solidian·kelteks

solidian Briksy CE

durable, crack-resistant reinforcement solution

The Briksy guide provides clear steps, technical data, and tips for optimizing the performance of masonry—from installation to reinforcement, all in one place. Please read this installation guide carefully before using the solidian Briksy. Consult the responsible structural engineer for the final application in a specific project and compliance with regulations.

Instruction & Application Guide

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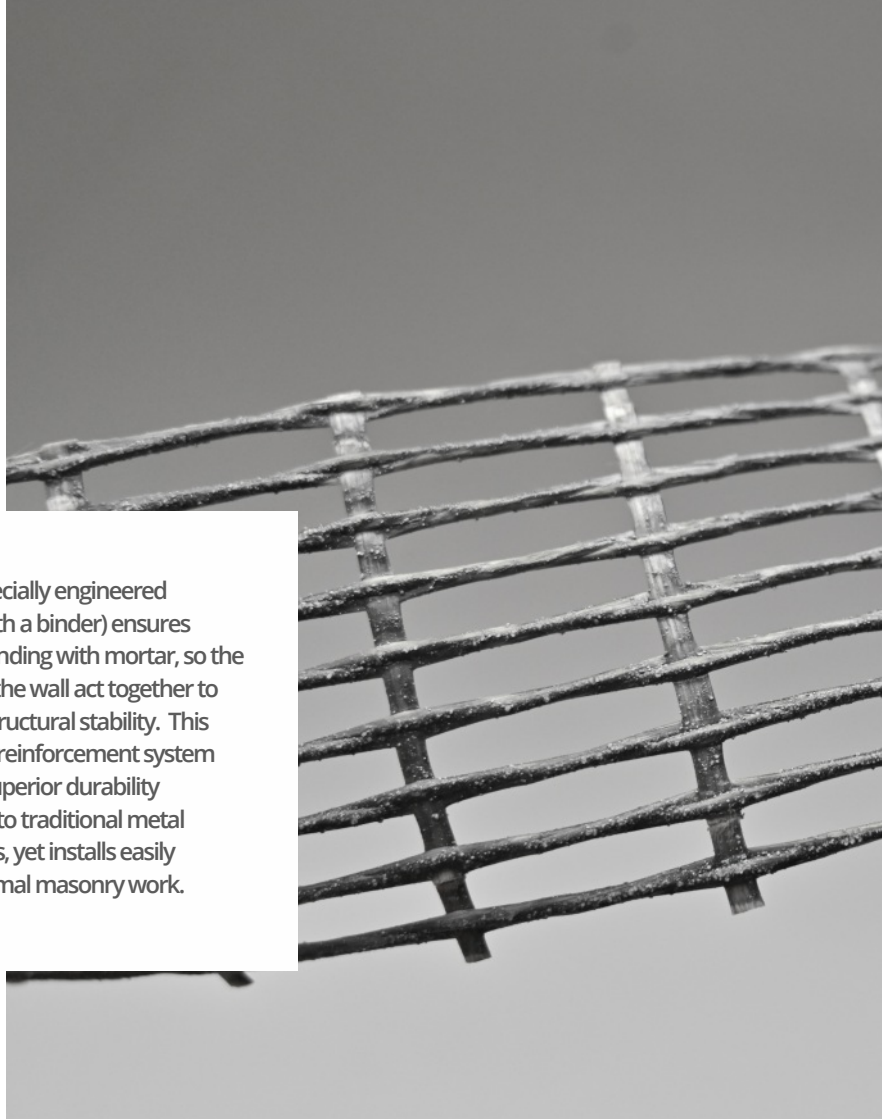
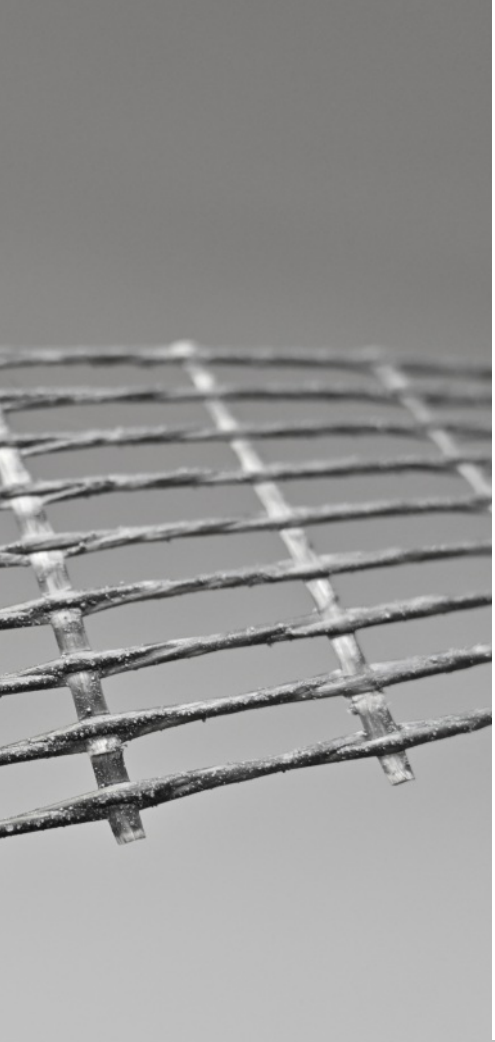
Intro

