



**The Future
is SmartWall™**



**EVOLVED
SMARTWALL™**

The JUWÖ Evolved SmartWall™ System

A JUWÖ SmartWall Block house for quality of life.

Why should I build a JUWÖ Evolved SmartWall™ Block house?

Indoor comfort in summer and winter

A comfortable indoor climate is characterised by:

- A pleasant room temperature throughout the year
- Ideal relative humidity
- Dry walls
- Healthy room air

The outstanding thermal insulation properties and high heat retention of SmartWall Blocks provide a pleasant room climate. In a SmartWall Block house, it's always warm and cosy. The interplay between insulation and heat retention in monolithic masonry walls is unique.

Cool in the summer: SmartWall Blocks have the unique combination of a high thermal insulation and a high thermal mass. This natural air conditioning keeps the temperature in the house relatively constant and makes sure it isn't too hot inside in the summer. No other building material can do this.

Compared with light wood structures, the advantage is real. The fact is that given the same thermal insulation, a SmartWall Block has much more mass and can hence store more heat or chill.

Lowest moisture content of all comparable building materials

The more moisture the poorer the thermal insulation. Rule of thumb: For every 1% increase in moisture the thermal insulation decreases by about 10%. SmartWall Blocks are dried and then fired.

They have the fastest drying time and the lowest residual moisture content of all comparable building materials, which have drying times of up to three years and longer. This means that SmartWall provide thermal insulation right from the start.

Saves money from the first day on

Highly insulating SmartWall Blocks really save money. Don't be fooled by apparently cheaper building materials.

- Because the SmartWall Block is dry and cannot shrink, the wall can be rendered or plastered without a long delay.
- Dry SmartWall Blocks are thermally insulating right from the start. This drastically cuts heating costs.
- Due to the dimensional stability of the SmartWall Blocks and in connection with the recommended renders and plasters, the risk of subsequent cracking is significantly reduced.

Ecological leader

- Ecological and sustainable building – ideally monolithic (plaster inside, SmartWall Block, render outside- done).
- Monolithic masonry façades without artificial insulation systems are free from harmful biocides (treatment with biocides to inhibit fungal and algal growth is problematic in ETICS systems).
- The rubble from a JUWÖ Evolved SmartWall Block house can be reused as recycled building materials.
- Production in the most modern facilities in Germany
- All SmartWall blocks are certified with the newest Environmental Product Declaration JUWÖ - EPD under Norm ISO 14025 und EN 15804.

Excellent thermal insulation – constant indoor climate

The outstanding thermal protection of your house (right from the start) is guaranteed by:

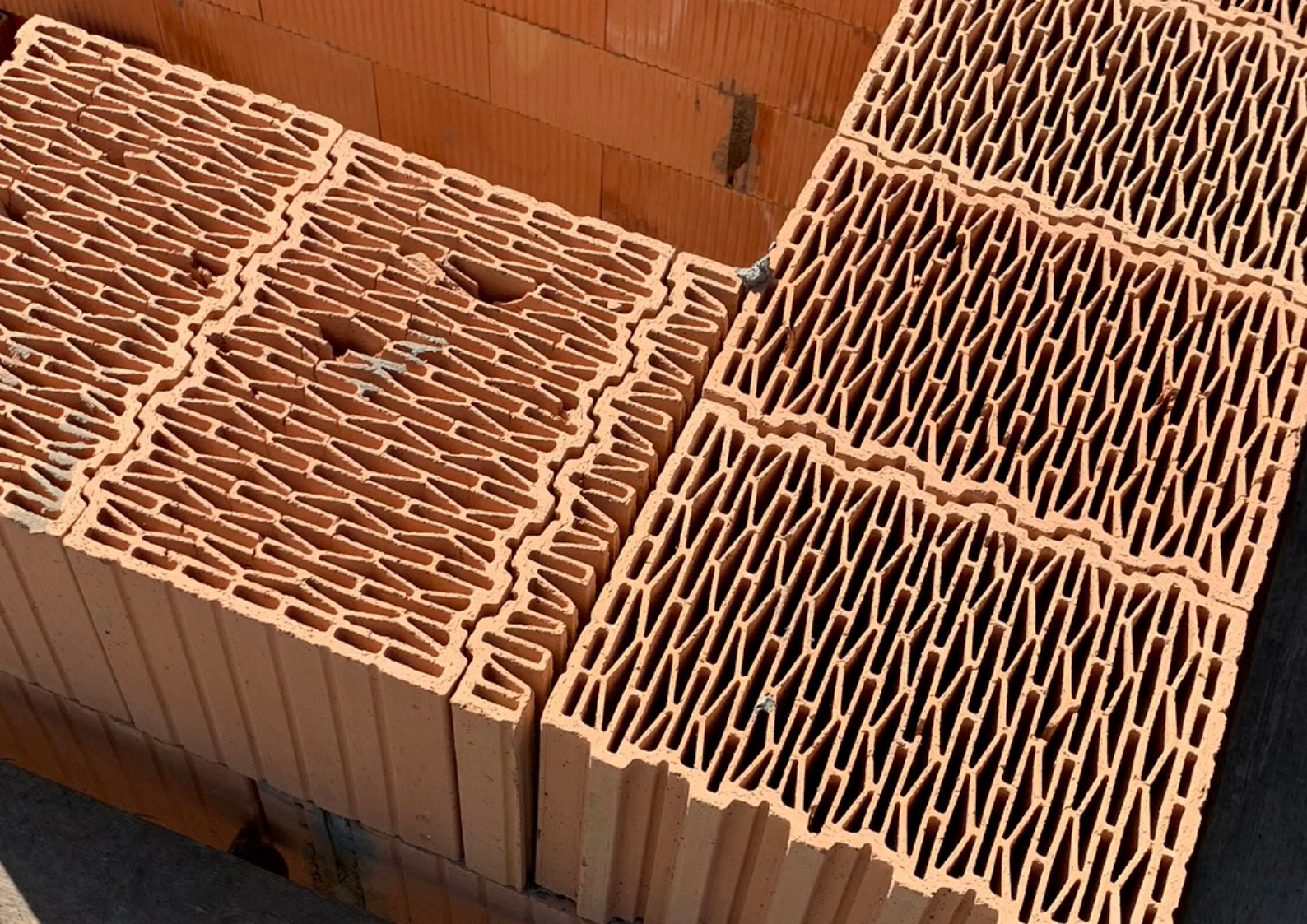
- Solid and dry SmartWall Block construction
- Continuous innovations in highly insulating SmartWall Blocks

JUWÖ Evolved SmartWall Blocks meet current and future requirements for maximum thermal insulation.

Extremely high compressive strengths

Through the special clay and a special production method, even the most highly insulating SmartWall Blocks have extremely high compressive strengths.

SmartWall T and S series highly insulating SmartWall Blocks: more than 10 N/mm². 10 N/mm² corresponds to a load of more than 100 tonnes; i.e 10N/mm² is, for a typical 365mm thick x 250mm long block, equivalent to nearly 100 tonnes. Of course, most buildings do not need this kind of compressive strength. However, it is helpful for numerous structural details and provides a sense of security.



Minimum upkeep costs and maximum value retention

Lifespan of 100 years - A house built of SmartWall Blocks requires hardly any maintenance for decades, making the cost of upkeep very low.

A SmartWall Block house is also a safe investment you can actually use and enjoy right now.

Effective acoustic insulation

The SmartWall Blocks have a good acoustic performance in all applications.

Universal applicability

SmartWall Blocks can be used universally and flexibly for building everything from detached houses to multi-storey buildings.

Structural Engineering

Evolved Supplies engineering team are able to offer design and specification services for the JUWÖ Evolved SmartWall system.

These can also include the design of the foundations as well as design and calculations for the superstructure.

Maximum fire protection

A SmartWall Block house provides maximum fire protection and safety through:

- Non combustible
- Thin Joint Masonry System
- Excellent fire resistance
- No toxic fumes



Contact us directly for more information.

Technical Overview

JUWÖ Evolved SmartWall™ - System

BLOCK REFERENCE	Item	Wall thickness	Thermal conductivity W/mK	U-value W/m²K	Compressive strength *1 N/mm² (unit)	f _k value *2 1996 MN/m²	Bulk density kg/dm³	Fire resistance *3	Notes REI 90 M = Firewall (europe)
Smartwall MZ 70	MZ 300/7	30	0.07	0.22	8	1.80	0.50	REI 90	
Smartwall MZ 70	MZ 365/7	36.5	0.07	0.18	5	1.30	0.50	REI 90	
Smartwall MZ 70	MZ 425/7	42.5	0.07	0.16	5	1.30	0.50	REI 90	
Smartwall MZ 70	MZ 490/7	49	0.07	0.137	5	1.30	0.50	REI 90	
Smartwall S 7 ⁵	S 365/7.5	36.5	0.075	0.19	7.5	1.50	0.60	120 min	
Smartwall S 7 ⁵	S 425/7.5	42.5	0.075	0.16 *2	7.5	1.50	0.60	120 min	
Smartwall S 7 ⁵	S 490/7.5	49	0.075	0.14 *2	7.5	1.50	0.60	120 min	
Smartwall S 8	S 365/8	36.5	0.08	0.21	10	2.3	0.60	120 min	REI 90 M = Firewall (europe)
Smartwall S 8	S 425/8	42.5	0.08	0.18	10	2.3	0.60	120 min	REI 90 M = Firewall (europe)
Smartwall S 8	S 490/8	49	0.08	0.16	8	1.8	0.60	120 min	REI 90 M = Firewall (europe)
Smartwall S 9	S 300/9	30	0.09	0.28	10	2.3	0.60	90/120 min	90: alpha ≤ 0.6 120: alpha ≤ 1.0
Smartwall S 9	S 365/9	36.5	0.09	0.23	10	2.3	0.65	120 min	
Smartwall S 9	S 425/9	42.5	0.09	0.20	10	2.3	0.65	120 min	
Smartwall MZ 90-G	MZ 300/90 G	30	0.09	0.28	15	3.9	0.70	REI-M 90	optimized for noise insulation
Smartwall MZ 90-G	MZ 365/90 G	36.5	0.09	0.23	15	3.9	0.70	REI-M 90	dto
Smartwall MZ 90-G	MZ 425/90 G	42.5	0.09	0.20	15	3.9	0.70	REI-M 90	dto
Smartwall T10	TP 300/10	30	0.10	0.30	10	2.3	0.65	90/120 min	90: alpha ≤ 0.6 120: alpha ≤ 1.0
Smartwall T10	TP 365/10	36.5	0.10	0.25	10	2.3	0.70	120 min	
Smartwall T11	TP 190/11	19	0.11	0.49	10	2.38	0.65	REI 30	for cavity wall construction
Smartwall T11	TP 240/11	24	0.11	0.41	10	2.38	0.65	60 min	
Smartwall T11	TP 300/11	30	0.11	0.33	10	2.3	0.70	120 min	
Smartwall T11	TP 365/11	36.5	0.11	0.28	10	2.3	0.70	120 min	
Smartwall TS 12	TS 300/12	30	0.12	0.36	12.5	3.70	0.75	120 min	optimized for sound insulation
Smartwall TS 12	TS 365/12	36.5	0.12	0.30	12.5	3.70	0.75	120 min	dto
Smartwall TS 12	TS 425/12	42.5	0.12	0.26	12.5	3.70	0.75	120 min	dto
Smartwall T14	TP 240/14	24	0.14	0.50	12.5 (15)	3.43 (3.96)	0.70	60 min	
Smartwall T14	TP 300/14	30	0.14	0.41	12.5 (15)	3.43 (3.96)	0.70	90/120 min	90: alpha ≤ 0.6 120: alpha ≤ 1.0
Smartwall T14	TP 365/14	36.5	0.14	0.35	12.5 (15)	3.43 (3.96)	0.70	120 min	
Smartwall T	TP 100	10	0.28		15	4.75	0.80	90 min	
Smartwall TS Square	TP 115	11.5	0.28		15	4.75	0.80	90 min	
Smartwall TS Square	TP 140	14	0.28		15	4.75	0.80	120 min	
Smartwall TS Square	TP 175	17.5	0.28		15	4.75	0.80	180 min	REI 90 M = Firewall (europe)
Smartwall TS Square	TP 240	24	0.28		15	4.75	0.80	240 min	REI 90 M = Firewall (europe)
Acoustically insulating filled Blocks T	SPZ 175	17.5	0.96		12	5.80	0.8/1.8	REI-M 90	
Acoustically insulating filled Blocks T	SPZ 240	24	0.96		12	5.80	0.8/1.8	REI-M 90	
Acoustically insulating filled Blocks T	SPZ 300	30	0.96		8	3.70	0.8/1.8	REI-M 90	
Acoustically insulating Blocks T 1,2	TP 175/1.2	17.5	0.50		12	5.00	1.20	REI-M 90	
Acoustically insulating Blocks T 1,2	TP 240/1.2	24	0.50		12	5.00	1.20	REI-M 90	
Acoustically insulating Blocks T 1,4	TP 115/1.4	11.5	0.58		20	6.80	1.40	REI 90	
Acoustically insulating Blocks T 1,4	TP 175/1.4	17.5	0.58		20	6.80	1.40	REI-M 90	
Acoustically insulating Blocks T 1,4	TP 240/1.4	24	0.58		20	6.30	1.40	REI-M 90	

*1 - Compressive strength is the manufacturer-declared mean crushing strength. NB: Do not use normalised strength (i.e. form factor = 1)

*2 - f_k is the characteristic strength for use only with German standards. For further information, contact Evolved Supplies structural engineers.

*3 - Fire protection: with plaster and render on both sites of the wall: Fire resistance based on EN 1996-1-2 and national UK annex for group 1 and 2 *2 SmartWall S 75 (42.5 and 49 cm) U-value based on: 20 mm exterior light weight plaster (Lambda 0.10 W/mK), internal render: light weight gypsum render (Lambda 0.30 W/mK).

The JUWÖ Evolved SmartWall™ MZ - Series

High performance Blocks filled with Rockwool

JUWÖ Evolved SmartWall MZ

MZ60 · MZ65 · MZ70 · MZ8

The new standard in detached housing: solid homogeneous SmartWall Block masonry.

MZ80-G · MZ90-G · MZ10

Outstanding acoustic and thermal insulation for Blocks of flats.

- The MZ represents an innovation in JUWÖ Evolved SmartWall Block manufacturing that effectively conserves heat energy, protects the environment and lowers the operating costs of your JUWÖ Evolved SmartWall Block home.
- SmartWall Blocks are natural products made from the four elements fire, water, earth and air and have evolved continuously over the thousands of years of their use. For the SmartWall MZ we have added another element to this basic principle: the stone wool Rockwool®.
- The SmartWall MZ Block cavities are filled with high- quality Rockwool® for integrated thermal insulation. Rockwool® is one of the most widely used materials in thermal and acoustic insulation. This is mainly due to its outstanding properties: stone wool is non-flammable, waterproof, yet permeable to vapours, and age-resistant and provides excellent insulation against heat, cold and noise.
- With SmartWall MZ Blocks with the precision grinding in height giving tolerances of +/- 1mm building with SmartWall Blocks with built-in insulation often means there is no need for extra external thermal insulation composite systems to be used
- The SmartWall MZ reduces heating costs for homeowners and tenants and effectively maintains a relatively constant climate inside the house.

