline conditioning
- characteristic tensile stress in deformation 1 mm in the anchorage area min. 0,35 N/mm²

Requirements on composite lintels and masonry construction:

- head joints between blocks in composite lintels above the reinforcement shall be either fully filled with mortar, or blocks tightly knocked together by tapping from the head side, free head joints between blocks are not permitted
- in masonry designed according to EN 1996-1-1 for flexural strength: the outer strand of reinforcement shall be positioned in maximum distance 25 mm from tensioned face of masonry, width of reinforcement shall be equal or bigger then 1/4 of masonry width
- regular masonry bond shall be held in reinforced masonry.

Installation of solidian Briksy reinforcement shall be carried out in accordance with the manufacturer's instructions, including requirements for overlaps, anchorage, cutting, handling and storage, and with respect to manufacturing conditions of EN 1996-2.



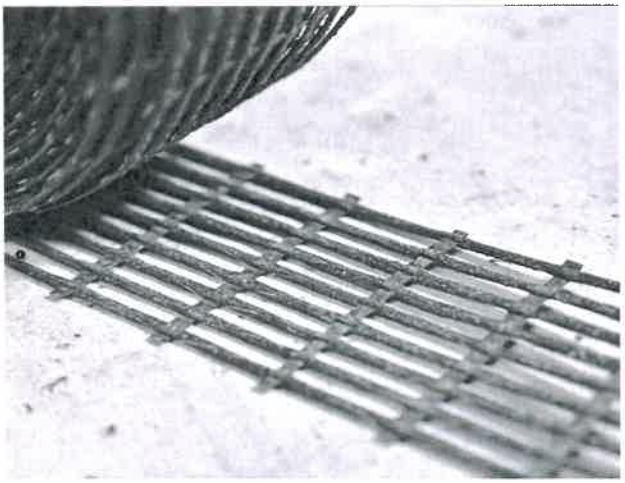

Figure 1 – Example of product

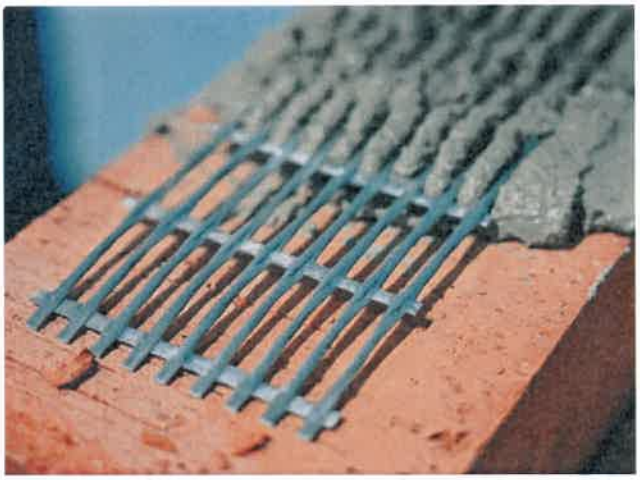

Figure 2 – Typical installation in a horizontal masonry bed joint

2. Determination of observed characteristics and methods of assessment:

Table 1: Determination of observed characteristics of the reinforcement

No.	Characteristic	Test method	No. of samples		Required (R) / Declared (D) value
			C	S	
1	Grid size, grid opening, coverage ratio	EAD 260057-00-0303, Cl. 2.2.5, Cl. 2.2.6, Cl. 2.2.7	5	5	R: Tolerance of dimensions -5 % / +10 % Coverage ratio max. 40 %
2	Tensile strength and elongation in warp direction of reinforcement (characteristic value) - In the initial state - After alkali conditioning	EAD 260057-00-0303, Cl. 2.2.9	20	20	R: $R_{50,in,k}$: min. 10 kN/50 mm ε_u: max. 2,0 % After alkali conditioning residual strength min. 80 % of $R_{50,i}$
3	Flexural strength in plane of composite lintels	EN 846-9 EAD 170008-00-0604	3	-	R: Design load of composite lintel in bending according to Table 2 *)
4	Shear strength of composite lintels	EN 846-9 EAD 170008-00-0604	3	-	R: Design load of composite lintel in shear according to Table 2 *)
5	Flexural strength out of masonry plane perpendicular to bed joint	EN 1052-2 EAD 170008-00-0604	5	-	D: Increase factor of flexural resistance: 1,15 **)
6	Bond strength of reinforcement	EN 846-2 EAD 170008-00-0604	5	-	R: Characteristic tensile stress in bond area in deformation 1 mm min. 0,35 N/mm^2 ***)

Notices: C – certification of product (§ 5, 5a, 6, 10), S – surveillance over certified product (§ 5, 5a, 6, 10)

*) Used design load can be recalculated for separate point forces or any different combination of load provided the same effect of this load as specified uniform continuous load.

**) Valid only for case the outer strand of reinforcement is positioned in maximum 25 mm from tensioned face of masonry. Only in this case flexural strength of reinforced masonry in vertical direction $f_{xk,vert,reinf}$ can be recalculated for design according to EN 1996-1-1 as 1,15 multiple of flexural strength of unreinforced masonry $f_{x,k,vert,un}$, manufactured from the same type of masonry unites and the same type of mortar, i.e. according to equation $f_{xk,vert,reinf} = 1,15 \times f_{x,k,vert,un}$. Condition is valid for clay (EN 771-1), calcium silicate (EN 771-2, concrete (EN 771-3) and/or AAC (EN 771-4) masonry units.