What is Solidian Briksy?

Solidian Briksy is a high-tech, corrosion-resistant reinforcement made of alkali-resistant (AR) glass fiber, designed to strengthen bonded and masonry walls. This innovative product is used as joint reinforcement, placed in the horizontal mortar and adhesive joints of brick or block masonry to strengthen walls and prevent cracks, whether in brick, silicate, or aerated concrete, while also contributing to better crack control in screeds.

Briksy's specially engineered surface (with a binder) ensures optimal bonding with mortar, so the mesh and the wall act together to enhance structural stability. This innovative reinforcement system provides superior durability compared to traditional metal alternatives, yet installs easily during normal masonry work.





Why use Briksy?

By embedding Briksy in the traditional mortar, thin-layer mortar, or other structurally suitable adhesives or binders, builders can significantly improve a wall's load-bearing capacity and crack resistance, resulting in safer and longer-lasting structures. Briksy primarily strengthens the wall's in-plane integrity (to resist tensile stresses that cause cracks) and also improves out-of-plane stability, which is particularly beneficial for walls in seismic areas. Unlike steel, Briksy will never rust, even in humid or exterior environments, ensuring the reinforced walls remain maintenance-free and durable over decades. Whether you are a distributor looking for a reliable, easy-to-sell masonry solution or a contractor seeking a user-friendly product to reinforce walls, Briksy offers clear advantages to meet your needs. solidian Briksy carbon has been tested according to EN 846-2 (Bond strength and anchorage length), validating its performance in masonry applications.

Material durability

Briksy is manufactured using high-performance fibers and a robust resin matrix that provide inherent non-corrosibility. The resin effectively shields the fibers from the alkaline environment of cement mortar, ensuring that the reinforcement retains its strength despite exposure to temperature fluctuations, moisture, and other environmental stresses. This durability makes Briksy suitable for both exterior and interior applications - even in aggressive environments where steel might be compromised by corrosion.

(For extreme chemical exposures, please consult the manufacturer regarding the most appropriate product variant.)

Key Benefits

Briksy brings numerous benefits to both building professionals and end-users. Here are its key advantages:

High Performance

Reinforces walls effectively, minimizing the risk of cracks caused by structural stress or thermal expansion. Masonry built with solidian Briksy has superior crack control, resulting in fewer repairs and greater longevity of the wall.

Easy Installation

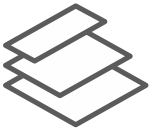
Comes as a flexible mesh in roll form that is simple to handle on-site. It can be easily cut to the required length without specialized tools, making installation quick and labor-efficient. Builders can incorporate solidian Briksy into the wall just as they would lay a normal mortar joint, with no special training needed.

Non-Corrosive Durability

solidian Briksy is made of non-metallic materials (glass), so it will not rust or corrode over time. This makes it suitable for both indoor and outdoor use, even in damp or coastal environments, with long-term resistance to weather and chemicals. Moreover, thanks to its non-corrosive properties, solidian Briksy can be applied directly at the brick edges—areas most exposed to impacts and loads—thereby reinforcing critical zones immediately. In contrast, steel must be installed with a clearance from the brick edge (typically within the neutral zone) to mitigate corrosion risks. The result is reinforcement that maintains its strength for the life of the building, unlike steel which can degrade and cause wall stains or damage.