- The SmartWall MZ keeps the costs of structural work including labour and rendering/plastering costs low.
- The SmartWall MZ can withstand all kinds of mechanical stresses caused, e.g., by vibration, sawing, drilling or milling. The solid design ensures outstanding physical properties as well as excellent workability.

Moisture

Rockwool® is hydrophobic (water-repellent) to protect the masonry against moisture ingress. Moisture is directed from the stone wool to the SmartWall Blocks and diffuses through the capillary action of the SmartWall Block material to the outside. As it is always the case in SmartWall Blocklaying, the horizontal bed joint at the building site should be covered overnight to prevent penetration by rain or snow.

Installing windows and doors

Corner and end SmartWall Blocks are offered for secure fixing of window and door elements in reveals.

Drilling and anchoring

The thick outer and inner webs of the SmartWall Block ensure high anchor pull out resistance. In general, holes should always be drilled into SmartWall Block walls with a drill, not an impact tool.

Sawing of the JUWÖ Evolved SmartWall Blocks

The good adhesion of the Rockwool® stone wool elements to the SmartWall Block webs makes handling on site easy. The SmartWall MZ can be cleanly cut into any height, length or shape with a wet cutting tool, bandsaw or electric handsaw.



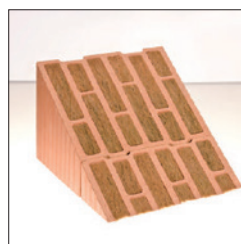
SmartWall MZ with Rockwool



Cross Section



Moisture



Sawing



Drilling & Anchoring

SmartWall MZ70 (Range of applications: detached, semi-detached and terraced houses)



Thermal conductivity	1) $\lambda_a = 0.07$ W/(mK)	2) $\lambda_a = 0.07$ W/(mK)
Bulk density	0.50 kg/dm ³	0.50 kg/dm ³
Compressive strength	8 N/mm ² $f_c = 1.8$ MN/m ²	5 N/mm ² $f_c = 1.3$ MN/m ²
Fire resistance class	F 90 A	F 90 A
Approval notice	Z-17.1-1005	Z-17.1-1005



Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Units per		m ² /pallet
						m ²	m ³	
MZ 300/70 1)	248	300	249	9.2	60	16	53	3.75
MZ 365/70 2)	248	365	249	11.2	60	16	44	5.01
MZ 425/70 2)	248	425	249	13.1	40	16	38	3.76
MZ 490/70 2)	248	490	249	15.1	40	16	33	2.50

SmartWall MZ10/MZ 90-G (Range of applications: multi-storey housing)



Thermal conductivity	$\lambda_a = 0.10/0.09$ W/(mK)
Bulk density	0.80/0.75 kg/dm ³
Compressive strength	15 N/mm ²
Fire resistance class	F 90 A / Fire wall REI-M120
Approval notice	Z-17.1-1015 / 1087



Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Units per		m ² /pallet
						m ²	m ³	
MZ 300/10 (90-G)	248	300	249	13.8 (12.9)	45	16	53	2.82
MZ 365/10 (90-G)	248	365	249	16.9 (15.7)	40	16	44	2.50
MZ 425/10 (90-G)	248	425	249	19.7 (18.3)	30	16	38	1.88

SmartWall MZ make-up Blocks

Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Description
MZ70 300 Eck	175	300	249	8.5	54	Corner Block
MZ70 300 End	123	300	249	6.7	81	End Blocks
MZ70 365 End	123	365	249	8.3	72	End Blocks
MZ70 365 End lang	248	365	249	13.5	40	End Blocks
MZ70 425 End	123	425	249	9.7	54	End Blocks
MZ70 490 End	123	490	249	9.0	60	End Blocks
MZ70 300/2	248	300	124	6.0	90	Levelling Blocks
MZ70 365/2	248	365	124	7.3	80	Levelling Blocks
MZ70 425/2	248	425	124	8.5	60	Levelling Blocks
MZ70 490/2	248	490	124	9.1	60	Levelling Blocks
MZ90-G 300 Eck	175	300	249	10.5	54	Corner Block
MZ90-G 300 End	123	300	249	6.7	81	End Blocks
MZ90-G 365 End	123	365	249	8.3	72	End Blocks
MZ90-G 365 End lang	248	365	249	15.7	40	End Blocks
MZ90-G 425 End	123	425	249	11.0	54	End Blocks
MZ90-G 300/2	248	300	124	7.4	90	Levelling Blocks
MZ90-G 365/2	248	365	124	9.0	80	Levelling Blocks
MZ90-G 425/2	248	425	124	10.5	60	Levelling Blocks

MZ70+MZ8

MZ10/MZ90-G



The JUWÖ Evolved SmartWall™ S7⁵

Solid block building in perfected form

The SmartWall S7⁵

- **Wide:** 36.5 + 42.5 + 49.0cm wall thickness
- **Strong:** high mass for storing heat and cold
- **Warm:** pure thermal insulating power with no fillers λ_r 0.075 W/(mK)

Sensational thermal insulation right from the start:

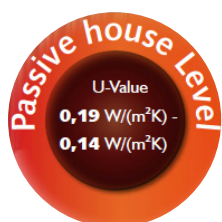
U value = 0.19 W/(m²K) to U value = 0.14 W/(m²K) (passive house level)

- Relatively high mass stores heat and cold – a natural air conditioner
- Outstanding heat protection in the summer
- Better acoustic insulation
- Greater architectural design freedom through larger wall cross section and generous window sills
- Dry from the very beginning: maximum residual moisture content of 0.1% to 0.5%
- Energy-efficient houses from national standards to passive house without the need for complex installations
- Simple, straightforward, efficient and economical – a truly sustainable wall that lasts forever

Now THAT is a wall!

With the new SmartWall S7⁵, JUWÖ is reinforcing its position as leading innovator in masonry. The SmartWall S class Blocks (S9, S8) achieve top thermal insulation values – with no fillers or other additional insulating materials.

The SmartWall S7⁵ is setting the standard in monolithic building and is the absolute top product in this series. It is available from a wall thickness of 36.5cm – this is solid Block building to perfection.





The JUWÖ Evolved SmartWall™ S8

The original: Pure Premium Quality

The SmartWall S8

- **Thermal insulation:** Excellent thermal conductivity λ_R 0.08 W/(mK)
- **Clay block:** 100%
- **Comfort:** Perfect!
- Very good thermal insulation – constant indoor climate
- No additional insulating layers
- Natural, ecological, sustainable
- Dry from the very beginning
- Perfect handling with minimal upkeep costs

No ifs and buts:

- Natural, ecological, solid and economical. Overview of advantages: a pleasant room temperature throughout the year. Ideal relative humidity, dry walls, healthy indoor air. Warm in the winter and pleasantly cool in the summer!
- Lowest moisture content: The more moisture in the building material the poorer the thermal insulation. This applies particularly in comparison with grey or white building blocks which can take up to five years or more to dry. The S8 provides thermal insulation right from the start.
- Ecological building – healthy living – better living with local building materials: The S8 is made from natural raw materials that are extracted in an environmentally friendly manner.
- Excellent thermal insulation – constant indoor climate: The S8 is solid and dry with heat chambers in the Block. These cavities guarantee long heat retention and windproof outer walls.
- Reliable fire protection: European class for fire resistance REI-M 90: The S8 is non-flammable and strong. It provides the highest level of fire protection and safety.



The JUWÖ Evolved SmartWall™ S-Series

High performance - 100% ceramic

SmartWall S7⁵ (Range of applications: detached, semi-detached and terraced houses)



Thermal conductivity $\lambda_k = 0.075 \text{ W/(mK)}$
 Bulk density 0.60 kg/dm^3
 Compressive strength 7.5 N/mm^2 $f_k = 1.5 \text{ MN/m}^2$
 Fire resistance class **F 90 A**
 Approval notice **Z-17.1-1140**

Item	Dimensions in mm			kg/unit	Units/pallet	Units per		m ² /pallet
	Length	Width	Height			m ²	m ³	
S 365/7⁵	248	365	249	13.0	60	16	44	3.75
S 425/7⁵	248	425	249	15.1	48	16	38	3.00
S 490/7⁵	248	490	249	17.5	48	16	33	3.00

SmartWall S8 (Range of applications: detached, semi-detached and terraced houses)



Thermal conductivity $\lambda_k = 0.08 \text{ W/(mK)}$
 Bulk density 0.60 kg/dm^3
 Compressive strength 10 N/mm^2 $f_k = 2.30 \text{ MN/m}^2$
 1) 8 N/mm^2 $f_k = 1.8 \text{ MN/m}^2$
 Fire resistance class **fire wall REI-M 90**
 Approval notice **Z-17.1-1013**

Item	Dimensions in mm			kg/unit	Units/pallet	Units per		m ² /pallet
	Length	Width	Height			m ²	m ³	
S 365/8	248	365	249	13.5	60	16	44	3.75
S 425/8	248	425	249	15.7	48	16	38	3.00
S 490/8 1)	248	490	249	17.9	48	16	33	3.00

SmartWall S9 (Range of applications: detached, semi-detached and terraced houses)



Thermal conductivity $\lambda_k = 0.09 \text{ W/(mK)}$
 Bulk density 1) $0.60 / 0.65 \text{ kg/dm}^3$
 Compressive strength 10 N/mm^2 $f_k = 2.30 \text{ MN/m}^2$
 Fire resistance class **F 30 A, $\geq 36.5 \text{ cm}$ F 90 A**
 Approval notice **Z-17.1-1013**

Item	Dimensions in mm			kg/unit	Units/pallet	Units per		m ² /pallet
	Length	Width	Height			m ²	m ³	
S 300/9 1)	248	300	249	10.7	72	16	53	4.50
S 365/9	248	365	249	14.1	60	16	44	3.75
S 425/9	248	425	249	16.0	48	16	38	3.0



The JUWÖ Evolved SmartWall™ S9

Block for block, 100% satisfaction

The SmartWall® S9 - The Original

- Good thermal insulation at a high bulk density
- Extremely high compressive strength
- Controlled quality
- 100% Ceramic clay
- Economical thermal insulation
- No additional insulating layers
- Natural, ecological, sustainable
- Dry from the very beginning
- Perfect handling with minimal upkeep costs

The original, but even better - Everything else is a copy!

- Good thermal insulation from pure ceramics – The Original and now even better! The unique clay combined with the latest production technology makes it possible: The SmartWall S9® – the all-ceramic SmartWall Block with a very high thermal conductivity of 0.09 W/(mK) with no additional insulating materials. Now with many optimised features.
- Considerably improved quality, even better heat retention, even higher compressive strength, enhanced acoustic insulation.

The JUWÖ Evolved SmartWall™ T and TS-Series

Blocks for all requirements. Top-quality, high compressive strength, Efficient

SmartWall S make-up Blocks End, corner and levelling Blocks



Thermal conductivity
Bulk density
Compressive strength

$\lambda_a = 0.10 \text{ W/(mK)}$
 $0.60 - 0.65 \text{ kg/dm}^3$
 10 N/mm^2

Starting end SmartWall Blocks with single-sided cross joint (vertical joint) interlocking
Levelling SmartWall Blocks with two-sided cross joint interlocking
For use with all SmartWall S series Blocks (S7.5-S9)

Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Description
S 300 End	124	300	249	6.1	108	End Blocks
S 300 Eck	175	300	249	8.5	90	Corner Block
TP 300/2 S	248	300	124	6.0	144	Levelling Blocks
S 365 End	124	365	249	7.8	120	End Blocks
S 365 End lang	248	365	249	14.1	60	End Blocks
TP 365/2 S	248	365	124	7.3	96	Levelling Blocks
S 425 End	124	425	249	8.2	42	End Blocks
S 425 End lang	248	425	249	15.1	48	End Blocks
TP 425/2 S	248	425	249	8.0	96	Levelling Blocks
S 490 End	124	490	249	9.0	60	End Blocks
S 490/2	248	490	124	9.0	96	Levelling Blocks

Levelling Blocks always in the lowest course

SmartWall T10 (Range of applications: detached, semi-detached and terraced houses)



Thermal conductivity
Bulk density
Compressive strength

$\lambda_a = 0.10 \text{ W/(mK)}$
 0.65 kg/dm^3
 10 N/mm^2 $f_k = 2.30 \text{ MN/m}^2$

Fire resistance class
Approval notice

F 30 A, $\geq 36.5 \text{ cm}$ F 90 A
Z-17.1-1047

Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Units per		m ² /pallet
						m ²	m ³	
TP 300/10	248	300	249	11.5	72	16	53	4.50
TP 365/10	248	365	249	14.6	60	16	44	3.75

SmartWall T11 (Range of applications: detached, semi-detached and terraced houses)



Thermal conductivity
Bulk density
Compressive strength

$\lambda_a = 0.11 \text{ W/(mK)}$
1) 0.70 kg/dm^3 2) 0.60 kg/dm^3 / 3) 0.65 kg/dm^3
 10 N/mm^2 $f_k = 2.30 \text{ MN/m}^2$ 10 N/mm^2 $f_k = 2.30 \text{ MN/m}^2$

Fire resistance class
Approval notice

F 30 A, $\geq 36.5 \text{ cm}$ = F 90 A
Z-17.1-1047 F 30 A
Z-17.1-769

Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Units per		m ² /pallet
						m ²	m ³	
TP 190/11 2)	248	190	249	6.8	120	16	84	7.50
TP 240/11 3)	248	240	249	8.5	96	16	67	6.00
TP 300/11 1)	248	300	249	12.5	72	16	53	4.50
TP 365/11 1)	248	365	249	15.2	60	16	44	3.75

SmartWall TS12/TS11 (SmartWall Blocks specially optimised for meeting acoustic insulation requirements in blocks of flats)



Thermal conductivity $\lambda_a = 0.12$ (0.11) W/(mK)
 Bulk density 0.75 kg/dm^3
 Compressive strength 12.5 N/mm^2 $f_k = 3.70 \text{ MN/m}^2$

Fire resistance class F 30 A, 36.5 = fire wall REI-M 90
 Approval notice Z-17.1-1107

Acoustic insulation according to test certificate
 TS 300/12 $R_{w,Bau,nef} = 47 \text{ dB}$
 TS 365/12 $R_{w,Bau,nef} = 50 \text{ dB}$

Item	Dimensions in mm			kg/unit	Units/pallet	Units per		m ² /pallet
	Length	Width	Height			m ²	m ³	
TS 300/12	248	300	249	13.8	72	16	53	4.50
TS 365/12	248	365	249	16.4	60	16	44	3.75
TS 425/12	248	425	249	19.4	48	16	38	3.00

SmartWall TS11 in preparation. Please ask for availability.

