Building with conscience.

StoBrick

Insulated brick facades

Facade

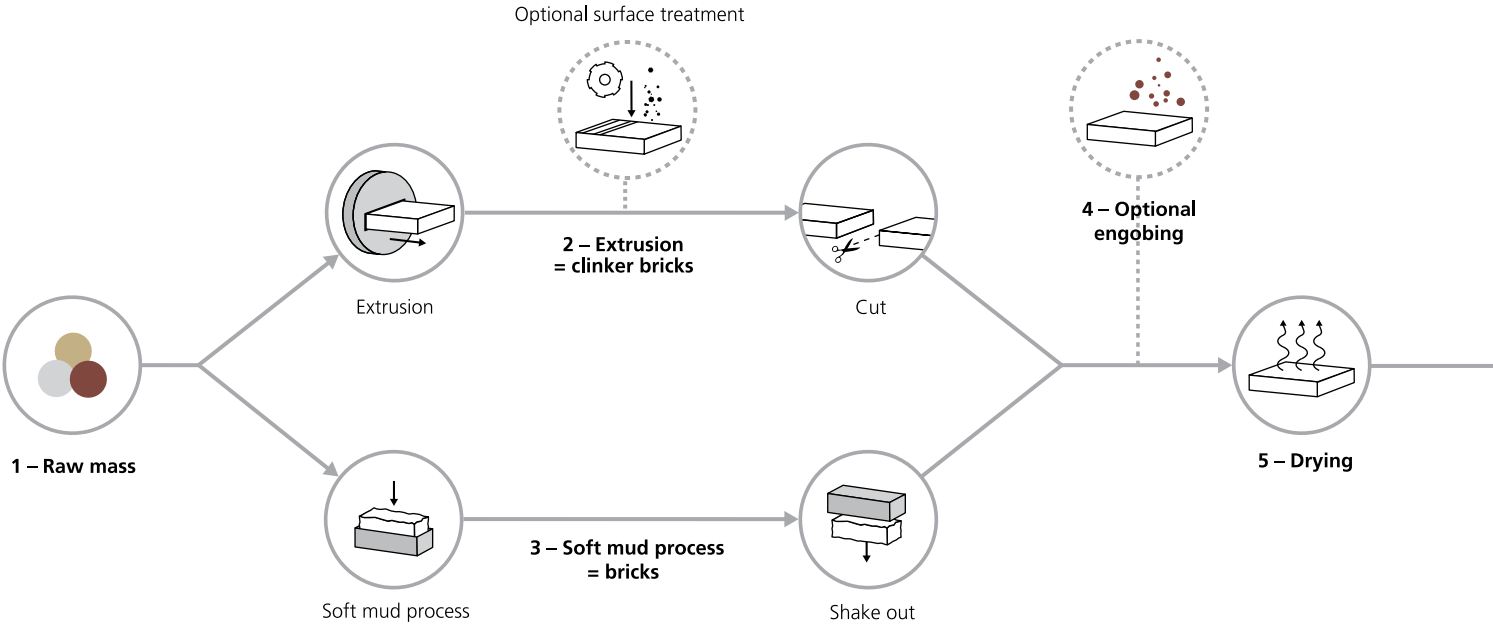
Cladding

The ideal façade finish with a wide selection of colours and textures to create the connection between authentic and modern. StoBricks offer freedom in the pattern to give each building an individual character - the possibilities are limitless.

Our bricks

The raw material which forms the basis of bricks is known as loam: a mixture of sand, silt, and clay. Of these constituents, clay plays a crucial role in determining the material's properties after the obligatory firing process. The inclusion of various different aggregates affects the fired result in terms of its final colour scheme.

Manufacture and material design



Manufacturing bricks (simplified version)

Production and design influencing factors in detail:

1 – Raw mass

Loam is the raw material which makes up bricks; its clay content plays a crucial role in determining the properties of the product after the firing process. The choice of raw material and the additional aggregates already have a strong influence on the appearance of the end product.

Factors influencing the design:
Raw material: red-firing and yellow-firing clays; white-firing clay relatively rarely.
Aggregate: mixed into the raw mass.
Examples:
- Iron - red
- Calcium – light yellow (oxidation); green (reduction)
- Titanium - yellow (e.g. sunflower)
- Chrome - violet (e.g. aubergine) or grey
- Manganese - brown, grey or black
- Sawdust - pores in material and on the surface (due to firing)

2 – Extrusion
(Manufacturing process for high-density "clinker" bricks)

Extrusion involves pressing the raw mass through the die under high pressure. This produces a long, smooth strand.