Enhanced Stability

solidian Briksy significantly increases the wall's ability to carry loads and resist movement. It primarily strengthens the in-plane flexural capacity of masonry (helping the wall resist horizontal forces and bending) and also provides reinforcement against out-of-plane movement, such as bulging or overturning. This added stability is particularly beneficial under seismic loading, where Briksy's reinforcement helps walls absorb earthquake stresses without collapsing.



Various Widths

To accommodate different project needs, solidian Briksy is offered in multiple widths (from narrow strips to broad mats) that can fit various wall thicknesses and brick formats. This flexibility means you can reinforce anything from a small masonry column to a full-width wall or hollow-block wall, simply by choosing the appropriate Briksy width (see Technical Specifications). Architects and engineers can select the proper size to ensure optimal coverage of reinforcement in the wall cross-section.

Cost Effective

solidian Briksy offers an excellent price-to-performance ratio. Its high strength and longevity help reduce maintenance and repair costs over the building's life. Being non-corrosive, it can often replace more expensive solutions like stainless steel joint reinforcement, saving money while maintaining performance. In fact, Briksy provides a better price/performance ratio than other competing non-metallic reinforcements, making it a smart choice for cost-conscious projects without compromising on quality.

Sustainable Solution

Using solidian Briksy contributes to more sustainable construction. By preventing cracks and structural damage, it extends the lifespan of masonry structures, reducing the need for frequent renovations or rebuilds. Its non-corrosive nature means less material waste over time (no rusty metal to replace) and helps preserve the integrity of walls even in harsh conditions. Builders can "build solid" with Briksy – creating long-lasting walls and reducing the environmental impact associated with repair materials and processes.

Assortment

Many variations for all brick types

solidian Briksy is a composite mesh made from high-performance fibers and a durable resin matrix.
The **glass version** (solidian Briksy) is made from alkali-resistant glass fibers in the longitudinal direction with resin and glass fibers in the transverse direction for stability, both impregnated with a special matrix combination. solidian Briksy is designed to bond well with traditional or thin-layer mortars, or other structurally suitable adhesives or binders.

	Materiaal	Breedte	Gewicht	Lengte
	[type]	[mm]	[g/m²]	[m]
solidian Briksy 40	AR Glas	40	860	50
solidian Briksy 50	AR Glas	50	860	50
solidian Briksy 75	AR Glas	75	860	50
solidian Briksy 100	AR Glas	100	860	50
solidian Briksy 150	AR Glas	150	860	50

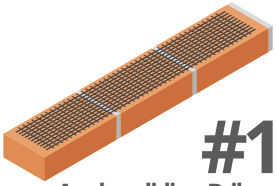
CE marking is made according to EAD 260057-00-0303.
Inorganic fibre grids for reinforcement of cement-, anhydrite- or resin-based screeds.

Each roll provides a long continuous strip of reinforcement that can be cut to length as needed on-site. (Long roll lengths minimize the number of splices/overlaps required).

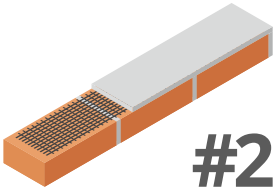
Thickness: The mesh is thin and lies flat in the mortar joint. This means it can be fully embedded in mortar joint thickness without protruding.

Installation Guide

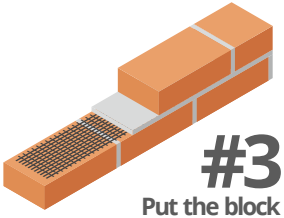
Briksy is installed during the construction of masonry, embedded in the horizontal mortar joints as the wall is built. The installation process is straightforward and similar to using traditional ladder-type joint reinforcement, with a few simple considerations.



