

Masonry reinforcement product selector



Introduction

Bekaert Building Products has been at the forefront of masonry reinforcement design and product development for over 80 years. Brickforce® has been in continuous use since its introduction in 1918. To cater for the increased use of masonry construction and to offer masonry reinforcement solutions for modern build requirements Bekaert continues to develop its range of products. Bricktor® CCR, and Bricktie and Bekaert Wall Ties have been designed and introduced for specific applications. Bekaert masonry reinforcement products have been developed over the years to comply with the evolving masonry design codes of practice. Following the harmonization of construction design and product codes, Bekaert products are manufactured to comply with the product codes BS-EN845 parts 1 and 3 and carry the CE Mark with supporting independent testing. This means they can be used with confidence when designing to the reinforced masonry design code BS-EN1996:1



Bekaert Quality:

Bekaert is a global expert in the manufacture of metal wires and wire products. Quality has always been very important to us.

For our masonry reinforcement products we fully comply with the latest Euro codes. All Bekaert masonry reinforcement products carry CE Marks supported with Declarations of Performance - so called CE DOP's.

To be valid and correct any CE DOP offered by a manufacturer must be supported with independent and accredited performance test data carried out by an approved institution.

Bekaert has completed this independent testing for all masonry reinforcement products, so that designers and customers can be assured in using Bekaert products, the product performance meets the design and build expectations, and high quality and durability in masonry construction is maintained.

Masonry Standards:

Design:

- BS EN1996-1 - General rules for design of reinforced and unreinforced masonry structures
- UK Annex - A1 - UK supplementary document to BS EN 1996-1
- BS EN1996-2 - Design considerations, selection of materials and execution of masonry

Product:

- BS EN 845-1 - Specification for ancillary components for masonry. Ties, tension straps, hangars and brackets
- BS EN 845-3 - Specification for ancillary components for masonry. Bed joint reinforcement of steel mesh work

Specific data sheets and CE DOP's are available on request

Factory Standards:

In addition, Bekaert production holds the following quality management certificates:

- ISO9001:2008 - Design, development, manufacturing and sales: Building Products - Masonry reinforcement products Brickforce, Bricktor, Bricktie
- ISO14001:2004 - Environmental Management System

Brickforce®

The structural reinforcement

Brickforce® is designed for **structural reinforced masonry applications**. Brickforce® complies fully with the requirements of the product code BS-EN845:3 and can be used to design in accordance with BS-EN1996:1. Brickforce® consists of two main parallel wires joined by in-line welded cross wires. The main wires are manufactured to a flattened profile to enable the product to be **easily located into the mortar joint** without steel build-up problems at lap positions corners/junctions, or when used in conjunction with wall ties.

Brickforce® is available in a range of different main wire diameters for specific structural loading situations, and in a variety of product widths to suit different block or brick leaf construction.



Specification

Material finishes

- ✓ Stainless steel BS-EN845 category R3.
- ✓ Galvanised steel BS-EN845 Category R20.

Main wires

- ✓ Flattened profile, equivalent diameter to suit design requirements with a minimum characteristic tensile strength of 500 N/mm².

Brickforce® Product References

External Wall (including internal leaf of cavity)		Internal Walls Only (partitions of cross walls)	
Code Reference	Wall Thickness (mm)	Code Reference	Wall Thickness (mm)
SBF30W60	102 brick or 100 block	GBF30W60	102 brick or 100 block
SBF35W60	102 brick or 100 block	GBF35W60	102 brick or 100 block
SBF40W60	102 brick or 100 block	GBF40W60	102 brick or 100 block
SBF45W60	102 brick or 100 block	GBF45W60	102 brick or 100 block
SBF50W60	102 brick or 100 block	GBF50W60	102 brick or 100 block
SBF30W100	140 block	GBF30W100	140 block
SBF35W100	140 block	GBF35W100	140 block
SBF40W100	140 block	GBF40W100	140 block
SBF45W100	140 block	GBF45W100	140 block
SBF50W100	140 block	GBF50W100	140 block
SBF30W150	190/200 block	GBF30W150	190/200 block
SBF35W150	190/200 block	GBF35W150	190/200 block
SBF40W150	190/200 block	GBF40W150	190/200 block
SBF45W150	190/200 block	GBF45W150	190/200 block
SBF50W150	190/200 block	GBF50W150	190/200 block
SBF30W175	215 block	GBF30W175	215 block
SBF35W175	215 block	GBF35W175	215 block
SBF40W175	215 block	GBF40W175	215 block
SBF45W175	215 block	GBF45W175	215 block
SBF50W175	215 block	GBF50W175	215 block

Pack sizes

- ✓ Brickforce® is manufactured in 2.7m long strips and supplied in packs:
- ✓ Stainless steel Brickforce® packs contain 20 strips (54m per pack).
- ✓ Galvanised Brickforce® packs contain 25 strips (67.5m per pack).
- ✓ Minimum overlap 225mm.