SmartWall T14 (Range of applications: detached, semi-detached and terraced houses and blocks of flats)



Thermal conductivity $\lambda_a = 0.14$ W/(mK)
 Bulk density 0.70 kg/dm^3
 Compressive strength 12.5 N/mm^2 $f_k = 3.43 \text{ MN/m}^2$

Fire resistance class F 30 A, $\geq 30,0 = F 90$ A
 Approval notice Z-17.1-908

$\lambda_a = 0.14$ W/(mK)
 0.70 kg/dm^3
 15 N/mm^2 on demand $f_k = 3.96 \text{ MN/m}^2$

F 30 A, $\geq 30,0 = F 90$ A
 Z-17.1-908

Item	Dimensions in mm			kg/unit	Units/pallet	Units per		m ² /pallet
	Length	Width	Height			m ²	m ³	
TP 240/14	248	240	249	10.0	96	16	67	6.00
TP 300/14	248	300	249	12.5	72	16	53	4.50
TP 365/14	248	365	249	15.7	60	16	44	3.75

SmartWall T make-up Blocks End, corner and levelling Blocks



Thermal conductivity $\lambda_a = 0.10$ W/(mK) - 0.28 W/(mK)
 Bulk density $0.65 - 0.8 \text{ kg/dm}^3$
 Compressive strength
 1) 10 N/mm^2
 2) 12.5 N/mm^2
 3) 15 N/mm^2

Corner and end JUWO POROTON Blocks with single-sided cross joint interlocking

Levelling JUWO POROTON Blocks with two-sided cross joint interlocking

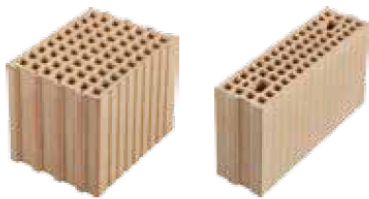
For use with all ThermoPlan T series JUWO POROTON Blocks (T10 -T14)

Item	Dimensions in mm			kg/unit	Units/pallet	Description
	Length	Width	Height			
TP 175/2 3)	498	175	124	7.7	60	Levelling Blocks
TP 240/2 3)	308	240	124	6.7	72	Levelling Blocks
S 300 End 1)	124	300	249	6.1	108	End Blocks
S 300 Eck	175	300	249	8.5	90	Corner Block
S 300/2 2)	248	300	124	6.0	144	Levelling Blocks
S 365 End 1)	124	365	249	7.8	120	End Blocks
S 365/2 2)	248	365	124	7.3	96	Levelling Blocks

Levelling Blocks always in the lowest course

SmartWall T and TS Square Blocks

(Range of applications: interior and partition walls. Exterior walls with additional insulation)



Thermal conductivity
Bulk density
Compressive strength

$\lambda_a = 0.28 \text{ W/(mK)}$
 0.80 kg/dm^3
 $15 \text{ N/mm}^2 \quad f_k = 4.75 \text{ MN/m}^2$

Fire resistance class
Approval notice

$\geq 11.5 \text{ cm F 90 A, } \geq 17.5 \text{ cm fire wall REI-M 90}$
Z-17.1-1037

Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Units per		m ² /pallet
						m ²	m ³	
TP 100	498	100	249	9.3	120	8	80	15.00
TP 115	498	115	249	10.3	96	8	70	12.00
TP 140	498	140	249	13.0	84	8	57	10.50
TP 175	498	175	249	15.7	60	8	44	7.50
TP 240	308	240	249	13.1	72	13	53	5.50

Acoustically insulating filled Blocks T

(Range of applications: interior and soundproof walls. Exterior walls with additional insulation)



Compressive strength

$15 \text{ N/mm}^2 \quad f_k = 5.8 \text{ MN/m}^2$

1) $10 \text{ N/mm}^2 \quad f_k = 3.70 \text{ MN/m}^2$

Filling amount:

17.5cm wall approx. 85 l/m²
24,0cm wall approx. 130 l/m²
30.0cm wall approx. 190 l/m²

R_{w,k} (incl. render / plaster)

55 dB (24cm wall)
72 dB (17.5 + 3 + 17.5)

Fire resistance class
Approval notice

Fire wall REI-M90
Z-17.1-911

Z-17.1-688

Values calculated according to DIN 4109 and Supplement I.

Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Units per		m ² /pallet
						m ²	m ³	
SPZ 175	498	175	249	10.6	84	10.7	61	7.85
SPZ 240	498	240	249	13.6	60	10.7	44	5.63
SPZ 300 1)	498	300	249	20.0	30	8	26	3.75

Acoustically insulating Blocks T 1,2 & T 1,4



Compressive strength

$12.5 \text{ N/mm}^2 \quad f_k = 5.0 \text{ MN/m}^2$

$20.8 \text{ N/mm}^2 \quad f_k = 6.8 \text{ MN/m}^2$

Bulk density
R_{w,k} (incl. render / plaster)

1.2 kg/dm^3
65 dB (17.5 + 3 + 17.5)

1.4 kg/dm^3
67 dB (17.5 + 3 + 17.5)

Fire resistance class
Approval notice

F 90 A, $\geq 17.5 \text{ fire wall REI-M 90}$
Z-17.1-993

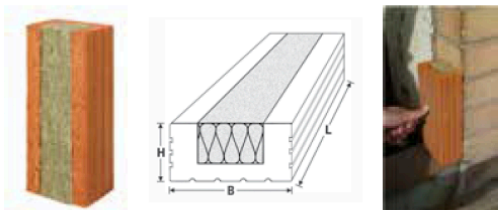
F 90 A, $\geq 17.5 \text{ fire wall REI-M 90}$
Z-17.1-993

Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Units per		m ² /pallet
						m ²	m ³	
TP 175/1.2	498	175	249	23.0	42	8.0	44	5.25
TP 240/1.2	372	240	249	22.5	40	10.7	44	3.74
TP 115/1.4	372	115	249	11.0	96	13.0	113	7.38
TP 175/1.4	307	175	249	17.3	54	13.0	74	4.15
TP 240/1.4	307	240	249	22.3	36	13.0	54	2.77

 'H' item numbers = retail items

System Accessories

Window reveal Block moulding (make-up Blocks)



- Window reveal SmartWall Block moulding with integrated insulation
- For preventing thermal bridges in window reveals
- The element connection with the thermally insulated SmartWall Block moulding meets the requirement of DIN 4108 Supplement 2
- The SmartWall Block moulding can easily be installed with thin layer mortar in the window reveal

Item	Dimensions in mm Length x Width x Height	kg/unit	Units/pallet
FAS	250 100 65	1.4	248

Block ledge (make-up Blocks)



Bulk density 1.4 kg/dm³

Item	Dimensions in mm Length x Width x Height	kg/unit	Units/pallet	m ² /pallet
DeRa-Schale 18 plus	499 140 179	7.3	60	30
DeRa-Schale 20 plus	499 140 199	7.8	60	30
DeRa-Schale 22 plus	499 140 219	8.8	50	25
DeRa-Schale 20 Ultra	499 140 199	2.5	60	30
DeRa-Schale 22 Ultra	499 140 219	2.7	60	30
DeRa-Schale 25 Ultra	499 140 249	3.1	50	25

Adhesive Systems

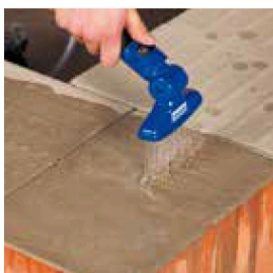


Accessories

- Adhesive applicator
- Float + carrying case
- Mortar tub
- Wall anchors
- Thin layer mortar

Mortar Roller for the 'fully capped' adhesive method. FC Block System.

Type	For wall thickness
A	42.5 + 49.0 cm
B	36.5 + 30.0 cm
C	24.0 + 17.5 cm



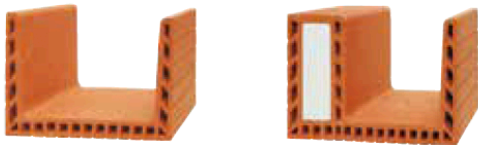
- maxitmortarpad**
- Watering Set NEW
- Mortarpad 42 cm x 30 cm
- Mortarpad 36 cm x 24 cm
- Mortarpad 19 cm x 36 cm
- Mortarpad 17 cm x 36 cm
- Mortarpad 11 cm x 36 cm

Block lintels + thermally insulating lintels for SmartWall Blocks



Dimensions cm Width x Height		Length cm	Mass per metre run	Pallet capacity
11.5	7.1	in 25cm increments to 100-300 cm	13.5	100-200 cm / 45 units
11.5	7.1	in 25cm increments to 100-300 cm	13.5	225-300 cm / 27 units
17.5	7.1	in 25cm increments to 100-300 cm	24.2	100-200 cm / 30 units
17.5	7.1	in 25cm increments to 100-300 cm	24.2	225-300 cm / 18 units
11.5	11.3	100 125 150	22.0	100-150 cm / 32 units
17.5	11.3	125	31.0	125 cm / 18 units
36.5	11.3	125 150 Thermally insulating lintels	55.0	125-150 cm / 18 units

U Blocks with or without insulation SmartWall Blocks for lintels, columns and ring beams as 'lost' or permanent formwork



Item	Dimensions in mm Length x Width x Height			kg/unit	Units/pallet	Concrete cross section Clearance width Clearance height		Pallet capacity per metre run
	Length	Width	Height			Clearance width	Clearance height	
U 175	240	175	244	6.9	105	9.5 cm	18.5 cm	26.25
U 240	240	240	244	9.2	75	15.0 cm	18.5 cm	18.75
U 300	240	300	244	10.0	60	20.5 cm	18.2 cm	15.00
U 365	240	365	244	11.4	60	25.5 cm	18.0 cm	15.00
U 425	240	425	244	12.2	60	33.0 cm	19.0 cm	15.00
U 490	240	490	244	12.9	45	40.0 cm	19.5 cm	11.25
WU 300	240	300	244	9.6	60	14.5 cm	20.0 cm	15.00
WU 365	240	365	244	11.6	60	20.0 cm	20.0 cm	15.00
WU 425	240	425	244	11.8	60	24.0 cm	20.0 cm	15.00
WU 490	240	490	244	12.9	45	30.5 cm	20.0 cm	11.25

Practical pallet system

- Due to their construction (box height), SmartWall pallets must be transported with pallet jacks on the building site



Product data sheets and EU declarations of performance in accordance with the Europe-wide CE marking requirement are available for download on our website under 'Download'. PDF files can be read and printed with the free program 'Acrobat Reader'.

JUWÖ Evolved SmartWall™ Lintels

The SmartWall system offers a complete range of Lintels for all standard opening requirements ranging from the Juwö SmartWall Clay lintels for smaller spans and loads i.e internal and external openings, through to an Insulated Steel Box lintels for the larger openings with higher loadings requirements.

The type and use of the lintels need to be designed into the system via your Structural Engineer to ensure compliance with Building Regulations, however we have included below a guide to the lintels we offer for the SmartWall Monolithic Clay block system.

As part of our Architectural and Structural Design Services we can offer bespoke Architectural Design and Structural calculations for your project or visit our website where we have provided a Lintel Design App to assist you in the design:

www.evolvedsupplies.co.uk/lintelapp

Cavity wall construction that require a Boot type lintel for the construction are also available upon request, as are specialist Box lintels for curved openings as well as options on the type of metal used to include Stainless Steel options.

Juwö Evolved SmartWall Clay Lintel

115 x 71mm Supplied in 250mm increments from 1.000m – 3.000m long



Juwö Evolved SmartWall Clay Lintel (115 x 71)																
Lintel length (m)	1.000	1.000	1.250	1.250	1.500	1.500	1.750	1.750	2.000	2.000	2.250	2.250	2.500	2.750	3.000	
Bearing (m)	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.200	0.200	
Opening width (m)	0.600	0.750	0.850	1.000	1.100	1.250	1.350	1.500	1.600	1.750	1.850	2.000	2.100	2.350	2.600	
Total height of lintel and spandrel (m)	0.25	4.00	2.80	2.25	1.69	1.43	1.13	0.99	0.81	0.72	0.61	0.55	0.47	0.43	0.35	0.29
	0.50	8.76	7.25	6.51	5.64	5.18	4.62	4.30	3.89	3.46	2.93	2.64	2.28	2.08	1.68	1.38
	0.75	13.51	11.20	10.05	8.71	8.00	7.13	6.64	6.03	5.68	5.23	4.96	4.61	4.40	3.96	3.30
	1.00	18.27	15.14	13.59	11.78	10.81	9.63	8.98	8.15	7.68	7.07	6.71	6.23	5.95	5.35	4.86
	1.25	23.03	19.08	17.13	14.84	13.63	12.14	11.32	10.28	9.68	8.91	8.45	7.86	7.50	6.75	6.13
	1.50	27.79	23.03	20.66	17.91	16.45	14.65	13.66	12.40	11.68	10.75	10.20	9.48	9.06	8.14	7.39

Allowable ultimate design load in kN/m for various spans as shown.

Juwö Evolved SmartWall Clay Lintel

175 x 71mm Supplied in 250mm increments from 1.000m – 3.000m long



Juwö Evolved SmartWall Clay Lintel (175 x 71)																
Lintel length (m)	1.000	1.000	1.250	1.250	1.500	1.500	1.750	1.750	2.000	2.000	2.250	2.250	2.500	2.750	3.000	
Bearing (m)	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.125	0.200	0.200	0.200	
Opening width (m)	0.600	0.750	0.850	1.000	1.100	1.250	1.350	1.500	1.600	1.750	1.850	2.000	2.100	2.350	2.600	
Total height of lintel and spandrel (m)	0.25	6.08	4.26	3.43	2.58	2.17	1.73	1.50	1.24	1.10	0.93	0.84	0.72	0.66	0.53	0.44
	0.50	13.32	11.04	9.91	8.59	7.89	7.03	6.55	5.93	5.26	4.45	4.01	3.47	3.16	2.55	2.11
	0.75	20.57	17.04	15.29	13.25	12.17	10.84	10.11	9.18	8.64	7.95	7.55	7.02	6.70	6.02	5.02
	1.00	27.81	23.04	20.68	17.92	16.46	14.66	13.67	12.41	11.69	10.75	10.21	9.49	9.06	8.15	7.40
	1.25	35.05	29.04	26.06	22.59	20.74	18.48	17.23	15.64	14.73	13.55	12.87	11.96	11.42	10.27	9.32
	1.50	42.29	35.04	31.45	27.25	25.03	22.30	20.79	18.87	17.77	16.35	15.52	14.43	13.78	12.39	11.25

Allowable ultimate design load in kN/m for various spans as shown.

Juwö Evolved SmartWall Clay Lintel

115 x 113mm Supplied in 1.000m - 1.250m - 1.500m lengths only

Juwö Evolved SmartWall Clay Lintel (115 x 113)							
Lintel length (m)		1.000	1.000	1.250	1.250	1.500	1.500
Bearing (m)		0.200	0.125	0.200	0.125	0.200	0.125
Opening width (m)		0.600	0.750	0.850	1.000	1.100	1.250
Total height of lintel and spandrel (m)	0.25	4.00	2.80	2.25	1.69	1.43	1.13
	0.50	8.76	7.25	6.51	5.64	5.18	4.62
	0.75	13.51	11.20	10.05	8.71	8.00	7.13
	1.00	18.27	15.14	13.59	11.78	10.81	9.63
	1.25	23.03	19.08	17.13	14.84	13.63	12.14
	1.50	27.79	23.03	20.66	17.91	16.45	14.65



Allowable ultimate design load in kN/m for various spans as shown.