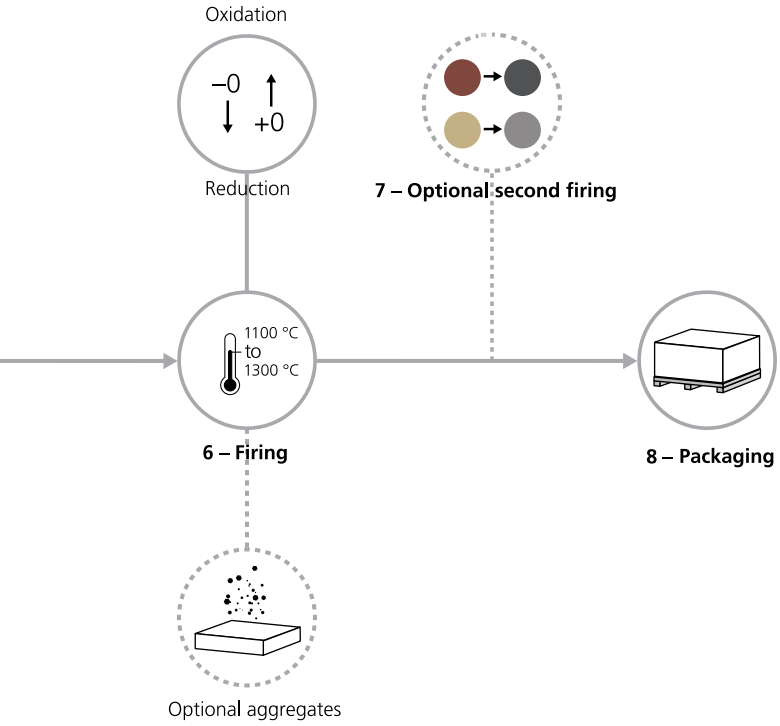
Factors influencing the design:
Die: specifies the width and height.
Surface treatment, mechanical: the damp, smooth strand can be embossed sporadically by treating the surface and/or edge.
Surface treatment, aggregates: these are applied to the damp strand.
Examples:
- Fused patches (salts or coal) - sintered, glossy efflorescence (glassy finish), baked, cinder-like or partially crater-like scorch marks
- Sand – sandy surface

Cutting: the first long strand is cut to size. The extrusion process makes it easy to create extremely long formats.

3 – Soft mud process
(Manufacturing process for bricks)

The soft mud process involves pressing the raw mass into casting moulds and then shaking it out.

Factors influencing the design:
Pressing the raw mass: pressing into the casting mould produces distinctive, uneven crease marks and/or crimped/raised edges and ridges.
Releasing: once the blank has been formed, a release agent is required to release it. The two commonly-available processes result in two different characteristics:
- Sand-struck – the inside of the press mould is sprinkled with sand. This results in friction marks from the sand on the surfaces of the bricks.
- Water-struck – water is applied to the casting moulds. This typically results in a smoother surface with vertical score marks and a scratched texture on the lateral faces.



To get from the raw material to the finished product, there are two important manufacturing processes:

- Extrusion process for the production of clinker
- Molding process for the production of bricks

In the two manufacturing processes, there are different influencing factors for material design. From this we have developed our clinker and brick base assortment.

4 – Engobing

An engobe is a ceramic coating made of a different-coloured clay, which is applied before the brick dries.

Factors influencing the design:
Choice of engobe: change in colouring (opaque covering or translucent).
Type of application: full or selective coverage.

5 – Drying

After they have been shaped, the fresh bricks are dried out to reduce the water content. Insufficient drying shrinkage can lead to warping and crack formation later in the firing process.

6 – Firing process

The bricks are fired at temperatures of between 1,100 and 1,300 °C.

Factors influencing the design:
Temperature and firing time: the higher the temperature or longer the firing time, the darker the product.
Selective flame treatment: results in areas of darker colouring.
Oxidation/Reduction: the colouring can also be affected by the addition (oxidation) or removal (reduction) of oxygen during the firing process. The effect depends on the raw mass (see raw mass, aggregates).
Aggregates: aggregates can be applied right at the beginning of the process chain or during the firing process. Applying during the firing process produces seemingly random results.