Product code describes finish, wire diameter and product width.

ie SBF35W60 = stainless Brickforce® 3.5 mm dia wire 60 mm wide

GBF40W100 = galvanised Brickforce® 4.0 mm dia wire 100 mm wide

Bricktie®

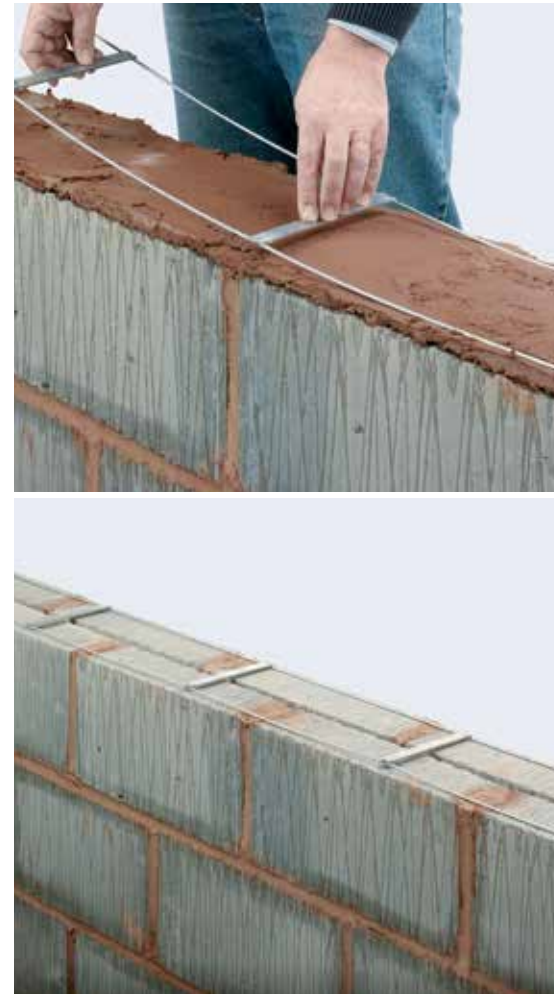
Tying masonry leaves together

Bricktie® was developed to overcome the problems associated with lifting heavy blocks in the construction of 215mm and greater thickness walls. The use of Bricktie® allows the construction of collar-jointed walls - made up from two thinner blocks. **By tying the two masonry leaves together, the wall may be designed as if it were solid construction.** The use of Bricktie® also enables a fair-faced block finish to both sides of the wall by adopting a collar-joint construction. Similarly, a single solid brick wall can be constructed using stretcher bond coursing without the need for any additional ties. Bricktie® provides an effective and time-saving solution to most wall combinations and consists of a 20 x 3mm flat tie welded to two longitudinally flattened reinforcing wires. Bricktie® is available in width 175mm to suit a 215mm wide collar-jointed wall constructed from two leaves of 100mm. In addition, the longitudinal wires can be utilised for either structural strength or to extend the distances between movement joints.

Specification

Material finishes

- ✓ Stainless steel BS-EN845 Category R3.
- ✓ Galvanised steel BS-EN845 Category R20.
- ✓ Main wires flattened profile, equivalent diameter to suit design requirements, with a min. characteristic tensile strength of 500 N/mm². Cross piece ties conform to the performance requirements of BS-EN845:1



Bricktie® Product References

Pack sizes

- ✓ Bricktie® is supplied as 2.7m long individual strips.
- ✓ Minimum overlap 225mm.

Product Code	Material	Main wire diameter	Wall width
SCF35W175	Stainless steel	3.5 mm	215 mm
SCF40W175	Stainless steel	4.0 mm	215 mm
SCF50W175	Stainless steel	5.0 mm	215 mm
GCF35W175	Galvanised	3.5 mm	215 mm
GCF40W175	Galvanised	4.0 mm	215 mm
GCF50W175	Galvanised	5.0 mm	215 mm



Bricktor® CCR Crack Control Reinforcement.