Juwö Evolved SmartWall Clay Lintel

175 x 113mm Supplied in 1.250mm lengths only

Juwö Evolved SmartWall Clay Lintel (175 x 113)							
Lintel length (m)		1.250	1.250	1.250	1.250	1.250	1.250
Bearing (m)		0.225	0.200	0.175	0.150	0.125	0.125
Opening width (m)		0.800	0.850	0.900	0.950	1.000	1.000
Total height of lintel and spandrel (m)	0.25	3.81	3.43	3.10	2.82	2.58	2.58
	0.50	10.44	9.91	9.42	8.99	8.59	8.59
	0.75	16.12	15.29	14.55	13.87	13.25	13.25
	1.00	21.79	20.68	19.67	18.75	17.92	17.92
	1.25	27.47	26.06	24.79	23.64	22.59	22.59
	1.50	33.15	31.45	29.91	28.52	27.25	27.25



Allowable ultimate design load in kN/m for various spans as shown.

Juwö Evolved SmartWall Clay Lintel

365 x 113mm Thermally Insulated Lintel Supplied in 1.250m - 1.500m lengths only

Juwö Evolved SmartWall Clay Lintel (365 x 113)					
Lintel length (m)		1.250	1.250	1.500	1.500
Bearing (m)		0.200	0.125	0.200	0.125
Opening width (m)		0.850	1.000	1.100	1.250
Total height of lintel and spandrel (m)	0.25	7.16	5.37	4.53	3.60
	0.50	20.66	17.91	16.45	14.65
	0.75	31.90	27.64	25.39	22.62
	1.00	43.13	37.38	34.32	30.58
	1.25	54.36	47.11	43.26	38.54
	1.50	54.78	47.47	43.60	38.84



Allowable ultimate design load in kN/m for various spans as shown.

JUWÖ Evolved SmartWall™ Lintels

Juwö SmartWall Clay Blocks for bespoke lintels sizes on site will require a structural design to confirm the rebar size, volume, and type of concrete to be used.

The Juwö SmartWall Clay U Blocks are supplied in two formats:

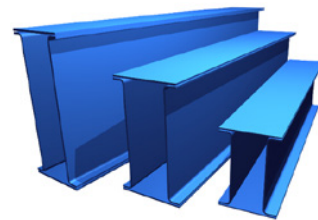
Uninsulated in 175mm, 240mm, 300mm, 365mm, 425mm, or 490mm wide.

Or an Insulated U block format supplied in 300mm, 365mm, 425mm, or 490mm wide.



The Juwö Evolved SmartWall Steel Box Lintel

For larger spans or where more strength is needed, we offer an Insulated Galvanised Steel Box lintel to suit all widths of the Juwö SmartWall Clay Blocks system



Juwö SmartWall Steel Box Lintel (190 to 490 Block widths)																		
Lintel length (m)	1.000	1.000	1.250	1.250	1.500	1.500	1.750	1.750	2.000	2.000	2.250	2.250	2.500	3.000	3.500	4.000	4.500	
Bearing (m)	0.125	0.250	0.125	0.250	0.125	0.250	0.125	0.250	0.125	0.250	0.125	0.250	0.250	0.250	0.250	0.250	0.250	
Opening width (m)	0.750	0.500	1.000	0.750	1.250	1.000	1.500	1.250	1.750	1.500	2.000	1.750	2.000	2.500	3.000	3.500	4.000	
Lintel Type	BOX 190-75	21.28	63.83	15.96	42.56	12.77	31.92	10.64	25.53	9.12	20.53	7.98	12.93	8.66	4.43	2.57	2.57	1.62
	BOX 240-75	26.88	80.63	20.16	53.75	16.13	40.32	13.44	32.25	11.52	25.66	10.08	16.16	10.83	5.54	3.21	3.21	2.02
	BOX 190-150	21.28	63.83	15.96	42.56	12.77	31.92	10.64	25.53	9.12	21.28	7.98	18.24	15.96	12.77	10.64	10.64	7.04
	BOX 240-150	26.88	80.63	20.16	53.75	16.13	40.32	13.44	32.25	11.52	26.88	10.08	23.04	20.16	16.13	13.44	13.44	8.70
	BOX 300-150	33.60	100.79	25.20	67.19	20.16	50.40	16.80	40.32	14.40	33.60	12.60	28.80	25.20	20.16	16.80	16.80	10.70
	BOX 365-150	40.88	122.63	30.66	81.75	24.53	61.31	20.44	49.05	17.52	40.88	15.33	35.04	30.66	24.53	20.42	20.42	12.86
	BOX 425-150	47.60	142.79	35.70	95.19	28.56	71.39	23.80	57.11	20.40	47.60	17.85	40.80	35.70	28.56	23.59	23.59	14.85
	BOX 490-150	54.87	164.62	41.16	109.75	32.92	82.31	27.44	65.85	23.52	54.87	20.58	47.04	41.16	32.92	27.03	27.03	17.02
	BOX 190-225	21.28	63.83	15.96	42.56	12.77	31.92	10.64	25.53	9.12	21.28	7.98	18.24	15.96	12.77	10.64	10.64	9.12
	BOX 240-225	26.88	80.63	20.16	53.75	16.13	40.32	13.44	32.25	11.52	26.88	10.08	23.04	20.16	16.13	13.44	13.44	11.52
	BOX 300-225	33.60	100.79	25.20	67.19	20.16	50.40	16.80	40.32	14.40	33.60	12.60	28.80	25.20	20.16	16.80	16.80	14.40
	BOX 365-225	40.88	122.63	30.66	81.75	24.53	61.31	20.44	49.05	17.52	40.88	15.33	35.04	30.66	24.53	20.44	20.44	17.52
	BOX 425-225	47.60	142.79	35.70	95.19	28.56	71.39	23.80	57.11	20.40	47.60	17.85	40.80	35.70	28.56	23.80	23.80	20.40
	BOX 490-225	54.87	164.62	41.16	109.75	32.92	82.31	27.44	65.85	23.52	54.87	20.58	47.04	41.16	32.92	27.44	27.44	23.52

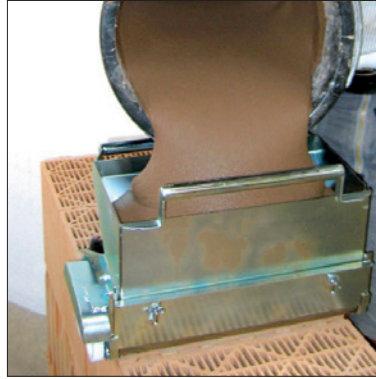
Allowable ultimate design load in kN/m for various spans as shown.

Specialist lintels for Curved openings, Corner details, Cavity Wall applications, as well as options on the type of metal used to include Stainless Steel options are available upon request.

Adhesive System for a full surface thin layer mortar joint



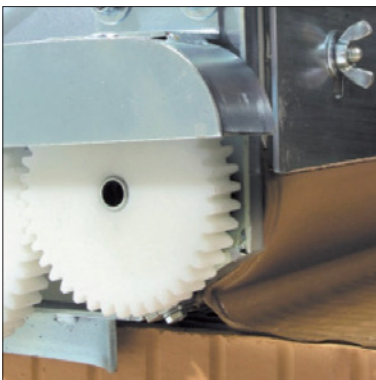
Stir the mortar in a clean bucket with a double-blade mixing tool until it attains a smooth consistency. Mixing time: Mix for 3 minutes, let the mortar sit and then stir again



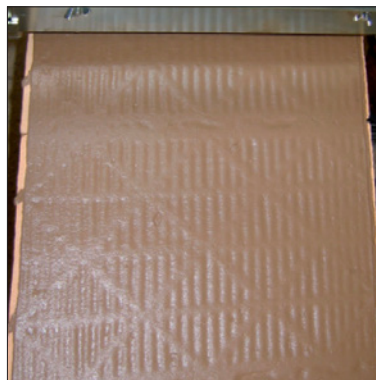
Fill the mortar roller



Slide the mortar roller over the SmartWall Blocks, pressing down on both rollers



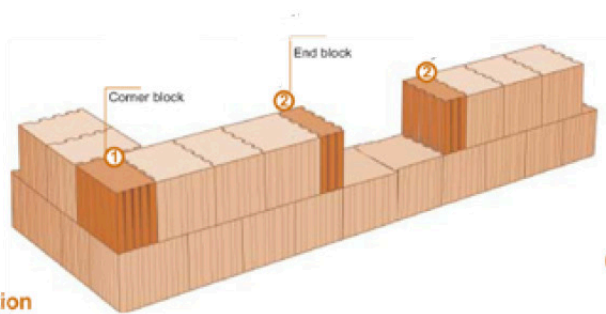
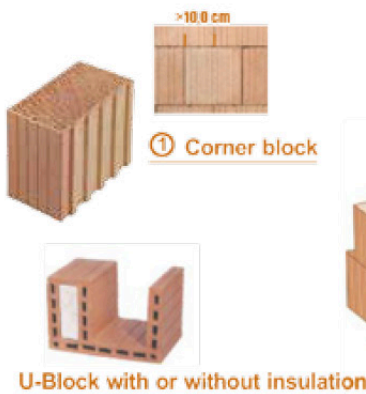
Apply the mortar layer



The mortar roller covers the entire bed joint surface in one pass with thin layer mortar



Lay the Smartwall Blocks and align



NEW SmartWall PU Adhesive Bonding System

PU700 SmartWall Construction Adhesive

SmartWall Construction Adhesive PU700 is all you need in one can, capable of bonding over 20sqm of SmartWall block in one can. PU700 massively saves on installation time and reduces waste significantly. PU700 is a great alternative to SmartWall thin coat mortar adhesive.

PU700 is also incredibly strong and can be used on all widths of SmartWall blocks, and can be supplied with a dedicated applicator for narrower width SmartWall Blocks.

The original, but even better - Everything else is a copy!

- Incredibly strong adhesive
- Bonds SmartWall Monolithic Clay blocks
- Rapid curing - handling of joint within 10 minutes
- Saves installation time
- Reduces waste
- No specialist tools required
- Less mess
- Excellent chemical resistance
- Suitable for indoor or outdoor use



Tips for working with JUWÖ Evolved SmartWall™



You will need the following on the building site: adhesive applicator, mixing bucket, mixing paddle, float, aluminium trowel, insulating mortar LM 21, rubber mallet



To level an uneven base, apply a leveling layer of SmartWall Insulating mortar with the SmartWall Leveling Tool to gain a level base. Observing close tolerances and skim off excess using a float and an aluminum trowel



Lay the first layer of SmartWall Blocks on the precisely skimmed mortar layer and level using a spirit level and a rubber mallet



Stir the supplied thin layer mortar to a smooth consistency in a clean bucket. Mixing time: approx. 3 minutes. Let the mortar sit and then stir again



Pour the stirred thin layer mortar into the mortar roller. This allows for efficient and easy application of the mortar



Move the mortar roller uniformly in one direction (see labelling on tool), keeping the rollers pressed down on to the SmartWall Block layer underneath



The mortar roller covers the entire bed joint surface in one pass with thin layer mortar



Now lay the SmartWall Blocks and align. You're done!



Fill in the spaces at the end with cut closure SmartWall Blocks. Always place the closure SmartWall Blocks with the cut surfaces facing inwards and fill cross joints with LM 21.



Maxit*mortarpad*

Quick • Easy • Reliable

The evolution to Brickwork 3.0

- Minimises sources of error
- Easy handling, efficient and safe
- Mineral product made from natural raw materials
- No need of additional tools
- Clean construction site



Moisten blocks



Lay on Maxit mortar pads



Cut and adjust Maxit mortar pads of necessary



Moisten Maxit mortar pads



Lay blocks with full surface



Align blocks in usual way

Tips for working with JUWÖ Evolved SmartWall™



SmartWall Blocks can be cut to close tolerances quickly and with no backlash using a masonry saw (e.g. DW 393 from DeWalt®) thanks to a counter-rotating blade system



Clean and precise cuts can also be made in SmartWall Blocks with a SmartWall mobile bench bandsaw



Masonry bond in accordance with DIN 1053-1 section 9.3 = overlap > 0.4 x SmartWall Block height. For 25cm layers, this yields an overlap of > 10cm



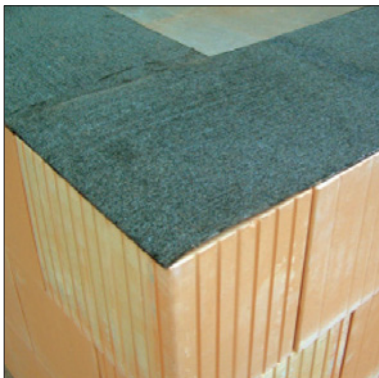
Through use of single-smooth face corner and starting SmartWall Blocks, the bonding can be safely maintained



Any voids in the masonry are closed with lightweight masonry mortar LM 21



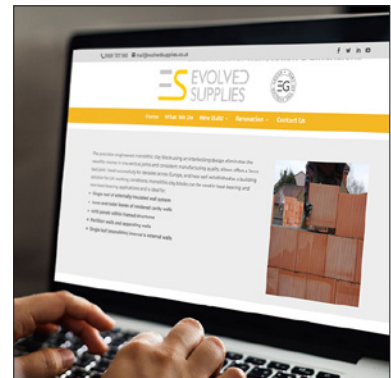
Joint widths to 5 mm are permissible for interlocked cross joints. They are additionally filled with LM 21



The masonry must be protected from the weather (rain, snow etc...), e.g. by covering with foil, boards or roofing felt



SmartWall Block forms an ideal render/plaster base due to its pore and capillary structure