7 – Second firing

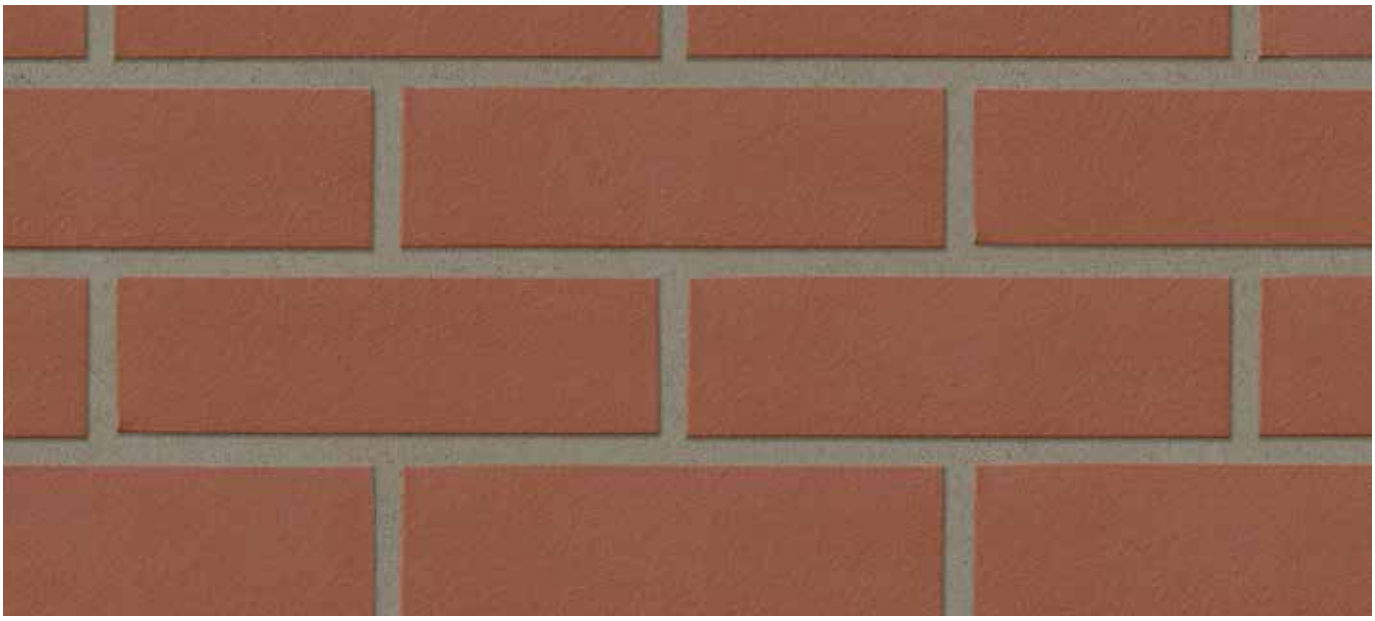
Bricks which have already been fired are heated again to between 900 and 1,000 °C in a special batch furnace before being cooled in a reductive atmosphere (without oxygen). This extracts oxygen from the clay minerals.

Factors influencing the design:
The brick pieces obtain a grey to black colour or colouring depending on the raw mass used.

8 – Packaging
The bricks are packed onto pallets in batches per firing process. This is why it's important to mix up the various pallets when laying the bricks for large construction projects, in order to avoid noticeable colour clusters in the building.

StoBrick range

StoBrick 100



180

100*

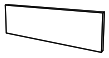
130

190

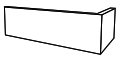
Manufacturing process:	Extrusion
Surface:	Fine texture
Colouring:	Monochrome
Gloss level:	Matt/sporadically silk gloss
Edges:	Even, slightly rounded
Rear side:	Longitudinal grooves

*Release of light reflectance value required

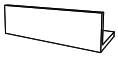
Standard formats and corner solutions



240 x 71 x 11 mm



240/115 x 71 x 11 mm



240 x 115/71 x 11 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

StoBrick 200

200

250

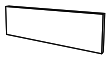
260

265*

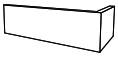
270

Manufacturing process:	Extrusion
Surface:	Fine texture
Colouring:	Changing monochrome
Gloss level:	Matt/sporadically silk gloss
Edges:	Even, slightly rounded
Rear side:	Longitudinal grooves

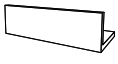
Standard formats and corner solutions



240 x 71 x 11 mm



240/115 x 71 x 11 mm



240 x 115/71 x 11 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

* Release of light reflectance value required

StoBrick range

StoBrick 300

310 (i)

300* (i)

302* (ii)

315 (i)

335 (i)

340 (ii)

360 (i)

366 (ii)

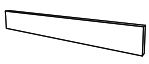
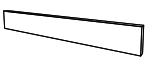
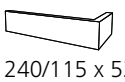
372 (ii)

392* (ii)

Manufacturing process:	Extrusion
Surface:	Fine texture, vertical press structures, sporadic fused patches (glossy efflorescence due to particles fused in the firing process)
Colouring:	Monochrome/changing monochrome
Gloss level:	Matt/silk matt, sporadically gloss (fused patches)
Edges:	Uneven, wavy, slightly rounded
Rear side:	Longitudinal grooves

*Release of light reflectance value required

Standard formats and corner solutions

(i)	**(ii)**
	
440 x 52 x 14 mm	490 x 40 x 14 mm
	
240/115 x 52 x 14 mm	240/115 x 40 x 14 mm
	
240 x 115/52 x 14 mm	240 x 115/40 x 14 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

StoBrick 400

450 (ii)

400* (i)

410 (ii)

425 (ii)

435 (i)

438 (i)

465 (ii)

469 (i)

470 (ii)

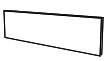
480* (i)

490* (ii)

Manufacturing process:	Extrusion
Surface:	Rough texture, sandy, vertical press structures
Colouring:	Monochrome/changing polychrome
Gloss level:	Matt
Edges:	Uneven, wavy, slightly rounded
Rear side:	Longitudinal grooves

Standard formats and corner solutions

(i)