- Standard masonry joints
- 2-3 mm Thin Joint System

Since its invention in 1906, Bricktor® has been re-designed to meet the new demands of 21st century construction techniques. In 2005 new Bricktor® Crack Control Reinforcement known as Bricktor® CCR was launched.

It can be used for both **standard masonry joints** and **thin joint systems**.

Originally recognised for its woven format, the cross wires have been redesigned into a square welded format, thereby allowing easier application within the bed joint.

Bricktor® is manufactured from high tensile wire and is designed for bonding and strengthening brickwork, blockwork and stone walls. Available in **stainless steel and galvanised finishes**, in roll lengths of 25m, Bricktor® lies flat on the masonry mortar joint making the product **easy to install** compared to other coiled products.

Although Bricktor® cannot be used structurally, test work carried out has shown its use contributes significantly to enhance the strength of masonry by absorbing tensile stresses which can develop in masonry construction.

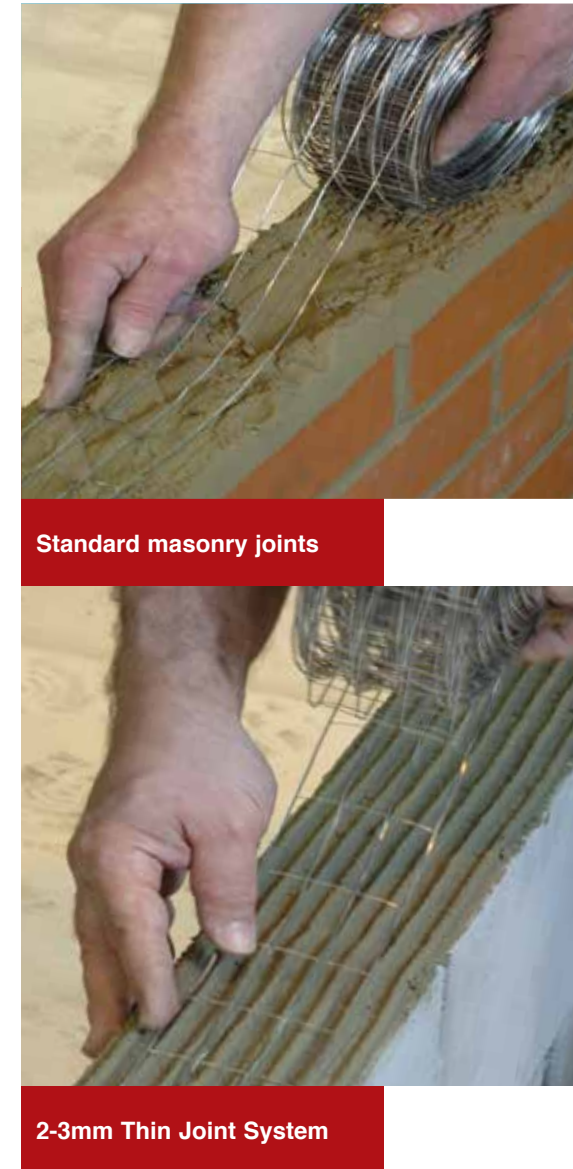
Specification

Material finishes

- ✓ Stainless steel wire - BS-EN845:3 Category R3.
- ✓ Galvanised steel - BS-EN845:3 Category R20.

Wire characteristics

- ✓ Longitudinal wires - 1.25mm diameter, cross wires - 0.65mm diameter.



Pack sizes

- ✓ Supplied as 25m roll.
- ✓ Minimum overlap 225mm.

Stainless steel	Galvanised	To suit wall width mm
SBT60CCR	GBT60CCR	100-125
SBT100CCR	GBT100CCR	140-150
SBT160CCR	GBT160CCR	190-200
SBT180CCR	GBT180CCR	215

Note: For wall widths greater than 225mm, a combination of narrower roll widths may be used.

