GEBRIK

The Gebrik system consists of factory-produced façade elements made from brick slips, sand, and polyurethane. The brick slips are not glued, but cast in polyurethane during the manufacturing process. The panels and corners are mechanically fixed to the substrate with fixings supplied as part of the system. Expandable single component polyurethane foam is injected into chambers where components abut to provide a watertight and thermally efficient façade. Slips are site applied where components abut to maintain stretcher (and Flemish) bond. The entire system is pointed using cement/sand /lime mortar to achieve a traditional brick façade.

Characteristics

Height	WF/UK: 675mm; 61: 688mm
Length	WF/UK: 1350mm; 61: 1375mm
Panel Thickness	60mm
Insulation Thickness	40-45mm
Brick Slip thickness	15-20mm
Surface	0.9113m^2
Weight	±28 kg per panel
Water vapour permeability sd (4 cm PUR + 2cm strip)	4.69 m
Basic Joint	Sand/PU Composite
Fire Proof category	
European	B-s1-d0
France	M1
Germany	B1
United Kingdom	Class 0 & BR135 Annex A & B
Impact Resistance	Class 1
Horizontal course measurement (WF/UK) including joint	61,36mm / 75mm
Brick division vertical (WF/UK) including joint	225mm
Bending strength (DIN 53423)	Ca. 7 N/cm^2
Shearing Strength (DIN 53427)	Ca. 12 N/cm^2

Certification

- UK (BBA 07/4403)
- UK (Fire classification BR135 Annex A & B)
- UK (Weathertightness CWCT:2005)
- Europe (NBN EN 13501-1:2007+A1:2009)
- Belgium (ATG 10/2819 – 1/15)
- The Netherlands (IKOB IKB 2349/12)
- France (AT 2/11 – 1466)
- CE mark certificate no: 0749

Application

- Suitable for refurbishment and new-build
- Suitable for application to concrete up to 18 storeys + floor level, ie maximum 65 m high (see BBA Product Sheet 1) subject to current Building Regulations
- Suitable for application to masonry up to 30m high (See BBA Product Sheet 1) subject to current Building Regulations
- Suitable for application to timber, light gauge steel & SIPs framing ≤18m (See BBA Product Sheet 2) subject to current Building Regulations
- Suitable for application to light gauge steel framing ≥18m in accordance with BR135 Annex B (See BBA Product Sheet 2) subject to current Building Regulations

BRICK SLIPS

Brick slips are produced from frost resistant clay and are fully vitrified. Gebrik is produced using either extruded slips or slips cut from whole bricks. A wide range of textures and colours are available. Brick slips are manufactured to a high tolerance to comply with the most stringent mould requirements.

Characteristics

Sizes (dimensional variation category T2)	UK Format: 215 x 65 x 15-20mm thick WF Format: 215 x 50 x 15-20mm thick 61 Format: 240 x 65/66 x 15-20mm thick R6 Format: 440 x 65 x 17mm thick R5 Format: 440 x 50 x 17mm thick
Average pressure strength	According to specific choice of brick
Dimensional variation category	T2
Dimensional distribution category	R1
Stability of the shape	According to specific choice of brick
Bond strength of the mortar joint (glue joint)	0,15 N/mm2 (0,30 N/mm2)
Content of active soluble salts	S2
Fire reaction	Euro class A1 (TOC < 0,1%)
Water absorption	According to specific choice of brick
Initial water absorption	According to specific choice of brick
Moisture permeability	5/10 (EN 1 745)
Nett volume mass	According to specific choice of brick
Gross volume mass	According to specific choice of brick
Equivalent thermal conductivity	According to specific choice of brick
Frost/thaw resistant	F2
Dangerous substances	NPD (No Performance-requirements Declared)
Thermal Conductivity	0.77 W/mK
Vapour Resistivity	50MNs/gm

Tests

- CE NEN EN 771-1 Cat I - HD

INSULATION

The Gebrik panels are manufactured with brick slips covered with liquid PUR so that it creates a strong unit. The PUR is continuously tested in order to maintain high quality