240 x 71 x 14 mm

240/115 x 71 x 14 mm

240 x 115/71 x 14 mm

(ii)

400 x 71 x 14 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

*Release of light reflectance value required

StoBrick range

StoBrick 600

670

610*

630

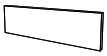
640

650

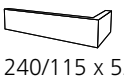
Manufacturing process:	Extrusion
Surface:	Coarse texture, porous, vertical grooves, sporadic fused patches (glossy efflorescence due to particles fused in the firing process)
Colouring:	Monochrome/changing polychrome
Gloss level:	Matt/silk matt, sporadic glossy (fuzzed patches)
Edges:	Uneven, wavy, bead-like
Rear side:	Longitudinal grooves

*Release of light reflectance value required

Standard formats and corner solutions



240 x 52 x 14 mm



240/115 x 52 x 14 mm

240 x 115/52 x 14 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

StoBrick 800

810*

830

840

850

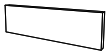
870

880

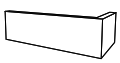
Manufacturing process:	Extrusion
Surface:	Rough texture, horizontal pinched structures, sporadic fused patches (glossy efflorescence due to particles fused in the firing process
Colouring:	Monochrome/changing polychrome
Gloss level:	Matt
Edges:	Uneven, wavy, rounded
Rear side:	Longitudinal grooves

*Release of light reflectance value required

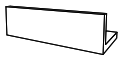
Standard formats and corner solutions



240 x 71 x 14 mm



240/115 x 71 x 14 mm



240 x 115/71 x 14 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

StoBrick range

StoBrick 1000

*Other colours available, refer to supporting document

1082

1000*

1004

1007

1008*

1026

1027

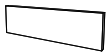
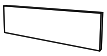
1084

1087

1088

Manufacturing process:	Soft mud process, water-struck
Surface:	Fine texture, sporadically porous, vertical score marks
Colouring:	Monochrome/changing polychrome
Edges:	Uneven, bead-like
Rear side:	Sawn, smooth

Standard formats and corner solutions

Range from:	to:
 215 x 65 x 20 mm	 218 x 52 x 20 mm
 215/102 x 65 x 20 mm	 218/72 x 52 x 20 mm
 215 x 102/65 x 20 mm	 218 x 72/52 x 20 mm

*Release of light reflectance value required
Not all bricks are available in standard formats.
Please contact Sto for further details.

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

StoBrick 1200

1203

1200

1201

1202*

1204

1205

1206

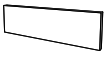
1207

1208*

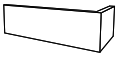
1209*

Manufacturing process:	Soft mud process, water-struck
Surface:	Rough texture, sporadic porous, vertical score marks
Colouring:	Changing polychrome
Edges:	Uneven, rounded
Rear side:	Sawn, smooth

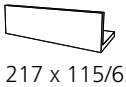
Standard formats and corner solutions



217 x 65 x 20 mm



217/115 x 65 x 20 mm



217 x 115/65 x 20 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

*Not available in standard formats.

StoBrick range

StoBrick 2000

*Other colours available, refer to supporting document

2031

2032

2034

2056

2060

2066

2067

2080

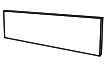
2085

2086

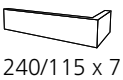
2090

Manufacturing process:	Soft mud process, sand-struck
Surface:	Fine texture, horizontal score marks, sporadic fused patches (glossy efflorescence due to particles fused in the firing process)
Colouring:	Monochrome/polychrome
Edges:	Uneven and bead-like with ridges
Rear side:	Sawn, smooth

Standard formats and corner solutions



240 x 71 x 14 mm



240/115 x 71 x 14 mm

240 x 115/71 x 14 mm

Not all bricks are available in standard formats.
Please contact Sto for further details.

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

StoBrick 3000

*Other colours available, refer to supporting document

3370 (ii)

3115 (i)

3120 (ii)

3125 (i)

3135 (i)

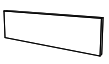
3140 (i)

3250 (i)

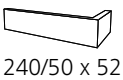
Manufacturing process:	Extrusion
Surface:	Fine texture
Colouring:	Changing monochrome (3115-3140) Changing polychrome (3250)
Gloss level:	Matt/sporadically silk-glossy
Edges:	Uneven, slightly rounded
Rear side:	Longitudinal grooves

Standard formats and corner solutions

(i)



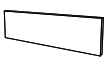
240 x 52 x 12 mm



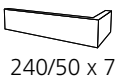
240/50 x 52 x 12 mm

240 x 52/50 x 12 mm

(ii)



240 x 71 x 12 mm



240/50 x 71 x 12 mm

Other formats available subject to a minimum order quantity. Please contact Sto for further details.