#1
Apply solidian Briksy to the blocks



#2
Apply layer of mortar/binder



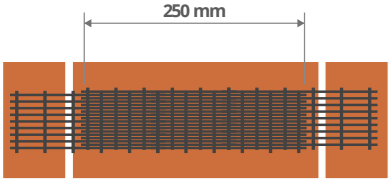
#3
Put the block in the place

Application

Bed joint reinforcement spacing strategy

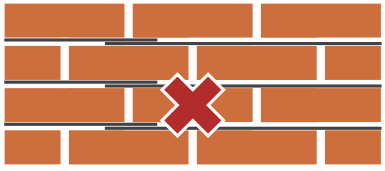
Before you begin laying units, plan exactly where the Briksy strips will be placed. Typically, bed joint reinforcement is installed at vertical intervals of no more than 500 mm (about every 3 to 4 courses of brick). In areas with moderate to high seismic risk, building codes (e.g., Eurocode 8 and Italy's NTC 2018) require reinforcement at these intervals for the remainder of the wall. Mark these designated joints on your design or on the first course of bricks (for example, starting with the joint immediately above the foundation, then every fourth course).

The installation recommendations in this manual are intended solely as general guidance and do not constitute binding technical instructions. The final installation methods and suitability of the product must be verified by qualified professionals based on project-specific requirements and in accordance with applicable local standards and regulations. For further technical advice or clarification, please contact our technical team.



Overlapping (top view)

Overlap consecutive strips of Briksy by at least 250 mm to create a continuous reinforcement path.



Overlapping (side view)

Avoid aligning overlaps directly above each other from course to course. Stagger them to prevent creating a weak plane.

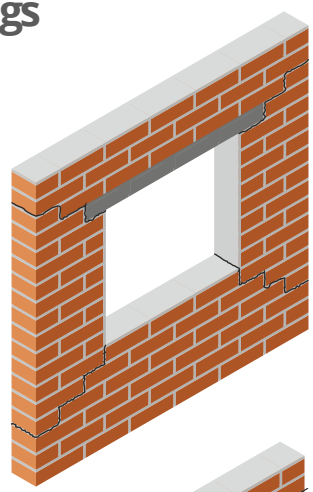
Overlapping (side view)

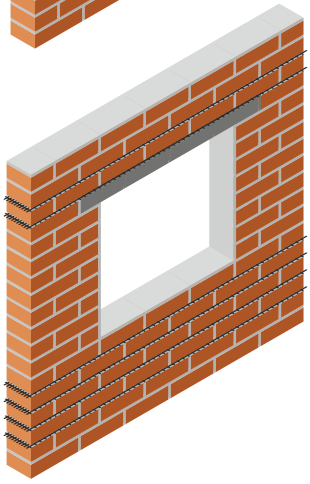
Check alignment regularly so that overlaps don't occur on the same vertical line in adjacent courses.

Controlling stress concentrations near openings

High tensile stresses often accumulate around windows, doors, and other openings, which can lead to crack formation. To address this:

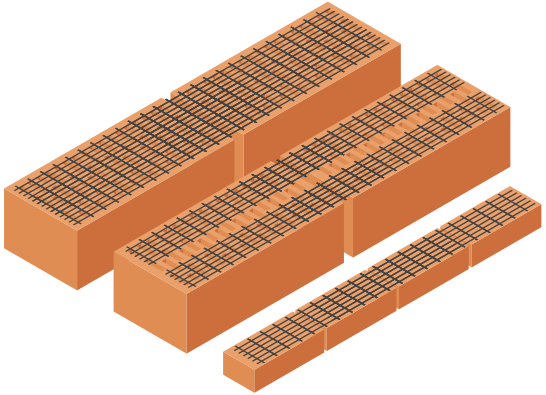
- **Reinforcement Placement:** Install Briksy in the first two bed joints immediately above and below the opening.
- **Overlap Requirement:** Ensure that adjacent strips overlap by at least 250mm, creating a continuous reinforcement band.
- **Installation Tip:** Pre-mark the required joints on your layout to ensure precise positioning during bricklaying.
- **Engineering Insight:** By creating an uninterrupted reinforcement zone, Briksy helps evenly distribute localized stresses, reducing the risk of crack propagation around openings.