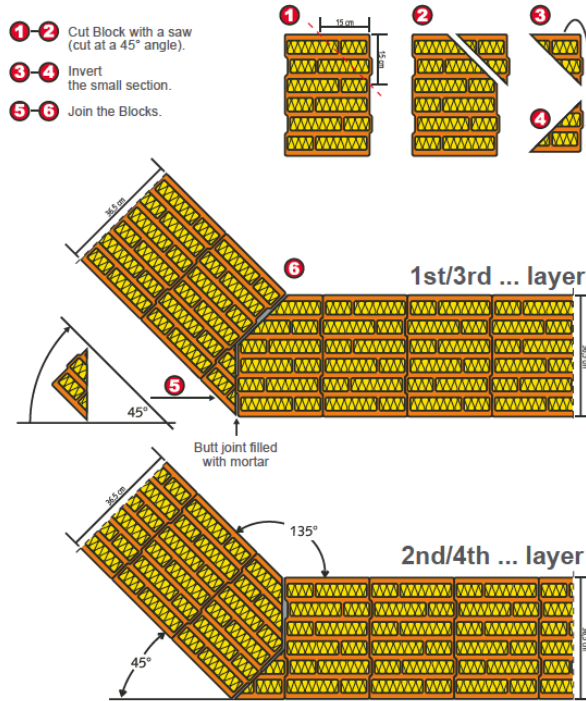


Further information can be found on our website www.evolvedsupplies.co.uk

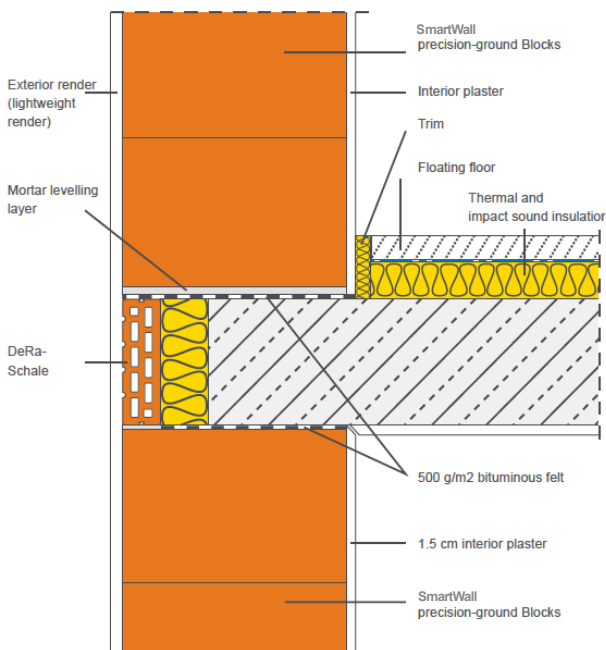
Details

The perforation patterns used in the individual detail drawings are for illustration purposes only. Larger views can be found in the download section of our website at www.evolvedsupplies.co.uk

Laying instructions for 45°/ 135° corners

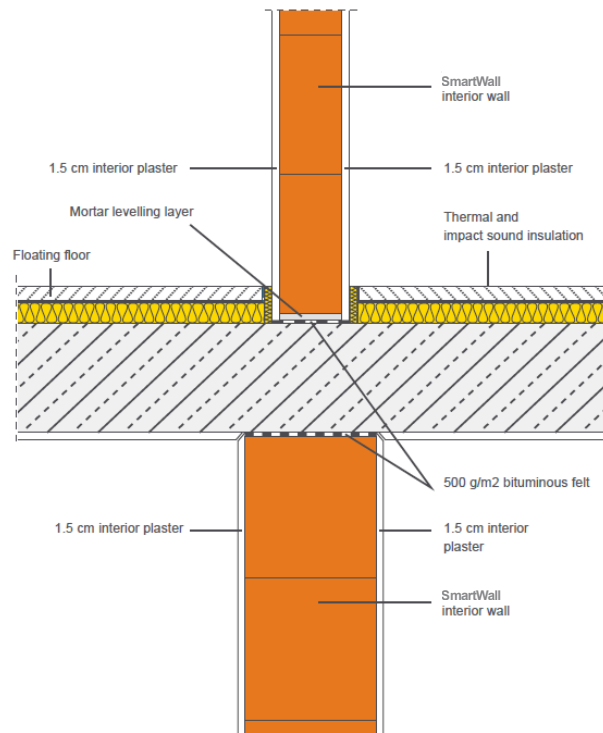


SmartWall exterior wall with slab supports



The **DeRa-Schale** (Block ledge) is a factory-insulated slab edge system that can be laid efficiently.

SmartWall internal wall with slab supports

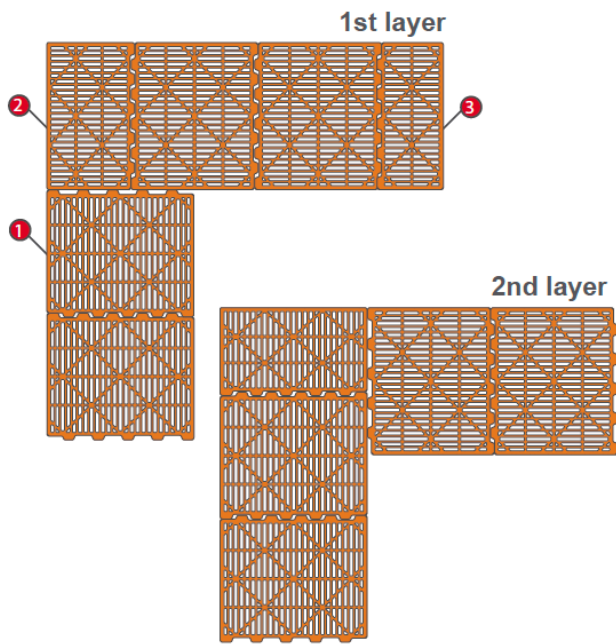


Details

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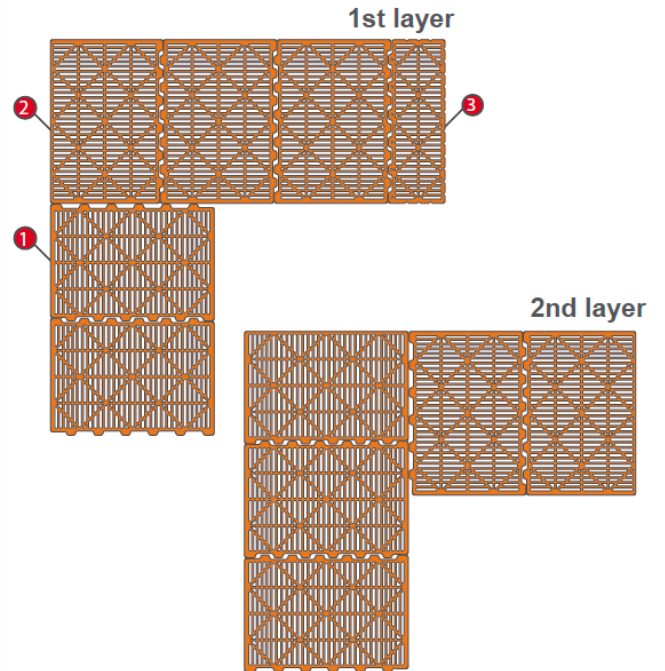
Laying instructions for wall thickness of 30.0cm

1. Exterior wall Block d = 30.0cm
2. Single-smooth-face corner SmartWall Block d = 30.0cm
3. Single-smooth-face starting SmartWall Block d = 30.0cm



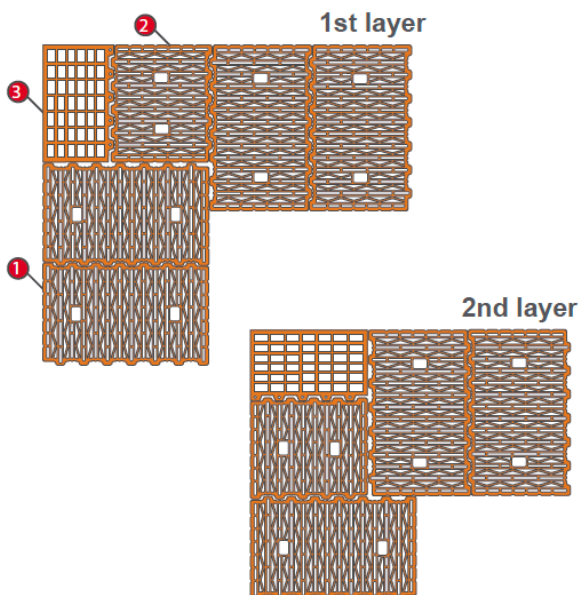
Laying instructions for wall thickness of 36.5cm

1. Exterior wall Block d = 36.5cm
2. Single-smooth-face corner Block d = 36.5cm
3. Single-smooth-face starting Block d = 36.5cm



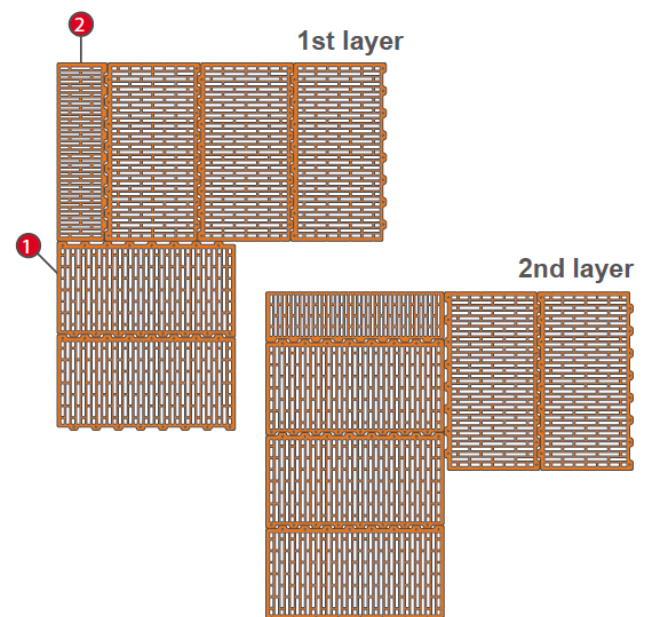
Laying instructions for wall thickness of 42.5cm

1. Exterior wall Block d = 42.5cm
2. Single-smooth-face corner Block d = 30.0cm
3. Single-smooth-face starting Block d = 30.0cm



Laying instructions for wall thickness of 49.0cm

1. Exterior wall Block d = 49.0cm
2. Single-smooth-face corner Block d = 49.0cm



Wall and Floor Acoustic Information

The Juwö Evolved SmartWall system has acoustic test data based on the following information which is based on the standard for performance required for separation between walls and floors, with floors being based on a concrete floor specification.

The performance required to meet Building Regulation Part E 1, Protection against sound from other parts of the building and adjoining buildings i.e. dwellings, flats and rooms for residential use have to offer reasonable resistance to sound from other parts of the same building and adjoining buildings based on the following requirements:

England, Wales Northern Ireland

New Build dwelling houses and flats - separating walls that have a separating function. Airborne sound insulation Walls 45dB DnT,w + Ctr (minimum value).

New Build dwelling houses and flats - separating Floors and Stairs 45 dB Airborne sound insulation DnT,w + Ctr (minimum value) with Impact sound insulation 62dB L'nT,w dB (maximum value)

Scotland

New Build dwelling houses and flats - separating walls that have a separating function. Airborne sound insulation Walls 56dB DnT,w + Ctr (minimum value).

New Build dwelling houses and flats - separating Floors and Stairs 56 dB Airborne sound insulation DnT,w + Ctr (minimum value) with Impact sound insulation 53dB L'nT,w dB (maximum value)

Juwö Evolved SmartWall system has not carried out any Robust detailing, therefore to satisfy Building Regulations, Pre-Completion acoustic testing would have to be carried out.

Building regulations Part E require that buildings be tested prior to completion to confirm they meet or exceed Part E standards, or a Robust approved system is used. The person carrying out the building work should arrange for sound insulation testing to be carried out by a test body with approved qualifications and affiliations. Airborne and impact sound insulation tests require to be carried out in accordance with the measurement procedures of BS EN ISO140-4:1998 for field measurements with a single figure D_{nTw} and L_{nTw} in accordance with BS EN ISO 717. As per the new regulations the Spectrum Adaptation Ctr which is a correction factor calculated from the measured D_{nTw} and the corresponding third octave band DnT values. It uses a set of weighting levels in third octave bands derived from a road traffic noise spectrum. It is applied to airborne test results and is measured in dB. A new standard BS EN ISO 16283-1&2:2014 will be replacing ISO 140 for building regulation measurements in due course.

Juwö Evolved SmartWall system for separating walls have developed two methods of providing acoustic for separating walls using a single or double skin wall method.

Wall and Floor Acoustic Information

Single Skin Acoustic Wall method

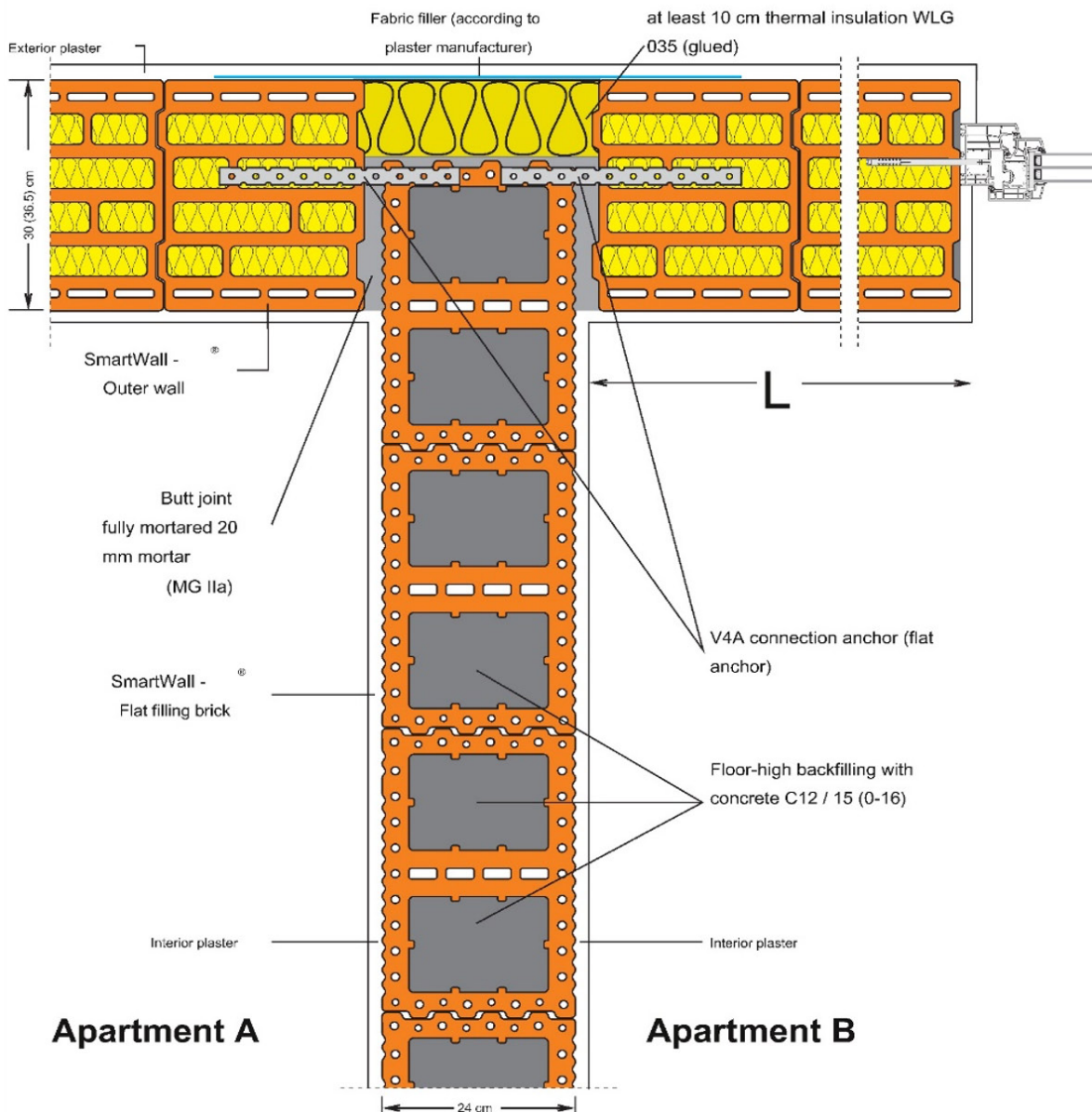
The single skin acoustic wall system uses an SPZ 240mm SmartWall block wall which has a bulk density class of 2.0 kg / dm^3 , e.g. Juwö sound insulation block SPZ 240 backfilling with concrete C12/15 and finished with either a One Coat plaster or a two-coat plastered on both sides. See below details.