***) Bond area shall be calculated as width of reinforcement multiplied by anchorage length.

A ZKUŠEBNÍ ÚSTAV Autorizovaná osoba TECHNICKÝ ZÚS PRAHA, s.p. 204

Table 2: Design uniform continuous load q_d according to open span of composite lintels and of thickness of masonry for reinforcement width at least 100 mm

Open span of lintel	Design uniform continuous load q_d [kN/m] Nominal thickness of lintel [mm]			Open span of lintel	Design uniform continuous load q_d [kN/m] Nominal thickness of lintel [mm]			Open span of lintel	Design uniform continuous load q_d [kN/m] Nominal thickness of lintel [mm]		
[m]	150	200	250	[m]	150	200	250	[m]	150	200	250
0,7	8,0			1,4	7,2	7,0	6,9	2,1	1,4	1,3	1,2
0,8				1,5	5,4	5,3	5,2	2,2	1,2	1,1	0,9
0,9				1,6	4,2	4,1	4,0	2,3	1,0	0,9	0,7
1,0				1,7	3,3	3,2	3,1	2,4	0,8	0,7	0,6
1,1				1,8	2,6	2,5	2,4	--	--	--	--
1,2				1,9	2,1	2,0	1,9	--	--	--	--
1,3				2,0	1,7	1,6	1,5	--	--	--	--

3. Factory production control assessment

The general requirements for the manufacturer's factory production control (FPC) are specified in Annex 3 to Czech Government Regulation No. 163/2002 Coll., as amended by Government Regulations No. 312/2005 Coll., No. 215/2016 Coll. and No. 119/2024 Coll. Requirements on factory production control for manufacturing of composite lintels and reinforced masonry in construction site are given in EN 1996-2.

4. List of documentation provided by the manufacturer:

- Application for performance of activity of Authorized Body 204, dated 7.1.2026
- Technical report No 060-061957 on evaluation of tests of flexural strength of masonry (AAC units), issued on 15.6.2026 by Technical and Test Institute for Construction Prague SOE, Branch Brno, Czech Republic
- Technical report No 060-062409 on evaluation of tests of reinforced lintels, issued on 16.9.2026 by Technical and Test Institute for Construction Prague SOE, Branch Brno, Czech Republic
- Technical report No 060-062551 on evaluation of tests of flexural strength of masonry (clay units), issued on 16.9.2026 by Technical and Test Institute for Construction Prague SOE, Branch Brno, Czech Republic

5. List of applied technical instructions, standards and other data:

- Act No. 22/1997 Sb. on Technical Requirements for Products and on Amendments to Some Acts
- Government Decree No. 163/2002 Sb., on the Technical requirements for selected construction products, as amended by Government Decree No. 312/2005 Sb., No. 215/2016 Coll. and No. 119/2024 Coll.
- EN 771-1+A1 Specification for masonry units - Part 1: Clay masonry units
- EN 771-2+A1 Specification for masonry units – Part 2: Calcium silicate masonry units
- EN 771-3+A1 Specification for masonry units – Part 3: Aggregate concrete masonry units (Dense and light-weight aggregates)



- EN 771-4+A1 Specification for masonry units – Part 4: Autoclaved aerated concrete masonry units
- EN 772-1+A1 Methods of test for masonry units - Part 1: Determination of compressive strength
- EN 845-3 Specification for ancillary components for masonry - Part 3: Bed joint reinforcement of steel meshwork
- EN 846-2 Methods of test for ancillary components for masonry - Part 2: Determination of bond strength of prefabricated bed joint reinforcement in mortar joints
- EN 846-9 Methods of test for ancillary components for masonry - Part 9: Determination of flexural resistance and shear resistance of lintels
- EN 998-2 Specification for mortar for masonry - Part 2: Masonry mortar
- EN 1052-2 Methods of test for masonry - Part 2: Determination of flexural strength
- EN 1990 ed. 2 Eurocode - Basis of structural and geotechnical design
- EN 1991-1-1 Eurocode 1: Actions on structures - Part 1-4: General actions - Wind loads
- EN 1991-1-4 Eurocode 1: Actions on structures - Part 1-4: General actions - Wind loads
- EN 1996-1-1 Eurocode 6: Design of masonry structures - Part 1-1: General rules for reinforced and unreinforced masonry structures
- EN 1996-2 Eurocode 6 - Design of masonry structures - Part 2: Design considerations, selection of materials and execution
- ISO 2602 Statistical interpretation of test results. Estimation of the mean. Confidence interval
- ČSN 01 0250 Statistical methods in industrial practice. General principles
- ISO 12491 Statistical methods for quality control of building materials and components
- ISO 10406-1 Fibre-reinforced polymer (FRP) reinforcement of concrete – Test methods – Part 1: FRP bars and grids
- EAD 260057-00-0303 Inorganic fibre grids for reinforcement of cement-, anhydrite- or resin-based screeds
- EAD 170008-00-00604 Bed joint reinforcement for structural use
- Technical instruction No. 02.06.01 Clamps, rods, ceiling hangers, brackets, support angles, reinforcement of load joints and lintels, https://koordinacesv.tzus.cz/technicke-navody

6. Verification tests:

No verification tests have been performed in order to compile this Technical Assessment.

7. Specific requirements for evaluation of conformity:

- The product is classified in group No. 02, item 6, pursuant to Annex 2 to Government Decree No. 163/2002 Coll. as amended and the prescribed conformity assessment system complies with § 7 of the above mentioned Decree. At the manufacturer's request, the conformity assessment procedure is carried out in accordance with § 5 pursuant to § 10 of the above mentioned Decree.
- Surveillance on the certified product shall be performed once per 12 months at least.