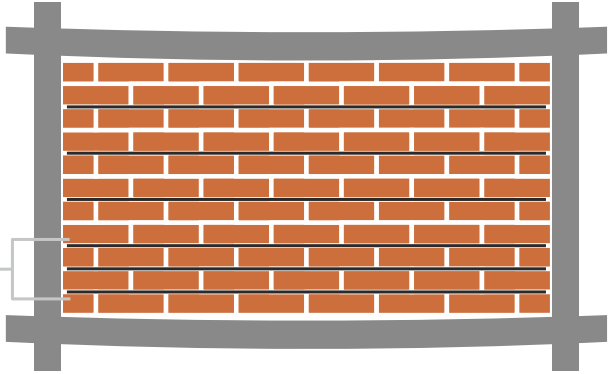
Ensure you have the correct briksy width for your wall type

For instance, use the wider mesh for a full-thickness wall, or a narrower strip for a single-wythe brick veneer or partition wall. Additionally, when working with wide bricks, the thinner Briksy can be applied in a double layer directly at the brick edges to provide enhanced reinforcement where stresses are highest.

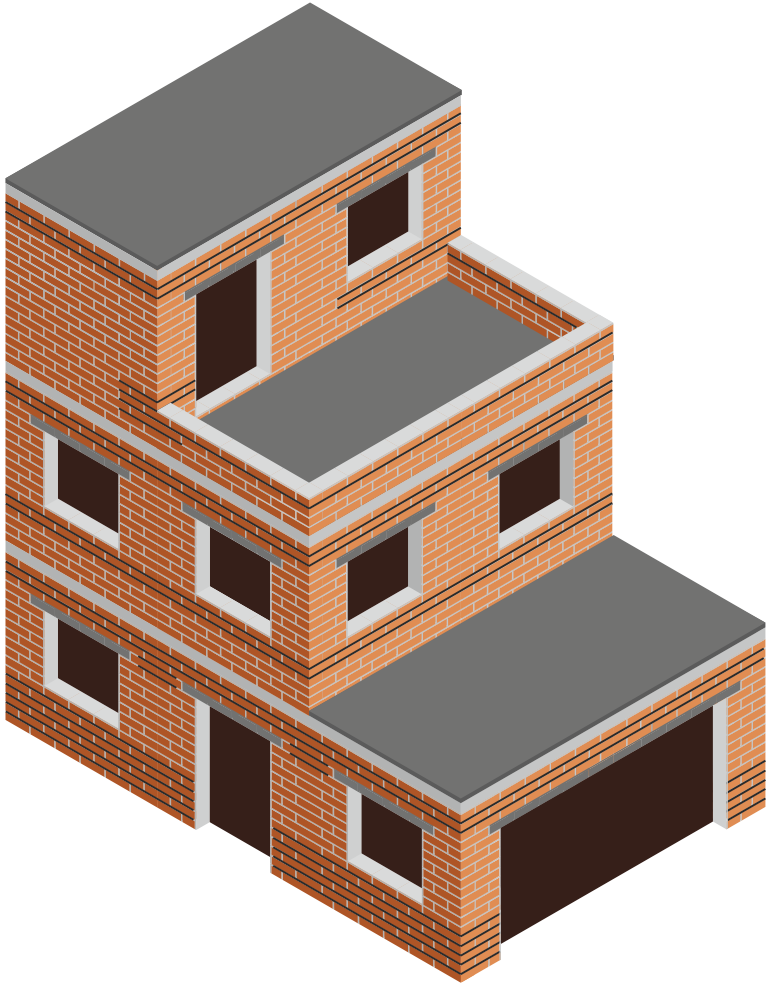


Special reinforcement considerations

Transition Zone Above the Floor Plate:
For the first couple of courses immediately above the floor plate, it is recommended to install Briksy in every bed joint. This intensified reinforcement in the critical transition zone ensures that the wall segment - subjected to the highest vertical loads - is thoroughly supported from the very start.



Exterior Walls or Fences on Uneven Terrain:
For concrete fences or exterior walls built on uneven terrain - where moisture and variable soil hardness can cause early cracking - additional reinforcement is essential. Installing Briksy in every bed joint in these areas can help mitigate the risks of differential settlement and moisture-induced stress, enhancing the wall's durability and resistance to cracking.