The outer external walls are made of 365mm - 490mm SmartWall blocks TS12 or TS11 or MZ90-G or MZ80-GS.

The SmartWall S7⁵, S8, S9 or T10 blocks are not suitable for sound insulation in buildings.

With the wall construction as described above, you can expect to achieved approx. 55 dB DnTw between the seperation walls.

Wall connection sound-absorbing partition made of filling bricks PFZ integrated in the outer wall made of SmartWall MZ90-G / MZ10 [®] L > 1.0 m (> 2.5 m²)



Wall and Floor Acoustic Information

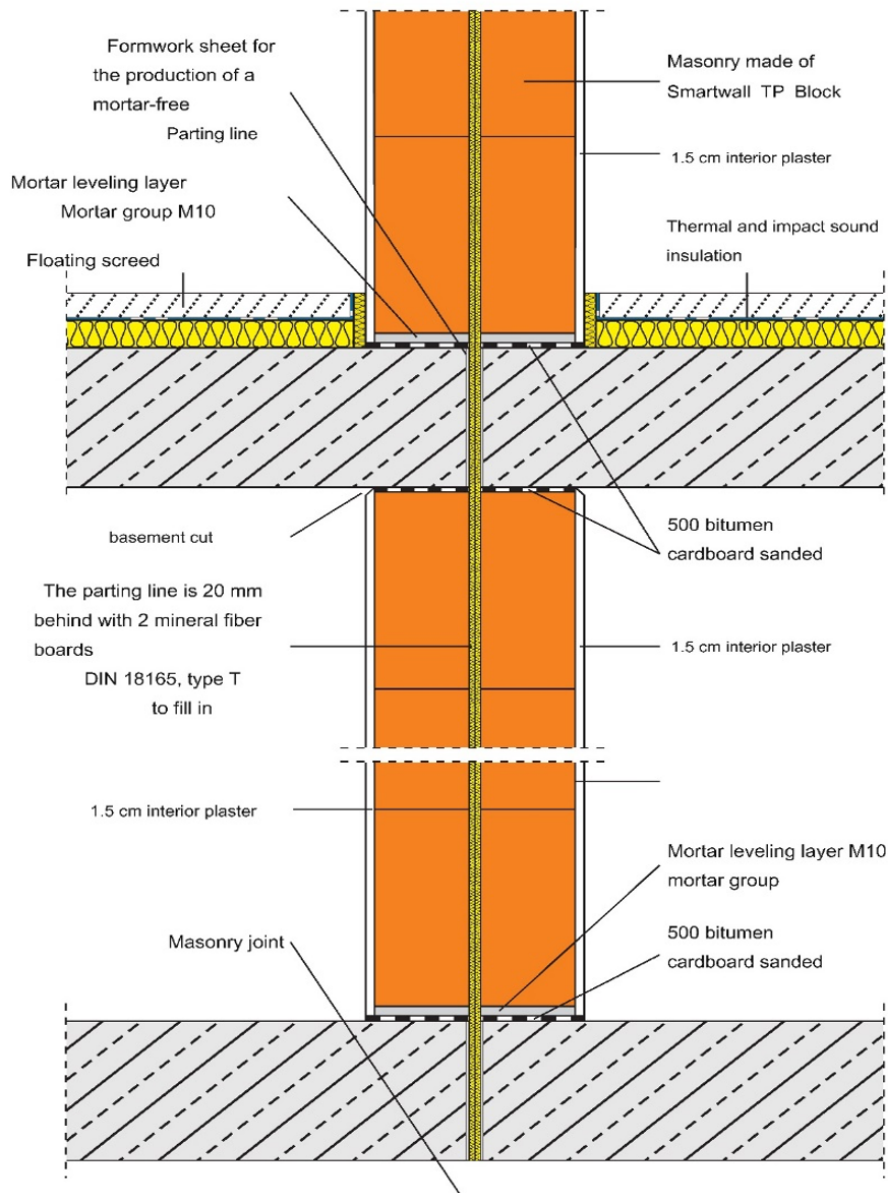
Double Skin Acoustic Wall method

Walls using a double skin separation acoustic wall require the following make up.

A separating wall junction line goes through completely with a minimum of a 40 mm joint. The acoustic performance for the separate units offer an approx performance of 64 dB D_{nTw} for airborne sound. The construction achieves this by using a SmartWall 175mm (TP175 / 1.4) block and 40mm mineral wool.

If however there is void below the TP175 / 1.4 and 40mm mineral wool, as long as the void separation below is not a cellar, and is made up as above and the walls and ceilings are completely separated by the continuous mineral wool slab, this could achieve approx 67 dB D_{nTw} .

Double-skin house partition



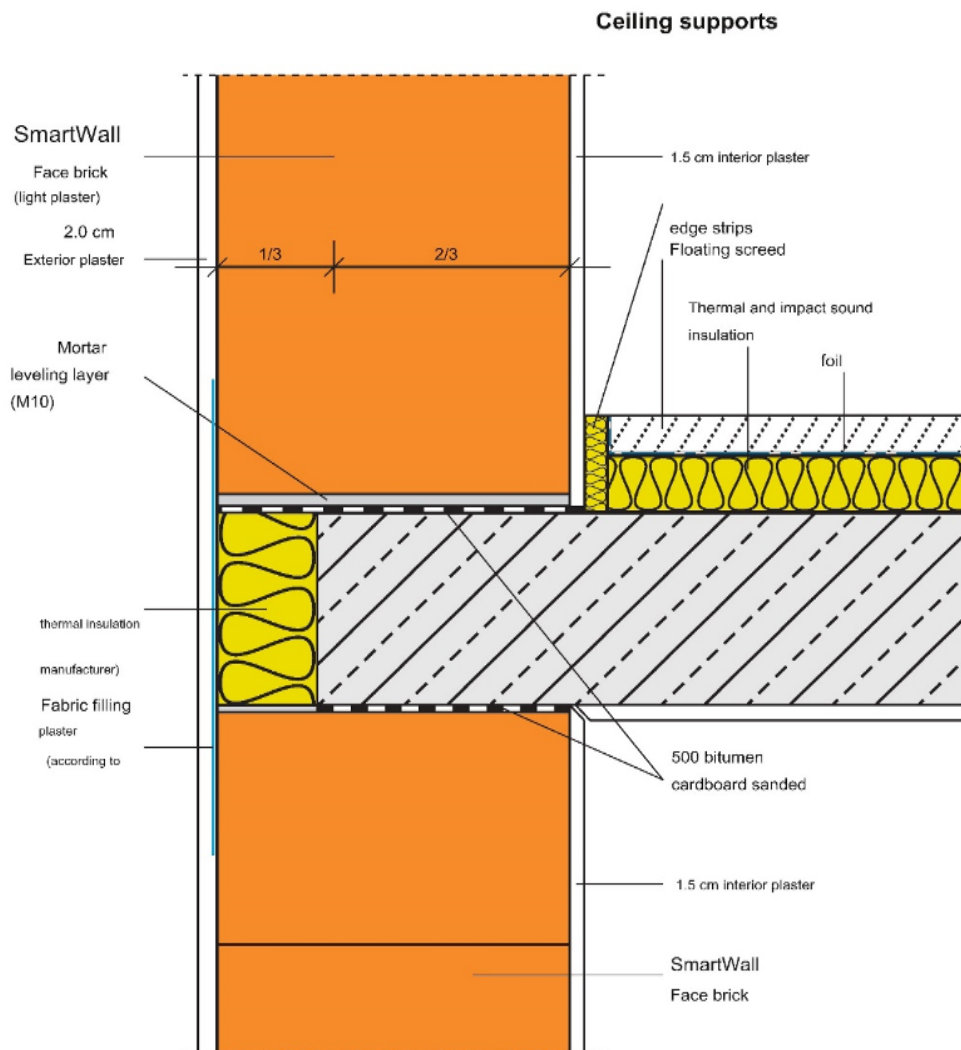
Wall and Floor Acoustic Information

Concrete Floors

Juwö Evolved SmartWall do not produce a flooring/ceiling system therefore, the SmartWall system would have to be used in conjunction with a reinforced concrete ceiling/floor system.

A need to employ a minimum of 200mm thick reinforced concrete system will be required, however this is very much dependant on the span required, and would be of a solid concrete nature, not a hollowcore or block & beam floor, possibly a metal cast concrete decking system could be used. In addition there would be a requirement to add acoustic insulation material and approx. 50 to 60mm of concrete screed in addition to floor covering made of tiles or wood or carpet.

With floor construction as described above, you can expect to achieved approx. 56 to 57 dB DnTw airborne sound performance between apartments through the floor, however these system would have to have a Pre-Completion tested carried out on site.



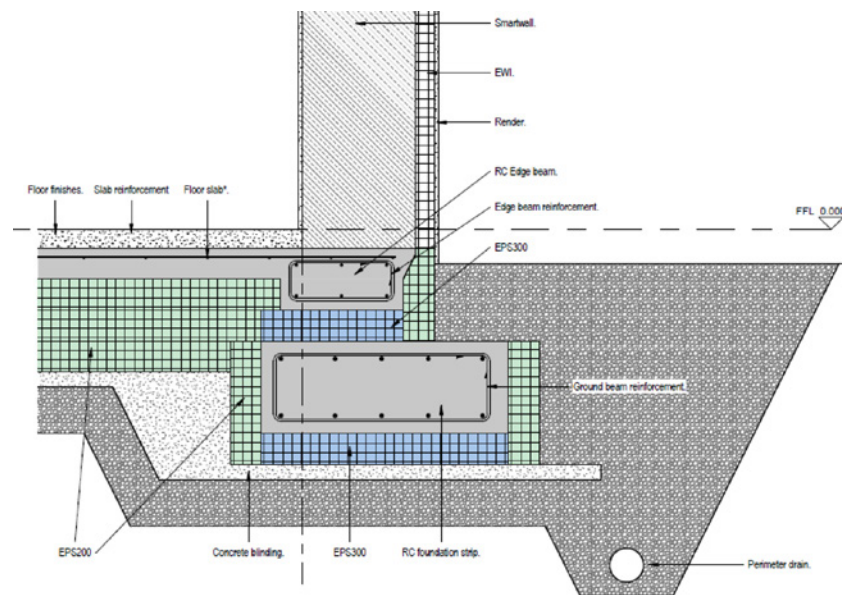
JUWÖ Evolved SmartWall™ Standard and Screw Piled Monobeam Systems

The Evolved SmartWall Monobeam insulated structural foundation floor slab system has been developed to provide an energy efficient way of providing an insulated foundation giving you 0.10 W/m²K U Value specifically for the Evolved SmartWall™ Monolithic Clay block system.

The Evolved SmartWall Monobeam insulated structural foundation floor slab system comes in two formats

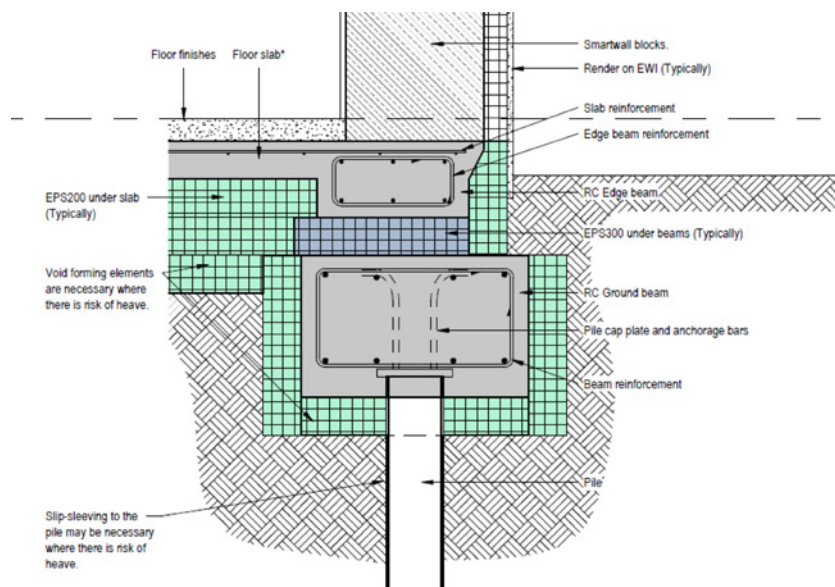
- **SmartWall Standard Monobeam system** - Where an integral reinforced concrete edge beam supports the SmartWall external and load bearing partitions or internal walls. Typically, the foundation loads are spread into the sub-soil through a lower reinforced concrete foundation beam. Where the loads are heavy, small concrete stubs bridge the gap between the upper beams and foundation strips.

Essential elements of the **Standard Monobeam system**:



- **SmartWall Screw Piled Monobeam system** - Where an integral reinforced concrete edge beam supports the SmartWall external and load bearing partitions or internal walls. Typically, the foundation loads are spread into the sub-soil through a lower reinforced concrete foundation beam. Where the loads are heavy, small concrete stubs bridge the gap between the upper beams and foundation strips.

Essential elements of the **Standard Monobeam system**:



JUWÖ Evolved SmartWall™ Standard and Screw Piled Monobeam Systems

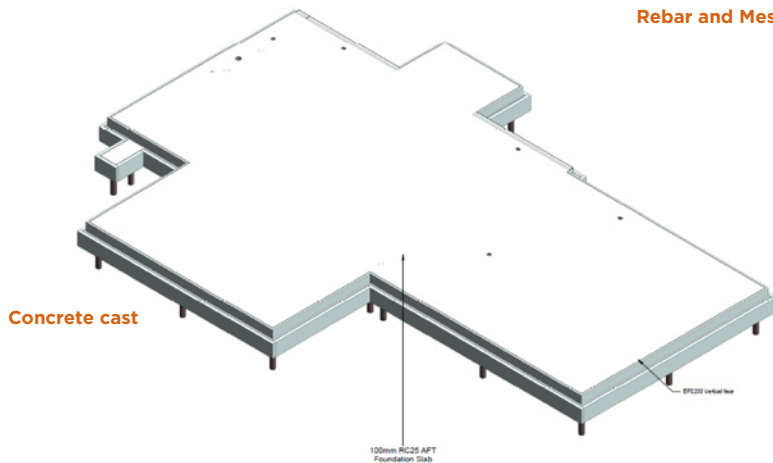
In both cases, piled or not, a shallow system has major consequent savings in excavation and cost and environmental impact of disposal of waste soil from site.

Where the SmartWall Screw Piled Monobeam system is used, there is almost no waste soil displaced in the piling operation and no requirement for piling mats, which would otherwise increase the installation cost even more.

