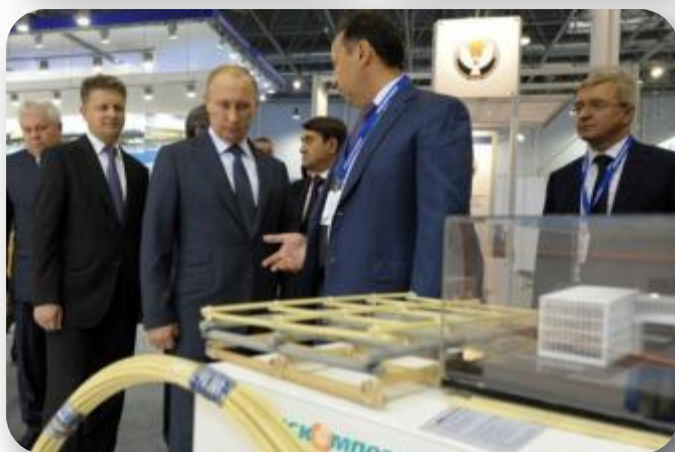




**BENSTEN K**  
basalt  
reinforcement  
masonry grid

**Making the world stronger!**

2018



JSC «STEKLONIT» is a Russian research and production company focused on implementation of innovative composite materials and high-tech solutions.

## The company comprises two production sites:

- A factory in the city of Ufa, has been operating since 1961
  - The plant territory is 8.2 hectares including open warehouses. Production workshops occupy an area of 2.7 hectares
  - Staff of the plant consists of more than 500 highly-skilled workers, more than 100 technical and engineering employees, mid-level managers and senior managers
- A factory in the city of Tver, has been operating since 1965
  - The plant territory is 27 hectares including warehouses
  - Staff consists of more than 200 people

The goods are tested by in-house certified laboratories.



**STEKLONIT: HIGH EXPERTISE LEVEL BASED ON A HALF-CENTURY EXPERIENCE!**



Basalt is an extrusive igneous rock formed from the rapid cooling of lava exposed over ground surface. If compared to granite, basalt is heavier but stronger. Melting point of basalt is 1,100 – 1,200°C; and even as high as 1,450°C for some of its varieties. Inherent **resistance to strong chemical agents and all kinds of acids and alkali** is also worth noting.



## Advantages of a basalt mesh over a metal one:

1. Cheaper than a metal mesh at equal tensile properties
2. With its low thermal conductivity, absence of cold-bridge effect, a basalt mesh improves thermal efficiency of a structure
3. Decreased masonry joint as compared to metal meshes
4. The weight of basalt mesh is one-seventh as much as that of a metal mesh at equal tensile properties
5. Basalt meshes are resistant to rust, aggressive media and alkali
6. Basalt meshes are much easier to handle: flexible, cause no injuries to hands, high-level adherence to surfaces, effortlessly cuttable to required dimensions by means of mere scissors
7. When transported, basalt meshes occupy little space and have a low weight

## Metal mesh

## BENSTEN K basalt mesh

### Performance inside a structure

- Corrodes at weld joints and in alkaline concrete medium, non-durable
- High thermal conductivity, about 46 W/(m\*°C), cold-bridge effect.
- Low adhesion to mortar

- ✓ Resistant to corrosion and alkaline solutions, no loss of durability throughout the whole service life
- ✓ Low thermal conductivity, about 0.03 W/(M\*°C), no cold-bridge effect
- ✓ High adhesion to mortar
- ✓ Ideal for reinforcing thin horizontal masonry joints

## Metal mesh

## BENSTEN K basalt mesh

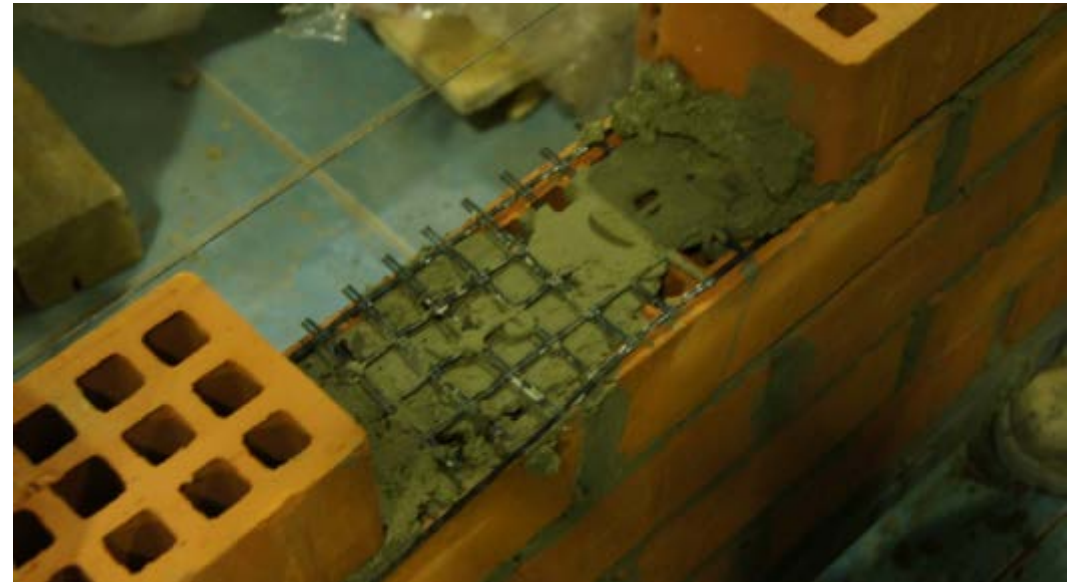
### Laying

- Cut with special tools
- Acts like a spring, problematic adherence to surfaces
- Risk of injury from sharp edges
- Typical consumption of masonry admixture
- Up to 20% offcuts

- ✓ Cut with mere scissors
- ✓ High-level adherence to surfaces
- ✓ No risk of injury, no sharp edges.
- ✓ Reduced consumption of masonry admixture.
- ✓ No more than 5% offcuts



- for reinforcement of horizontal masonry joints



- for reinforcement of ceramic-stone brickworks with hollowness over 30%



– as bracing elements in two-layer walls with brick-facing and primary inner layer composed of various wall materials (lime-sand or ceramic bricks, large-sized stones, cellular concrete blocks and etc.)



– as reinforcement of plaster layers in walls of various rock materials resulting in improved firmness, seismic resistance and crack resistance



- as reinforcement of a floor cement screed thereby increasing its strength and excluding formation of shrinkage cracks







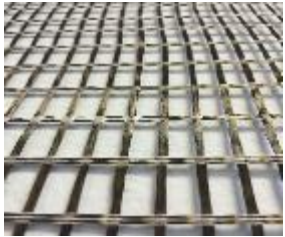
Symbolic representation		BENSTEN K 50/50-25 (100)	BENSTEN K 100/100-25 (100)
Mass per unit area, not less than, g/m <sup>2</sup>		250	450
Tensile strength, κN/m, not less than	lengthwise	50	100
	crosswise	50	100
Tensile elongation, %, not more than	lengthwise	4	4
	crosswise	4	4
Mesh aperture (±2%), mm		25 * 25	25*25
Maximum roll width (±2%), cm		540	540





Rastorguyevskoye highway

«Vidniy gorod» residential buildings



“Dve stolitsy” residential buildings  
the city of Khimki