High-stress zones & gable reinforcement

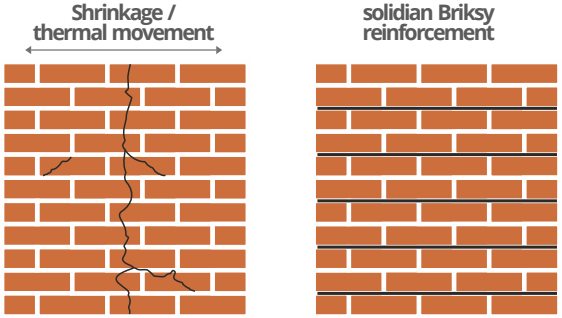
Masonry structures often face concentrated stresses at wall edges, near openings, and in tall gable sections. Thanks to its non-corrosive composition, Briksy can be installed directly at the wall edge, providing immediate reinforcement against wind loads and lateral forces. In tall gable sections, installing Briksy at closer vertical intervals (e.g., every 200-300mm) enhances lateral stability, ensuring the wall can better resist wind pressures and other dynamic loads. This targeted reinforcement strategy is ideal for industrial and large-scale buildings, where robust structural performance is essential.

- **Ideal for Demanding Environments:** Its ability to withstand moisture and environmental aggressors makes Briksy particularly well-suited for reinforcing walls in industrial **storage facilities and large-scale buildings.**

This innovative approach makes Briksy an optimal solution for achieving robust wind load protection and ensuring long-term durability in even the most challenging conditions.

Minimizing cracks from material movement

Masonry walls naturally experience slight shifts due to material shrinkage and thermal expansion-effects that are especially evident in longer wall spans. By integrating Briksy as a bed joint reinforcement at regular intervals (typically every 500mm), you establish a continuous tensile network that effectively accommodates these movements.



Walls without solidian Briksy cracks due to shrinkage and thermal expansion

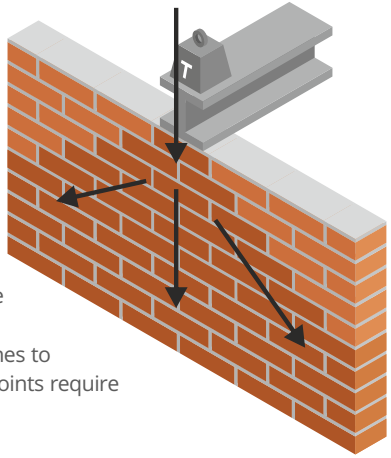
Wall with solidian Briksy continuous tensile network prevents cracks

This approach helps to minimize the occurrence of cracks, even in extensive wall sections. Thanks to its non-corrosive, high-performance composition, Briksy is an excellent solution for both interior and exterior applications, ensuring long-term structural integrity and a clean, uninterrupted appearance.

Managing concentrated loads (point loads)

Heavily concentrated loads—from structural elements, anchors, or specialized fixtures—can induce high tensile stresses in localized areas of a masonry wall.

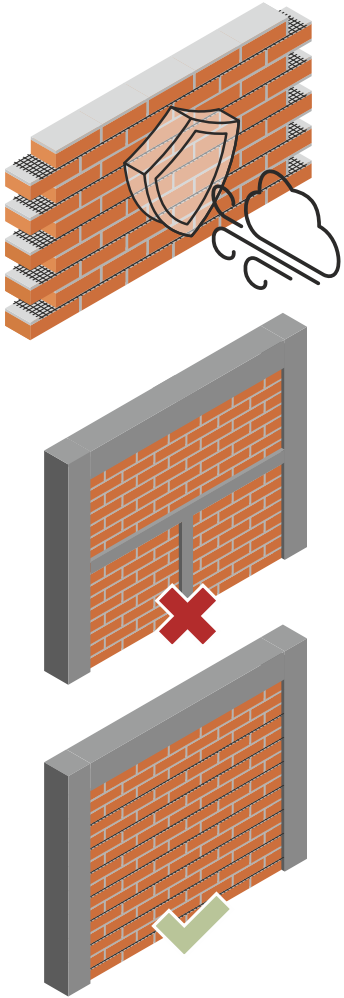
Without suitable reinforcement, these stresses may lead to cracking or failure. By installing Briksy in multiple consecutive bed joints beneath the load-bearing point, the load is spread over a wider zone, preserving the wall's uniformity and reducing the need for additional rigid supports. Always confirm that the contact stress does not exceed the masonry's compressive capacity, and refer to project-specific guidelines to determine how many joints require reinforcement.



Briksy's lightweight, non-corrosive design allows for precise placement exactly where it's needed, ensuring effective stress distribution and long-lasting structural integrity.