The SmartWall Standard and Screw Piled Monobeam systems are made up of lower and upper connected beams. The lower beam supports the upper beam where the SmartWall Block monolithic leaf sits. This enables separation from a thermal transmittance standpoint, whilst ensuring that both beams are connected to the raft foundation, so a structurally sound foundation is produced.

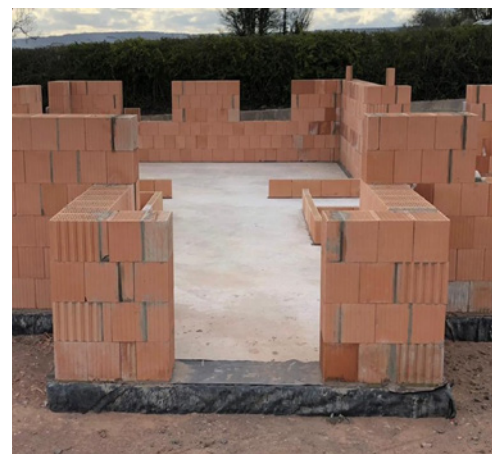


Rebar and Mesh Placed



Concrete cast

SmartWall Blocks placed on a DPC to complete the seal



JUWÖ Evolved SmartWall™

Systems, solutions and external wall insulation.

Evolved Supplies Ltd offer as part of their External Wall Insulation Systems a range of EWI products designed to provide significant improvements in the thermal performance to all new residential and commercial properties. Evolved SmartWall (EWI) systems are designed to enable various types of insulation to be adhesively and mechanically fixed to the blocks.

Insulation Systems include:

- Breathable Expanded Graphite Polystyrene – excellent thermal performance and vapour open.
- Rockfibre – maintains excellent fire and acoustic performance of the blocks
- Woodfibre – natural insulant providing an environmentally friendly option.
- Standard Expanded Polystyrene – for thermal improvement only.

Evolved Supplies SmartWall External Wall Insulation Systems are complimented by an extensive range of decorative options using silicone textured render coatings to provide decorative as well as waterproof coatings. Brick slips can also be applied directly to the insulation.

The Evolved SmartWall Breathable systems are designed to enable vapour movement to pass through the insulation materials as quickly as possible offering greater vapour movement, working in conjunction with the SmartWall blocks to provide a healthy living environment.

- Excellent water repellent and self-cleansing characteristics in the case of Nano Silicon Topcoat
- Large range of colours including light pastel shades
- Brick effect render also available
- The appearance of a delicately smoothed facade surface of different grain sizes
- Vapour open technology with the Graphite E.P.S, Rockfibre & Woodfibre options.

The Evolved External Wall systems are applied by approved contractors only.



JUWÖ Evolved SmartWall™ U Values

U values have been calculated to 2 decimals places

SmartWall can also be finished using an insulated render system. The system we use is a three coat render system with the decorative topcoat of render being a through coloured system and is viable as a smooth or textured finish. SmartWall can be used in conjunction with the Future Foundation system to provide the complete thermal envelope.



SmartWall EWI Finish

EWI Insulation Thickness mm	SmartWall 190 U value W/m ² K	SmartWall 240 U Value W/m ² K	SmartWall 365 U Value W/m ² K
No Insulation	0.52 W/m ² K	0.42 W/m ² K	0.20 W/m ² K
60mm	0.26 W/m ² K	0.24 W/m ² K	0.14 W/m ² K
80mm	0.23 W/m ² K	0.20 W/m ² K	0.13 W/m ² K
100mm	0.20 W/m ² K	0.18 W/m ² K	0.12 W/m ² K
110mm	0.19 W/m ² K	0.17 W/m ² K	0.12 W/m ² K
120mm	0.18 W/m ² K	0.16 W/m ² K	0.11 W/m ² K
130mm	0.17 W/m ² K	0.16 W/m ² K	0.11 W/m ² K
140mm	0.16 W/m ² K	0.15 W/m ² K	0.11 W/m ² K
150mm	0.15 W/m ² K	0.14 W/m ² K	0.10 W/m ² K
160mm	0.14 W/m ² K	0.14 W/m ² K	0.10 W/m ² K
180mm	0.13 W/m ² K	0.13 W/m ² K	0.09 W/m ² K

SmartWall Insulated Render Finish

20mm	0.46 W/m ² K	0.38 W/m ² K	0.19 W/m ² K
30mm	0.42 W/m ² K	0.35 W/m ² K	0.18 W/m ² K
50mm	0.37 W/m ² K	0.32 W/m ² K	0.17 W/m ² K
70mm	0.33 W/m ² K	0.29 W/m ² K	0.16 W/m ² K
100mm	0.29 W/m ² K	0.26 W/m ² K	0.15 W/m ² K



Technology

Table of U values for external walls

Calculated values incl. 20mm exterior render + 15mm interior plaster*

Thermal conductivity $\lambda_r = W/(mK)$	Heat transfer coefficients (U values) in W/m ² K for a wall thickness of					
	190mm	240mm	300mm	365mm	425mm	490mm
0.07			0.22	0.18	0.16	0.14
0.75				0.19	0.16	0.14
0.08			0.25	0.21	0.18	0.16
0.09			0.28	0.23	0.20	0.17
0.10			0.30	0.25	0.22	0.19
0.11	0.49	0.41	0.33	0.28	0.24	0.21
0.12		0.43	0.36	0.30	0.26	0.23
0.13		0.47	0.38	0.32	0.28	0.25
0.14		0.50	0.41	0.34	0.30	0.26
0.16		0.55	0.46	0.39	0.34	0.30
0.18		0.63	0.52	0.44	0.38	0.34
0.21		0.71	0.59	0.50	0.44	0.39
0.24		0.80	0.66	0.56	0.49	0.44
0.27		0.87	0.73	0.62	0.55	0.48
0.33		1.02	0.86	0.73	0.65	0.57
0.39		1.15	0.98	0.84	0.74	0.66

* if plasterboard is being used, then a parging coat needs to be applied to the internal face of the external SmartWall block.



Certified for Environmental Product Declaration EPD EN 14025



Certified to the highest European standard

Institut Bauen und Umwelt e.V. promotes the production and use of environmentally friendly building products. We have been granted an ecological certificate from them. This was based on a positive overall rating of the products in an assessment of their environmental effects.

All of our Blocks are manufactured with a minimal amount of primary energy and the finished house saves heat energy through its outstanding insulating properties. The proven solid monolithic wall structures retain their value extremely well. Should demolition become necessary, the waste is sorted and returned to production where it will be used for building roads or resurfacing tennis courts.



JUWÖ Evolved SmartWall™ Monolithic Building Solutions Ancillary Items

Wall tiles for thin joint system

- SmartWall Wall & Movement ties
- Made from stainless steel these ties have been designed for use with the Thin Joint System
- Wall ties for cavities up to 100mm



L-200 Abutment Tie

For connecting perimeter walls to dividing walls. Can also be used for fixing back to steelwork and as a starter wall tie. Requires a fixing.



JJPW Connector Tie

For connecting perimeter walls to dividing walls providing course levels are the same height.



JJ-210, JJ-235, JJ-260 Cavity Wall Tie

For use when two skins of Thin Joint Blockwork are being built at the same time and the course heights are the same.



TMJ-200 Movement Tie

Movement Tie for use in Vertical Movement Joints. The tie is mortared into the joint, (no need for a slip joint). The excess material in the loop allows for expansion and contraction.



SMJ-200 Movement Tie

Movement Tie for fixing back to steelwork, existing masonry, wind posts etc. The tie is mortared into the joint, (no need for a slip joint) and fixed back to the steelwork etc. The excess material in the loop allows for expansion and contraction.

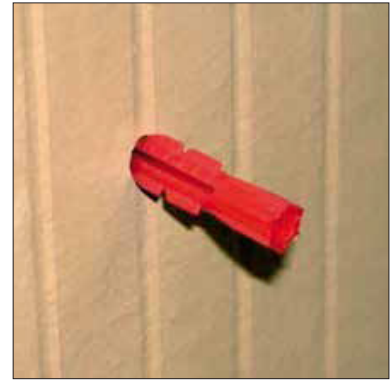
Drilling and anchorings in JUWÖ Evolved SmartWall™ masonry



Drill diameter approx. 1 mm smaller than anchor diameter. Switch off the hammer action - only rotary drilling is allowed



Tip: Use sharpened hard metal (e.g. steel) drill bits - they speed up drilling!



Drill the hole to a depth approx 10 mm greater than the anchor length to ensure that the driver can extend past the anchor tip



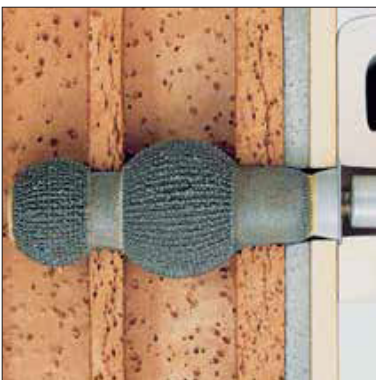
Clean the drill hole by blowing out, vacuuming or using a brush (drilling debris can affect the adhesion); only after this can you insert the anchor



Heed the specifications of the anchor manufacturer for screw gauge and length to ensure optimal hold!



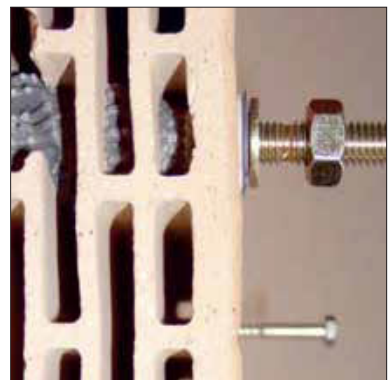
For common household fixtures, commercially available plastic anchors can be used



Special anchors and injection anchors are available for fixing sanitary facilities etc



For heavy loads, a secure hold can be provided, e.g. by injection anchors



Tip: Injection anchors should be used if inner webs have been broken due to improper drilling (e.g. using an impact drill). When ordering fixing products always ask for SmartWall suitable products

Cutting slots in JUWÖ Evolved SmartWall™ Block masonry

Heed the information given in DIN 1053-1: 11-1996 'Slots and openings in walls'! (See table below.)

The wall chaser ensures that the defined slot depth is achieved. Furthermore: Maintain as great as distance as possible to highly loaded masonry sections (e.g. under lintels), avoid cutting slots in narrow piers, cut horizontal slots max. 40cm above the floor or below the ceiling. See chart below.



Mark around the socket outlet and drill a round hole using a commercially available drill and dry diamond core drill bit



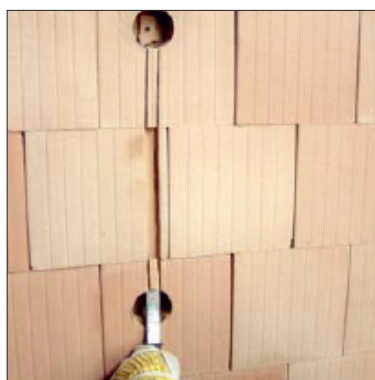
Remove any SmartWall Block remains and drilling debris – and insert the socket outlet



Special wall chaser with two diamond cutting blades and adjustable cut width and depth



Use the wall chaser to cut slots in the SmartWall Blocks



Open up pre-cut slots with hammer and chisel



Insert the electrical installation into the slot

Permissible slots and chases in load-bearing walls without verification

Wall thickness	Subsequently cut horizontal and diagonal slots ¹⁾		Subsequently cut vertical slots and openings			
	Slot Length		Slot depth ⁴⁾	Single slot width ⁵⁾	Distance between openings	Sum of slot width ⁵⁾
	Unrestricted ³⁾	1.25m ²⁾				
	Slot depth					
115	-	-	10	100	115	-
175	0	25	30	100		260
240	15	25	30	150		385
300	20	30	30	200		385
365	20	30	30	200		385

1) Horizontal and diagonal slots are only permissible in a region $\leq 0.4\text{m}$ above and below the slab as well as on one wall side each. They are not permissible for horizontally perforated clay blocks.

2) Minimum distance from openings in longitudinal direction: $\geq 490\text{mm}$, from the next horizontal slot: twice the slot length.

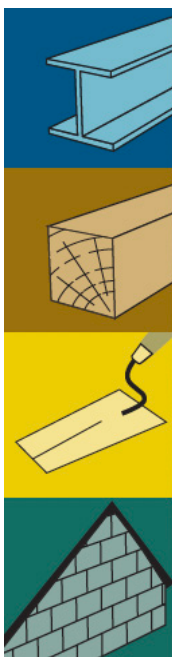
3) The depth can be increased by 10mm if tools with precise depth control are used. If such tools are used, slots 10mm in depth can be cut opposite each other on both sides of walls $\geq 240\text{mm}$.

4) Slots extending to max. 1m above the floor may have depths of max. 80mm and widths of max. 120mm for wall thicknesses $\geq 240\text{mm}$.

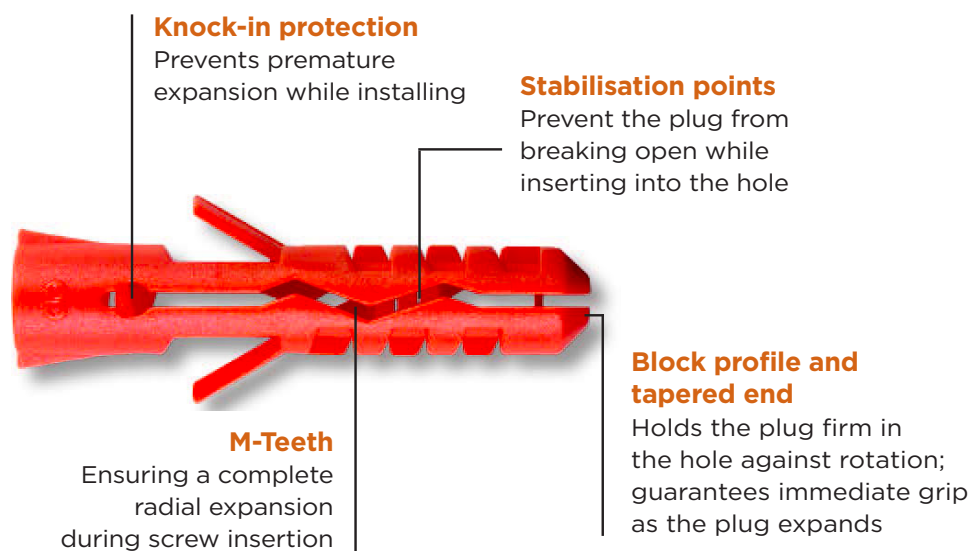
5) The total width of slots according to columns 5 and 7 must not exceed the dimensions given in column 7 per each 2m of wall length. For wall lengths of less than 2m, the values in column 7 should be decreased in proportion to the wall length.