Characteristics

Polyurethane foam with pentane fuel (CFC free)	
Thermal Conductivity	
• 40mm	0.029 W/mK
Vapour Resistivity	557.00 MNs/gm
Volume Mass	>35 kg/m^3
Fire-proof category	
• France	M2
• Germany	B2
• Great Britain	0
Percentage of closed cells (internal 1x/month)	97%
Absorption of water in conformity with NF IN 120887 (the 2A method)	2% (external)
Propulsion in conformity with NF IN 1607	>0,2 MPa
Compression to 10% in conformity with NF IN 826 (external 2x/year)	♂ 120 kPa
BREEAM Green Guide Summary Rating	A
BREEAM Green Guide Element Number	815320017

Tests

- See Gebrik Data Sheet

PLUGS & SCREWS
CLAY, CONCRETE, CALCIUM SILICATE

EJOT SDP-S plus 8 UD

- Approved for clay, concrete & calcium silicate
- Torsion resistant plug
- Plug with a narrow countersunk head
- Special expansion zone with hooks for proper anchoring
- Suitable for heavy loads
- Anchor with increased bending strength
- Pre-assembled screws for quick assembly

German Approval of the Deutsches Institut fur Bautechnik (Z-21.2-589)

Technical Details

Diameter of the screw	8 mm
Diameter of the plug	12 mm
Drilling depth required	80 mm
Depth of anchorage	70 mm
Screw head type	TORX T30
Point thermal transmission value	0.008W/K

Design Loads

Concrete C 12/15 in conformity with EN 206-1	1.00 kN
Weather-resistant concrete shell >	0.20 kN
Ceramic bricks (> Mz 12) in conformity with DIN 105	0.40 kN
Full glue blocks (> KS 12) in conformity with DIN EN 106	0.40 kN
Full blocks of lightweight concrete (> V 2) in conformity with DIN 18152	0.20 kN
Vertical coring brick (Hlz) in conformity with DIN 105	
Vertical coring reference brick (Hlz) in conformity with ONORM B614	0.75 kN
Perforated glue blocks (> KSL 6) in conformity with DIN EN 106	0.25 kN
Hollow blocks from lightweight concrete (> bL 2) DIN 18151	0.15 kN
Lightweight concrete	0.30 kN

Approved by means of pull-out tests on the building. The specified design loads are in accordance with the German Building Code. National safety factors have been included.

Product Range

Insulation (mm)		Nominal length (mm)	Length required
New Build	Refurbishment [1]		
40	20	120	EJOTSDF-S plus 8 UB X 120
60	40	140	EJOTSDF-S plus 8 UB X 140
80	60	160	EJOTSDF-S plus 8 UB X 160
100	80	180	EJOTSDF-S plus 8 UB X 180
120	100	200	EJOTSDF-S plus 8 UB X 200
140	120	220	EJOTSDF-S plus 8 UB X 220

1) 20mm extra for old walls

PLUGS & SCREWS CELLULAR CONCRETE

EJOT SDP-S plus 8

- Approved for aerated concrete
- Torsion resistant plug
- Plug with a narrow countersunk head
- Special expansion zone with hooks for proper anchoring
- Suitable for heavy loads
- Pre-assembled screws for quick assembly

German Approval of the Deutsches Institut fur Bautechnik (Z-21.2-967)

Technical Details

Diameter of the screw	8 mm
Diameter of the plug	12 mm
Drilling depth required (H1)	120 mm
Depth of anchorage (hef)	110 mm
Screw head type	TORX T30
Point thermal transmission value	0.008W/K

Design Loads

Cellular Concrete in conformity with DIN (2 AND 3.3)	0.20 kN
Cellular Concrete in conformity with DIN (4 AND 4.4)	0.50 kN
Cellular Concrete in conformity with TGL (Werk Lauβig)	0.30 kN
Cellular Concrete in conformity with TGL (Werk Parchim)	0.15 kN
The design loads are in accordance with the German Building Code. National safety factors have been included	

Product Range

Insulation (mm)		Nominal length (mm)	Product
New Build	Refurbishment [1]		
20	-	140	EJOTSDP-S plus 8 X 140
40	20	160	EJOTSDP-S plus 8 X 160
60	40	180	EJOTSDP-S plus 8 X 180
80	60	200	EJOTSDP-S plus 8 X 200