Edge reinforcement for wind load protection

Large industrial facilities and expansive commercial buildings are often exposed to intense wind forces. Traditional reinforcements are typically positioned within the wall's neutral zone to avoid corrosion, leaving the outer edge less protected. Briksy, with its non-corrosive properties, can be installed directly at the very edge of the wall. This strategic placement ensures that reinforcement is activated immediately when wind loads occur.



Replacing tie beams in high walls

solidian Briksy offers a breakthrough alternative to traditional reinforced concrete tie beams, with all type of brick walls exceeding 3 meters in height - where seismic codes and engineering best practices typically require horizontal tie beams to prevent out-of-plane buckling and improve overall wall stability. Constructing these concrete tie beams on-site involves extensive formwork, reinforcement, pouring, curing time, and coordination with structural elements, resulting in significant labor, time, and cost burdens.

solidian Briksy, with its alkali-resistant AR-glass mesh integrated within mortar joints at designated vertical intervals, provides continuous reinforcement throughout the wall height. This mesh enhances both in-plane shear strength and out-of-plane flexural capacity, effectively substituting the structural role of tie beams by controlling crack development and lateral displacement during seismic activity.

The system simplifies wall construction, eliminates the need for wet trades and concrete-related delays, and ensures compliance with modern seismic design standards.

Technical Data Sheet

solidian Briksy CE

CE marking is made according to EAD 260057-00-0303. Inorganic fibre grids for reinforcement of cement-, anhydrite- or resin-based screeds.

Specification		Unit	Value	Tolerance	Standard
Fiber material warp	AR-Glass	-	-	-	-
Fiber material weft	Glass fiber	-	-	-	-
Impregnation material	Styrene-butadiene + Filler*	%	≥16	-	ISO 1887
Basis weight	-	g/m^2	620	± 8%	ISO 3374
Shape	Roll	-	-	-	-
Width	-	mm	40 50 75 100 150	± 5 mm ± 5 mm ± 10 mm ± 10 mm ± 10 mm	ISO 22198
Length	-	m	30, 50	-	ISO 22198
Fiber cross-section	Warp Weft	mm^2 mm^2	1,81 0,92	- -	calculated calculated
Mesh size (middle)	Warp Weft	mm mm	8,3 33,3	- -	Internal method RUP MOO KEL
Ductility category	-	-	low	-	EN 845-3 + A1, Table 4

Specification		Unit	Value	Tolerance	Standard
Breaking Force Characteristic value	Warp	kN/m	180	-	ISO 10406-1
	Weft	kN/m	30	-	ISO 10406-1
Breaking Force Average value	Warp	kN/m	406	-	ISO 10406-1
	Weft	kN/m	31	-	ISO 10406-1
Tensile Strength regarding fiber cross-sectional area Average value	Warp	Mpa	1.869	-	ISO 10406-1
	Weft	Mpa	1.146	-	ISO 10406-1
Tensile Strength regarding fiber cross-sectional area Characteristic value	Warp	Mpa	≥ 1.657	-	ISO 10406-1
	Weft	Mpa	≥ 908	-	ISO 10406-1

Specification		Unit	Width of product	Number of cords per width	Value	Standard
Breaking Force Average value	Warp	kN	40 mm	5	17	Calculated based on product width
			50 mm	6	20	
			75 mm	9	30	
			100 mm	12	40	
			150 mm	18	60	

Bond strength EN 846-2

Type of masonry elements and mortar	Air content	Flexural tensile strength (28 days)	Compressive strength (28 days)
Normal purpose mortar	9,5 %	1,8 Mpa	6,6 Mpa
Solid clay bricks 120 x 250 x 65 mm	-	-	43,4 MPa

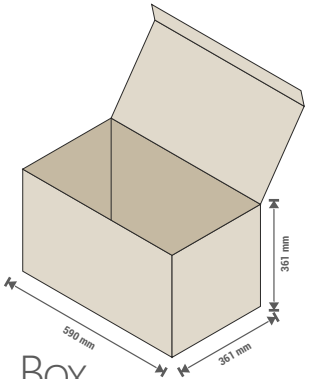
Combinations	Embedment length	Characteristic value of bond strength Deformation of 1 mm	Characteristic value of bond strength [Fmax]
Solid clay bricks + normal purpose mortar + solidian Briksy Carbon 40	250 mm	1,8 Mpa	9,83 kN
Solid clay bricks + normal purpose mortar + solidian Briksy Carbon 75	250 mm	13,21 kN	17,84 kN

__Note:__ Briksy should be stored in a dry, covered environment to protect it from prolonged UV exposure and dust. Store rolls on a flat surface or upright to prevent distortion. Always keep the material in its original packaging until use to prevent accidental damage to the mesh.