Brickforce® Wall Ties Cavity Ties

10 Good reasons why you should buy the Bekaert tangle free Wall Ties

1. A Unique tangle free design
2. Increased Productivity on site with no wall ties to untangle
3. Virtually no packaging equals less waste and less mess on site
4. No more soggy cardboard boxes
5. No more injuries or ripped clothes from snagging on wall ties
6. Better storage on site
7. Bundles of wall ties make movement around site easy
8. Better for the environment due to less packaging
9. No extra cost
10. They meet European standards and are CE marked

Brickforce® Reinforcement Wall ties - Movement ties - Two-part ties - Frame cramps - Head restraints

New Product Range



BKT Cavity Wall Tie
Type 1,2 and 4
200, 225, 250, 275, 300 mm



BKSP Movement Tie
with de-bonding sleeve
150, 200, 225, 250 mm



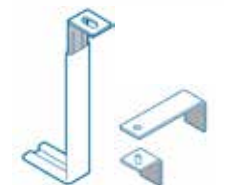
BKFH/S Frame Cramp
(Holed or Slotted)
75, 100, 125, 150, 175, 200, 225 mm



BKFH/SV Frame Cramp
(Hole or Slotted) with 'V' drip
125, 150, 175, 200, 225 mm



BKTT Two-part tie
to suit 150, 175, 200, 225, 250, 275, 300 mm
cavities



BKIHR & BKFHR Head Restraints
to suit 215 mm height block
BKFHR to suit 100/140 mm thickness



The tie selector

A guide to Bekaert tangle free wall ties

	Sizes	Cavity width	Wall type	Building height
BKT1 Type 1 Heavy duty ties	200 mm	50 mm - 75 mm	Type B external wall	any height
	225 mm	76 mm - 100 mm	Type B external wall	any height
	250 mm	101 mm - 125 mm	Type B external wall	any height
	275 mm	126 mm - 150 mm	Type B external wall	any height
	300 mm	126 mm - 150 mm	Type B external wall	any height
BKT2 Type 2 General purpose ties	200 mm	50 mm - 75 mm	Type B external wall	Up to 15 meters
	225 mm	76 mm - 100 mm	Type B external wall	Up to 15 meters
	250 mm	101 mm - 125 mm	Type B external wall	Up to 15 meters
	275 mm	126 mm - 150 mm	Type B external wall	Up to 15 meters
	300 mm	126 mm - 150 mm	Type B external wall	Up to 15 meters
BKT 4 Type 4 Light Duty Housing Tie	200 mm	50 mm - 75 mm	Type A Party Wall or external wall	Up to 10 meters
	225 mm	76 mm - 100 mm	Type A Party Wall or external wall	Up to 10 meters
	250 mm	101 mm - 125 mm	Type A Party Wall or external wall	Up to 10 meters
	275 mm	126 mm - 150 mm	Type A Party Wall or external wall	Up to 10 meters

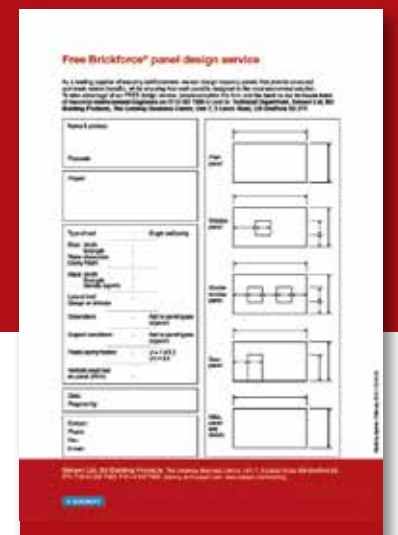
Our commitment

Bekaert technical advice service

Our in-house team of masonry reinforcement engineers provides a comprehensive technical advice service for the complete range of masonry reinforcement products.

Free design service for panels, lintels, beams

To use the "free" panel design service, a form must be completed. The form can be found on the back of the Brickforce® Engineers guide or it can be downloaded as a pdf-file from the website - www.bekaert.com/building. Alternatively, please contact the Sales team on +44 0114 242 7480



Sales support

- All products are supported by a national team of sales people who are always available to discuss a particular application or project and provide on-site support as required.

Our product range includes:

- Brickforce® - structural masonry reinforcement
- Bricktor® CCR - crack control reinforcement
- Bricktie® - collar joint wall reinforcement
- Wall ties - structural cavity wall ties and restraints
- Stucanet® - reinforced render carrier system

Other Services include:

- Telephone enquiry service.
- Office/on-site support and advice.
- Design service available on request.

CPD Seminar

We offer a CPD seminar presentation which covers the design and use of bed joint reinforcement. This is available at lunchtimes or evenings and is suitable for Architects, Clerks of Works, Engineers and Colleges/ Universities.

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