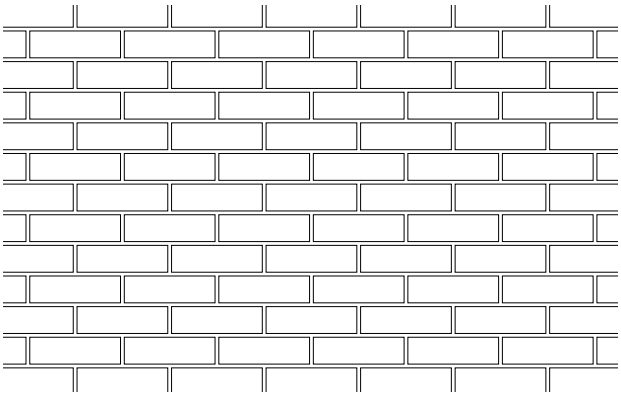
Reference projects

Bottom left:
Private Housing, Frankfurt, DE
Architect: ABG Frankfurt Holding, Jörg Dreisbach, Frankfurt, DE
Top left:
DSB Büro- und Gewerbeareal, Viborg, DK
Architect: KPF ARKITEKTER, Viborg, DK
Right:
Bürogebäude Köln Cubus, DE-Köln
Architect: ASTOC GmbH & Co. KG, Köln, DE

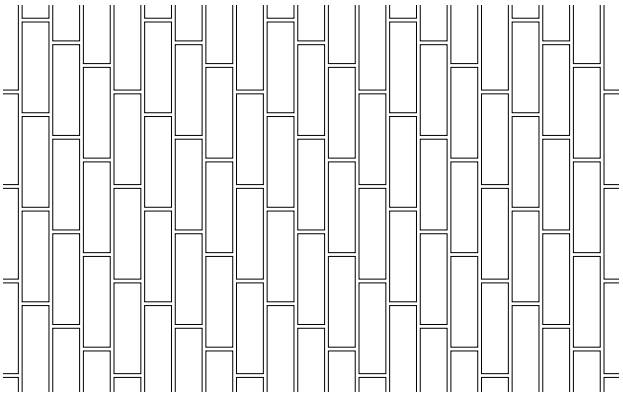
Reference projects

Bottom right:
Parkside, Freudenstadt
Housing Freudenstadt, DE
Architect: Schmelzle+Partner mbB Architekten BDA
Hallwangen, DE
Top right:
Marina on Schlossinsel, Hamburg, DE
Architect: Lorenz Gruppe Hamburg, DE

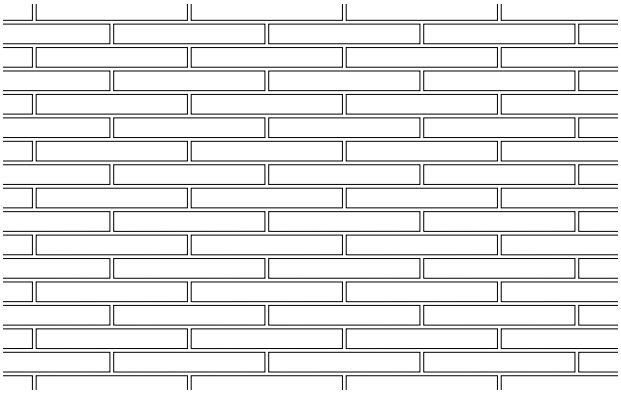
From bond to pattern



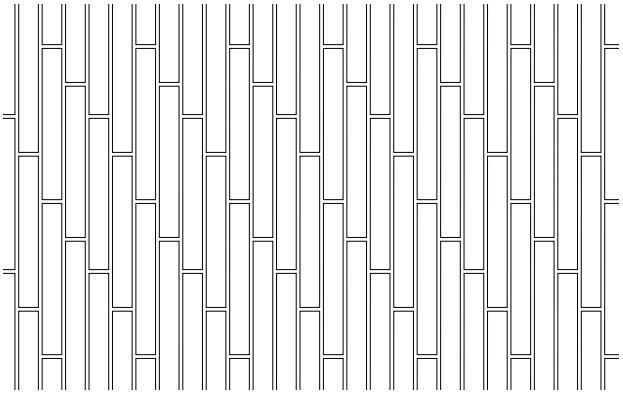
NF stretcher bond 1/2 offset, horizontal