Packaging

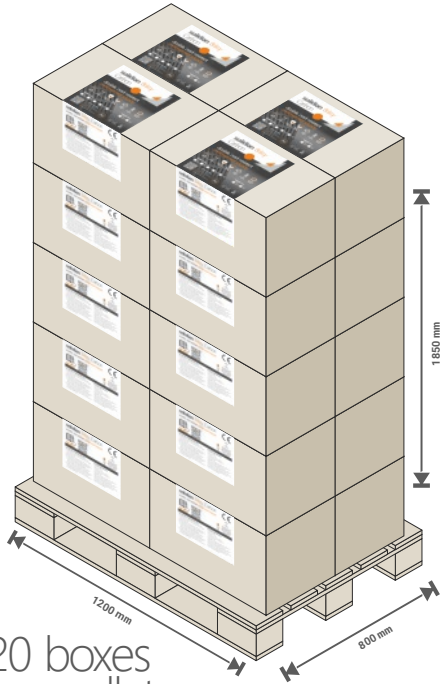
50m rolls

	Length	Rolls
	[m]	[pcs]
solidian Briksy 40	50	9
solidian Briksy 50	50	8
solidian Briksy 75	50	6
solidian Briksy 100	50	4
solidian Briksy 150	50	3



Box dimension

590 x 361 x 361 mm



20 boxes per pallet

About

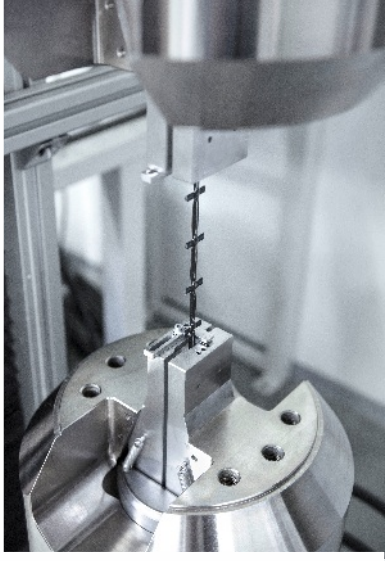
solidian·kelteks

solidian&kelteks has established itself as a leading company providing innovative solutions to improve construction structures. We are committed to our clients – providing comprehensive customer service and technical support, and continuously developing global innovative fiber material solutions.

Using advanced technologies, we produce special reinforcement products tailored to your needs. Our functional fiber grids and composite reinforcements are used to optimize performance in a variety of applications – including concretes, ultra-high-performance concrete (UHPC), cement-based mortars, adhesives, and other dry-mix compounds.

solidian & kelteks are ISO 9001 and ISO 14001 certified for quality and environmental management

With solidian Briksy and our other products, we aim to revolutionize the way the world builds with masonry and concrete. By replacing heavy, corrosion-prone steel with lightweight, corrosion-free composites, we enable structures that are stronger, more durable, and more sustainable. Our slogan "build solid." encapsulates our mission: to help you build solid structures that stand the test of time. solidian & Kelteks are ISO 9001 and ISO 14001 certified for quality and environmental management, underscoring our commitment to excellence and sustainability in every aspect of production.



Here for You

- For inquiries, technical support, or to place an order for solidian Briksy, please reach out to us. Our team will be happy to assist distributors, engineers, and contractors with any questions and provide guidance for your specific project needs.

- For more product information, downloadable technical data sheets, and design references, visit solidian-kelteks.com. In the Downloads section, you can find the solidian Briksy flyer, technical data sheets, and approvals.

- solidian&kelteks stands behind its products. We offer consultation and support to ensure Briksy is used to its fullest potential in your project. Feel free to contact our technical team for help with design integration, or our sales team for pricing and distribution inquiries. Together, we build solid and innovative structures for the future.

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