1) 20mm extra for old walls

SCREWS & COLLARS

FOR APPLICATION TO TIMBER & CEMENT PARTICLE BOARD

Type HS6, HS6_E or HSplus6

- Approved for application to exterior grade sheathing board
- To be used with polyamide collars (type DTeller or DTeller-K)
- HS6(x length) supplied in galvanised steel (default) or HS6(x length)_E supplied in stainless steel (upon request)
- HSplus6 are supplied with ETA-certification and CE-label (supplied upon request)
- The geometry of the threads combined with a high slideway coating reduce the torque required.
- Two flanks of the screw thread continue to the apex of the screw
- The fixing design ensures that the screw head is exposed to a lesser load during screwing, thereby reducing the risk of fracturing the head.

Technical Details	
Diameter of the screw	6 mm
Diameter of the plug	11 mm
Drilling depth required	The depth should be approx. 7 times the diameter of the thread.
Screw head type	TORX T25
Point thermal transmission value	0.006W/K (galv steel)

Product Range		
Insulation (mm) Additional Insulation Thickness	Nominal length (mm)	Length required
0	80	HS6x80
10	90	HS6x90
20	100	HS6x100
40	120	HS6x120
60	140	HS6x140
80	160	HS6x160
100	180	HS6x180

SCREWS & COLLARS
FOR APPLICATION TO THIN METAL

Type MS6, MS4.8 or MS4.8_E

- For application to 0.55 to 1.5mm thick light-gauge galvanised steel or 0.8 to 2mm thick aluminium
- To be used with polyamide collars (type DTeller or DTeller-K)
- MS6 or 4.8(x length) supplied in galvanised steel (default) or MS4.8(x length)_E supplied in stainless steel (upon request)
- Minimum capacity of 200N per fixing point at normal wind resistance

Technical Details	
Diameter of the screw	MS6=6 mm; MS4.8=4.8mm
Diameter of the plug	10.8mm
Max drilling depth required	2mm
Screw head type	TORX T25
Point thermal transmission value	0.006W/K (galv steel)

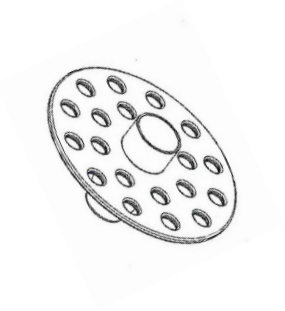
Characteristic Load Capacity of Extract in kN ALUMINIUM									
Thickness (mm)	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5	2
kN	0.59	0.69	0.8	0.9	1.02	1.13	1.26	1.4	2.12

Characteristic Load Capacity of Extract in kN STEEL								
Thickness (mm)	0.55	0.63	0.75	0.88	1	1.13	1.25	1.5
kN	0.68	0.8	1.05	1.33	1.63	1.96	2.26	3.02

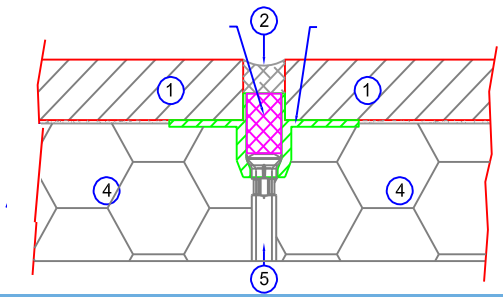
Product Range		
Insulation (mm) Additional Insulation Thickness	Nominal length (mm)	Length required
0	60	MS6x60
20	80	MS6x80
40	100	MS6x100
60	120	MS6x120
80	140	MS6x140
100	160	MS6x160
120	180	MS6x180

ISO-Fixings

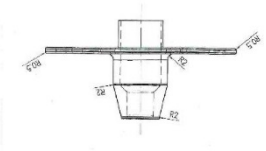
"ISO-Fixing" washers are designed to ensure continuity of the component's thermal insulation and are available upon request.
They are cast in panels during manufacture, in the locations typically provided for standard fixings. During site-assembly, they will allow the heads of the fixings to be set deeper within the panel and the fixing head is then isolated from the mortar by inserting a polystyrene plug.
ISO-fixings will:



- reduce the cold-bridging effect of standard fixings



- improve the pull-through resistance of panels



Technical Details

Minimum pull-through value	660N
Average pull-through value	749N
Point thermal transmission value	
Based on total insulation thickness <40mm	0.0012W/K
Based on total insulation thickness >40mm & <60mm	0.0013W/K
Based on total insulation thickness >60mm & >180mm	0.002W/K
Based on total insulation thickness >180mm	0.003W/K
Quantity per panel	8

ISOCOL ADHESIVE

IsoCol adhesive is a waterproof, cement-based adhesive that is resistant to temperatures up to 80^0 C. The versatile adhesive is designed for quick adhesion with minimal brick slippage during curing in-situ. Consequently, the product is ideal for bonding of slips and corner 'pistols' in both the Gebrik and Belstone system. Without additives, ISO-col is S1 classified, which makes the adhesive mortar suitable for interior and exterior use and appropriate for all kinds of clay, granite, natural stone or ceramic-based slips, blocks & tiles which have low water absorption. Very little dust is released during the mixing process.

Characteristics

- A mixture of basic product with elastic polymers
- Does not contain mineral fibres or asbestos
- No harmful silicate substances during mounting
- A shelf life of 12 months minimum
- Packaged in bags of 25kg
- Application thickness up to 5mm
- Processing time: 3 hours
- Flexible; can be counter-actioned

Procedure

Add the powder to water and mix it with an electric mixer until you get a plastic consistency free of lumps. Let the mixture stiffen for three minutes.

Spread the paste on the back of the brick slip and on the insulation 'blank' and then place the slip against the panel with a pushing and sliding movement so that the mortar attaches properly.

Attention to the following:

- Only use in temperatures between 5°C and 25°C.
- Store in dry conditions, no permanent storage above 30°C.
- The panel must be dry before gluing the brick strips on it.
- Never add more water or dry powder to the IsoCol adhesive after it has already stiffened.
- Tools must be rinsed with water immediately after use.
- Brick slips must be hung on the wall in conformity with DIN 18 515-1 standard "External claddings".

Health and Safety

IsoCol adhesive contains cement. Contact with water or moisture creates an alkaline reaction, which can cause skin irritations and burns to mucous membrane (eg eyes).
In case of contact with the eyes, immediately rinse with a lot of water and consult a doctor. In case of contact with the skin, immediately rinse with water and soap.
Always wear protective gloves and safety glasses.
Keep out of the reach of children

Tests

CE
PCI Augsburg GmbH
Piccardstraße 11
D-86159 Augsburg
07
EN 12004
cementitious mortar for floor and wall coverings, indoors and out
C2TE

SINGLE-COMPONENT PUR FOAM

Single-component polyurethane foam with environmentally friendly gasses (CFC & HCFC free). The foam, which hardens when in contact with air humidity, is designed for use on site to fill the perimeter foam chamber between the various elements of the Gebrik system.

Application

The foam is released under pressure from the canister. The canister must be shaken well before use. Screw the canister on the Gebrik pistol applicator. Using the existing injection openings, release the foam for approximately 3 seconds between the elements. The foam chamber is full when the foam reaches the adjacent openings.

Technical Details

- Optimal processing temperature: 15°C to 20°C. In lower temperatures the canister must be kept in a heated place.
- Never directly heat the canister and/or its content!
- In temperatures below 5°C the foam capacity is reduced.
- Optimal air humidity 45-50%
- Hardening time: approximately 2 to 6 hours, depending on the temperature, air humidity and amount of foam that has been sprayed.
- The building material characteristics conform with DIN 4102 - B2 standard (normal inflammability).
- Storage: In a dry and cool place in vertical position (when stored correctly the product must be used between 9 and 14 months after the manufacturing date)

Tests

DIN 4102 – B2

STARTER RAIL

The starter rail consists of extruded aluminium and is supplied with the required projection depth according to the insulation thickness. The leading edge is manufactured with a drip so that the bottom of the system is protected from capillarity.