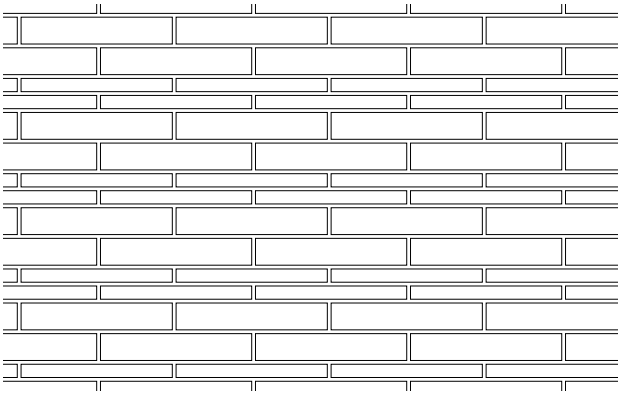
NF stretcher bond 1/4 offset, vertical



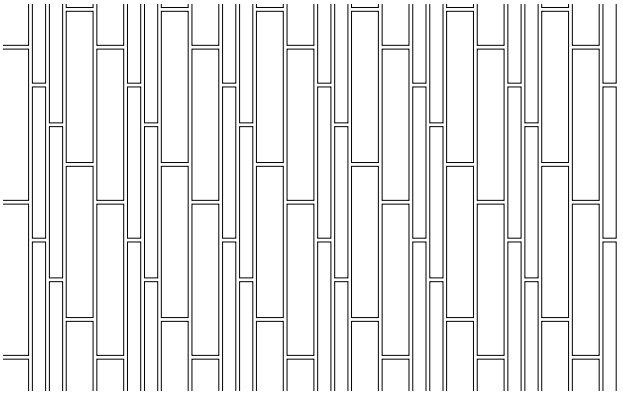
DF LF stretcher bond 1/2 offset, horizontal



DF LF stretcher bond 1/4 offset, vertical



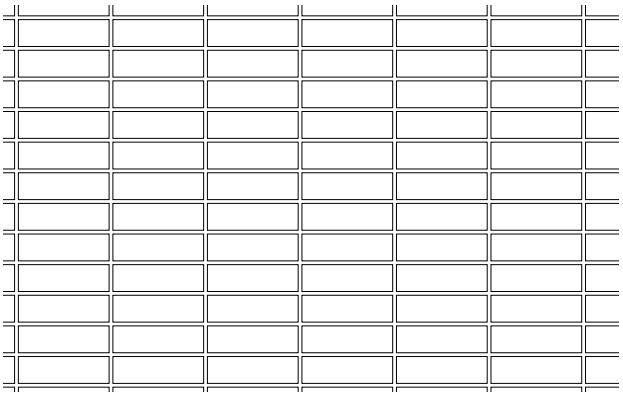
Combination of two format heights (LF and RF), horizontal



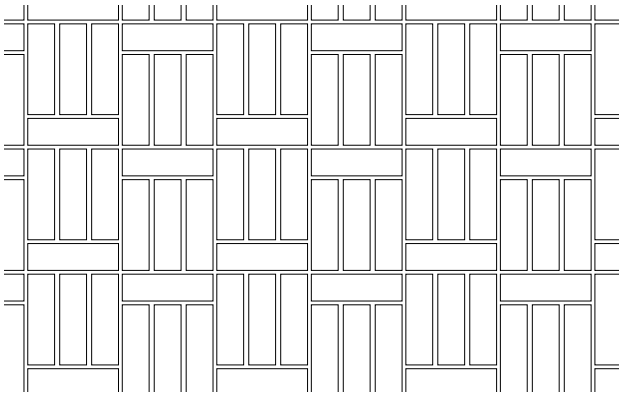
Combination of two format heights (LF and RF), vertical

Formats used:

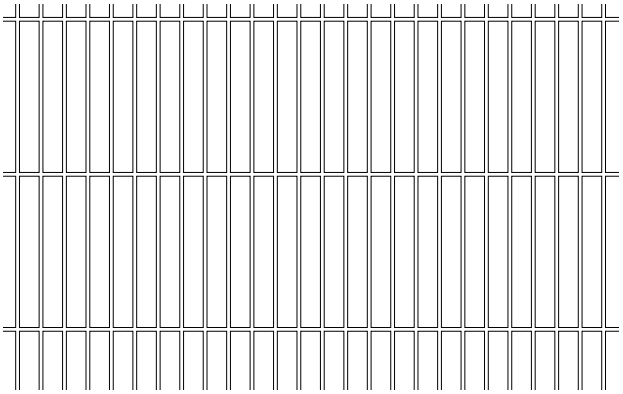
NF = 71 x 240 mm
LF = 71 x 400 mm
DF LF = 52 x 440 mm



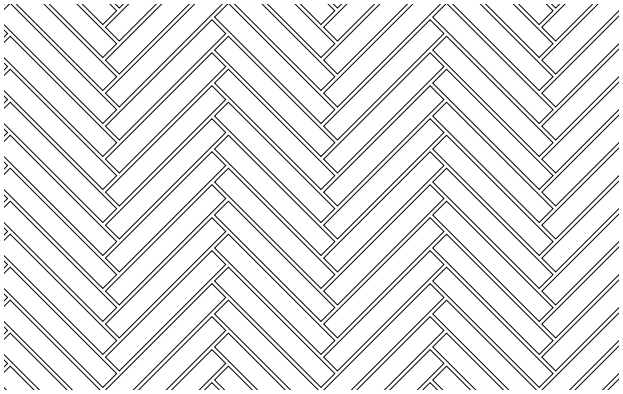
NF stack bond, horizontal



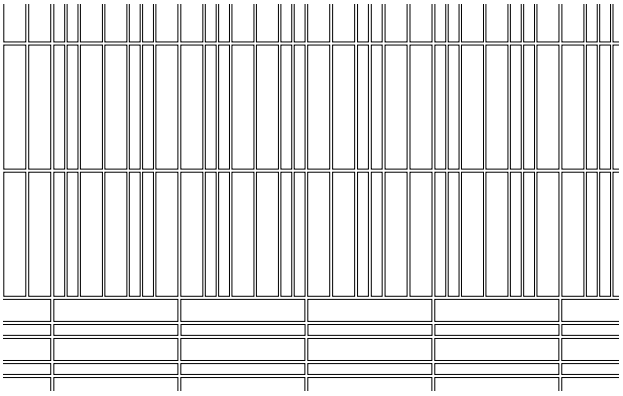
NF single basket weave bond, horizontal and vertical



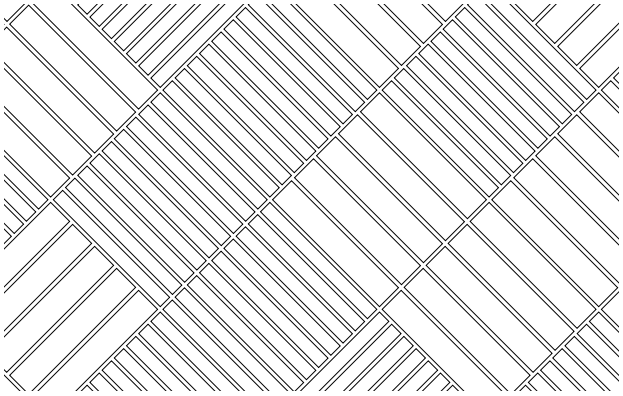
DF LF stack bond, vertical



DF LF herringbone bond, horizontal and vertical



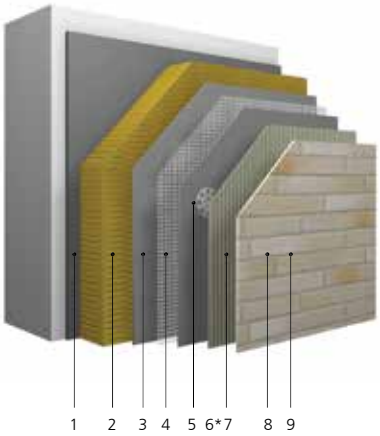
Combination of two format heights (LF and RF) as stack bond horizontal and vertical



Combination of two format heights (LF and RF) as stack bond horizontal and vertical, rotated

Reliability

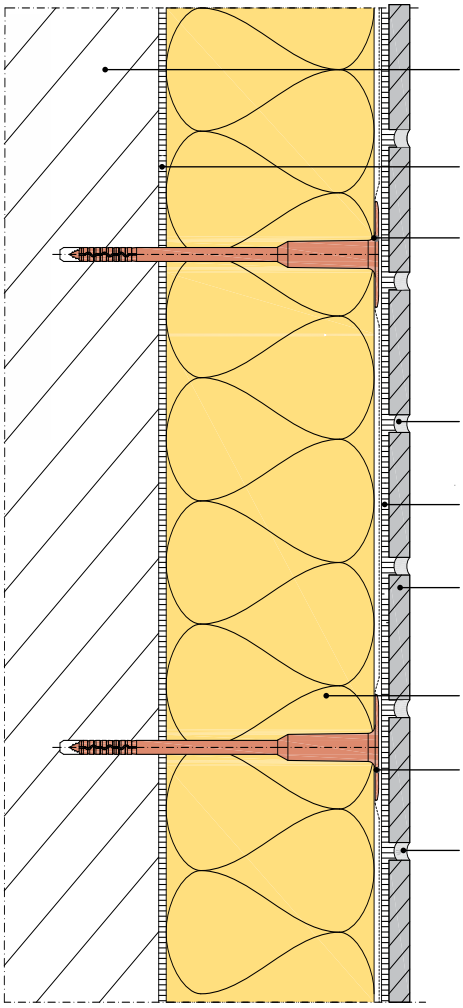
StoTherm Mineral



System build-up

1 Adhesive
2 Insulation
3 Base coat
4 Reinforcement
5 Fixing
6* Mineral smoothing coat if required (*not shown)
7 Adhesive
8 Pointing mortar
9 Brick slips

Construction details



Wall construction

Adhesive

Anchors in accordance with technical approval

After the cladding is bonded to the StoColl KM, a seal must then be created around the edges of the cladding element using the StoColl KM. Please refer to the application guide/UK Technical team for further information.

StoColl KM

Bond the cladding using the back-buttering method in accordance with DIN EN 12004 (application to both surfaces)

Insulation board

Anchors in accordance with technical approval

StoColl FM-K/-E/-S

Tested systems

Reaction to fire:
StoTherm Mineral (insulation: mineral wool): fire classification A2-s1, d0 in accordance with EN 13501-1
National technical approval: Z-33.46-422

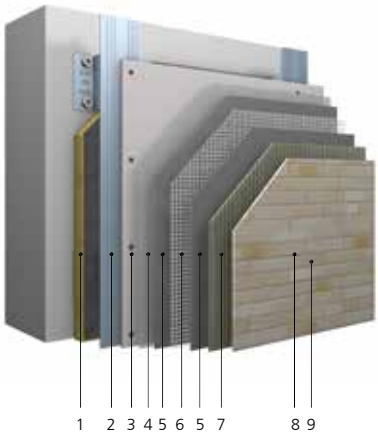
- Ageing tests using hygrothermal weathering have been carried out on all system configurations offered
- Practical experience gained since 1994
- All system components subject to constant quality control and monitoring

Personal consultation

Our team of project managers, account managers and technical advisors will support you throughout all planning phases, including sampling, detailing, tendering and applicator training.

The team of advisors is in turn supported by the EWIS experts from our technical project service.

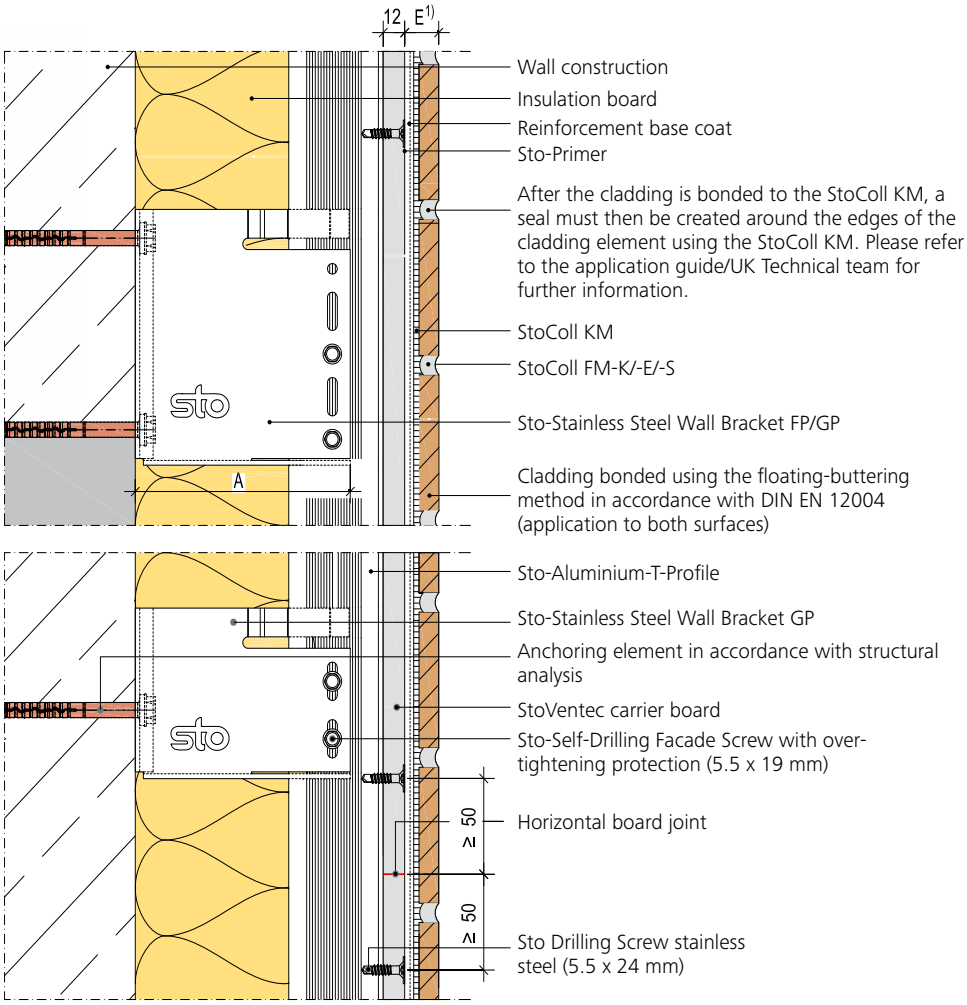
StoVentec



System build-up

1 Insulation
2 Sub-construction
3 Render carrier board
4 Primer
5 Base coat
6 Reinforcement
7 Adhesive
8 Pointing mortar
9 Brick slips

Construction details



One insulation system, many options

External wall insulation systems are applied to approximately 170 million m² of facade surface throughout Europe each year. They not only contribute significantly to the building's energy efficiency but also offer numerous options for decorating the facade surface.

The StoBrick elements showcased in this brochure are just one way of customising your EWIS facade.

Additional facade finishes include:

Render
Our seamless coating comes in a vast range of colours and textures, offering a multitude of design options.

Three-dimensional facade elements
We can produce sculptural shapes, ledges and panels from our Verolith material to apply to EWIS in accordance with your design.

Acrylic brick slips
Brick appearance slips made from acrylic render, making them weather resistant and vapour permeable. Available in six standard colours, or in up to 800 bespoke colours on request.

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