JUWÖ Evolved SmartWall™ Monolithic Building Solutions - Fixings



MN Nylon Plug - for solid building materials



Features

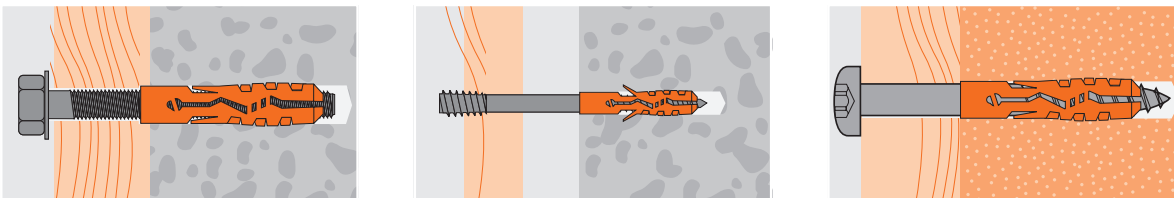
- Can be used with wood screws, chipboard screws and metric screws
- Suitable for use in most kinds of building materials, especially in solid building materials
- Made from high-quality polyamide PA6
- Pre installation or through fixing
- Indoor and outdoor applications





Applications

Pictures, lamps, holders, profiles, substructures, electric switches and rails

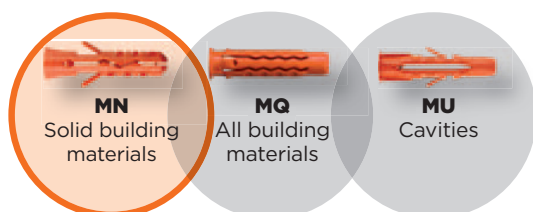
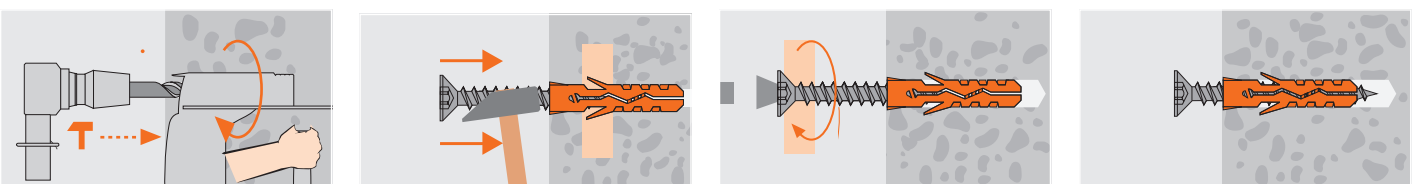


Technical Data

	Concrete C20/25 tension load (kN) Brick	Brick tension load (kN)	Lightweight Concrete tension load (kN)
MN 4	0.25	0.1	0.02
MN 5	0.35	0.2	0.04
MN 6	0.6	0.4	0.06
MN 7	0.7	0.55	0.07
MN 8	0.85	0.6	0.09
MN 10	1.4	0.8	0.2
MN 12	1.8	1.0	0.4
MN 14	2.6	1.3	0.5
MN 15	2.9	1.5	0.6
MN 16	3.2	1.7	0.6
MN 20	5.2	1.9	1.0

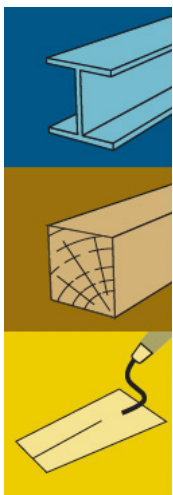
Reached with max. diameter wood screw / Safety factor of 5 is included / 1 kN ≈ 100 kg

Installation





JUWÖ Evolved SmartWall™ MQ Quattro® Nylon Plug - Universal use



Rotation resistance

Stops the plug rotating
in the drill hole



Knock-in protection

Prevents premature
expansion while installing



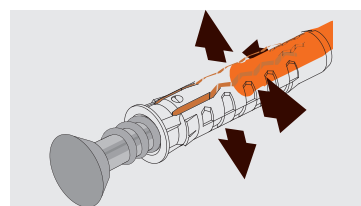
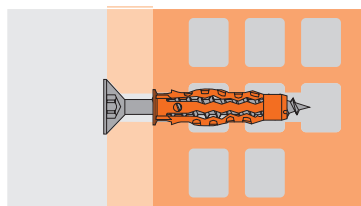
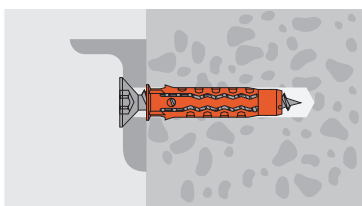
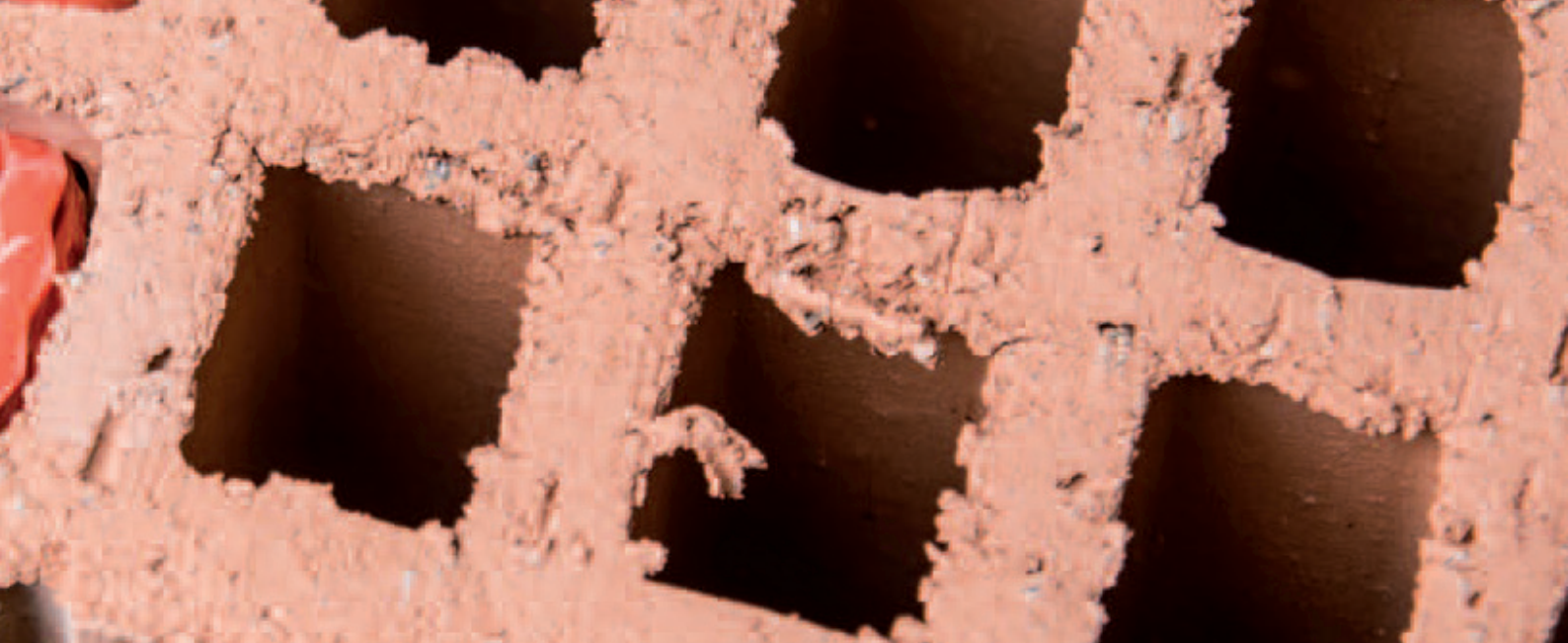
Features

- For use in all kinds of building materials
- Collar prevents the plug from being pushed into deeper holes
- Reduced installation time; special plug geometry allows ease of entry into the drill hole
- Made from high-quality polyamide PA6
- Pre installation
- Indoor and outdoor applications
- Highest possible retaining values in the lower and middle load area; particularly suitable for applications with chipboard screws



Applications

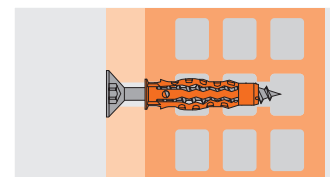
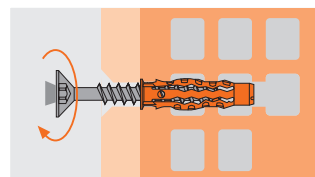
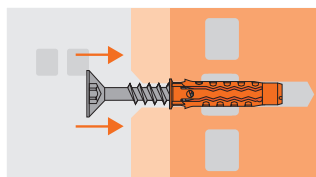
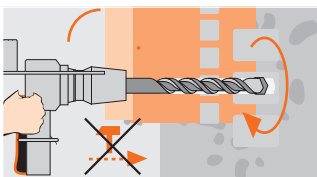
Pictures, lamps, holders, profiles, substructures, electric switches and rails



	Concrete C20/25 tension load (kN)	Brick tension load (kN)	Aerated Concrete tension load (kN)	Sandstone tension load (kN)	Perforated Brick tension load (kN)
MQ 5	0.45	0.45	0.12	0.45	¹⁾ 0.15
MQ 6	1.10	0.90	0.12	0.70	¹⁾ 0.20
MQ 8	1.2	1.00	0.19	1.00	¹⁾ 0.40
MQ 10	1.9	1.10	0.30	1.80	¹⁾ 0.45
MQ 12	2.7	1.50	0.40	2.10	0.50
MQ14	3.0	1.80	0.55	2.30	0.60

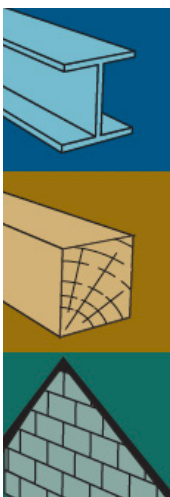
Reached with max. diameter wood screw / Safety factor of 5 is included / 1 kN ≈ 100 kg / 1) Chipboard screw

Installation



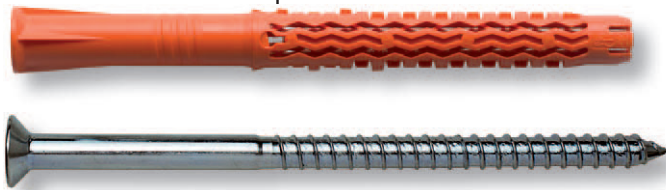


JUWÖ Evolved SmartWall™ MQL Universal Nylon Frame Plug



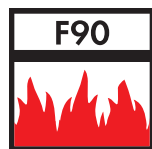
Knock-in Protection

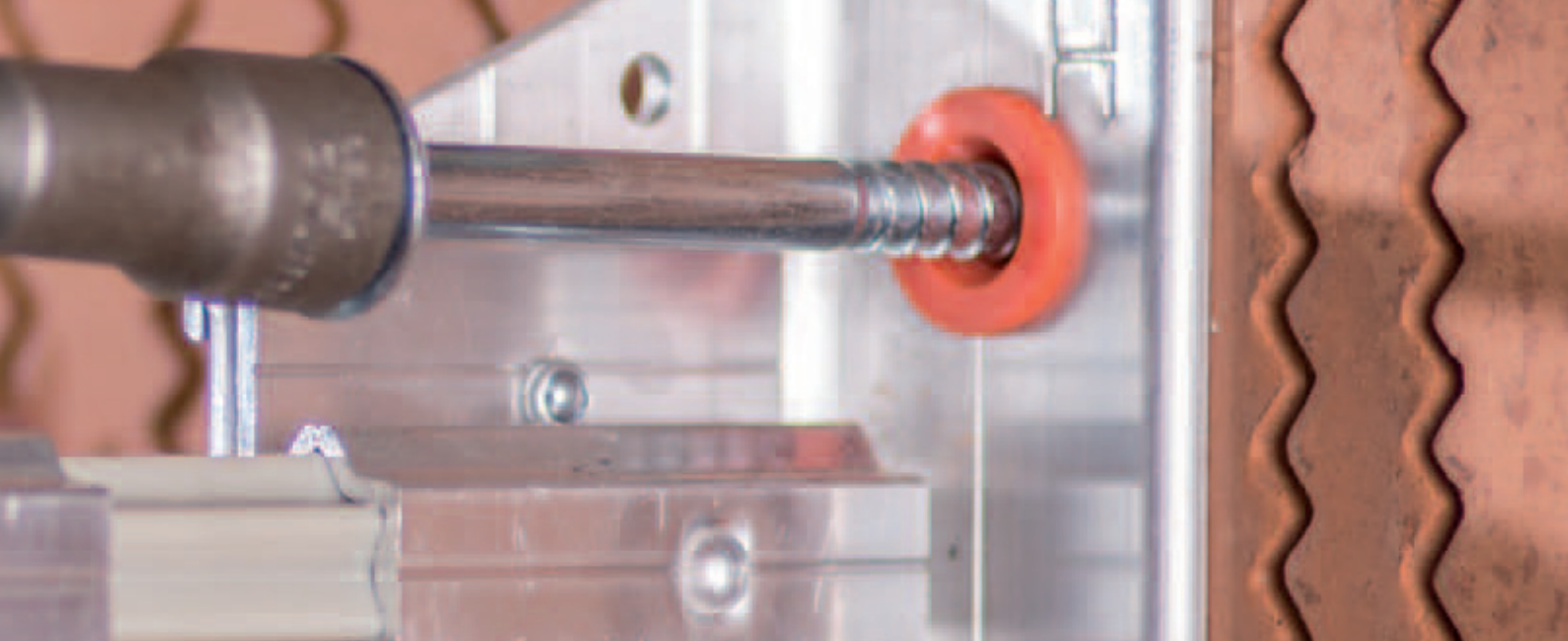
Prevents premature expansion while installing



Features

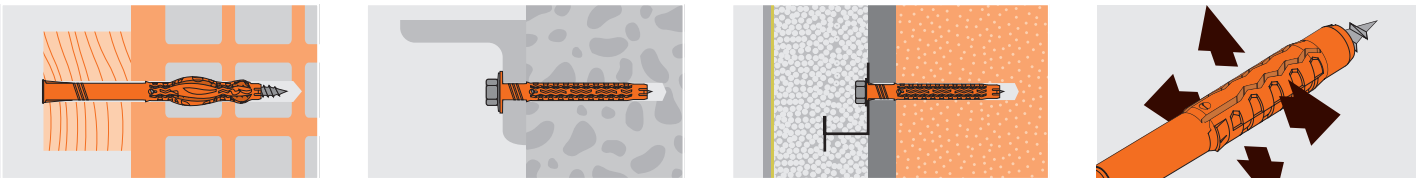
- ETAG 020 - Approved for multiple use in concrete and masonry for non-structural applications
- Fire resistance test certification F90 for fastening of façade systems
- Universal use
- 3-times rotation resistance; stops the plug rotating in the drill hole (especially in softer materials)
- Setting depth of 70mm results in higher loadings
- Knot forming leads to high resistance in cavities
- Longer plugs with reinforced shank
- Made from high-quality polyamide PA6
- Through fixing
- Indoor (zinc plated) and outdoor (stainless steel) applications





Applications

Façade and roof substructures, ventilated façades, fixing for insulation, substructures, profiles



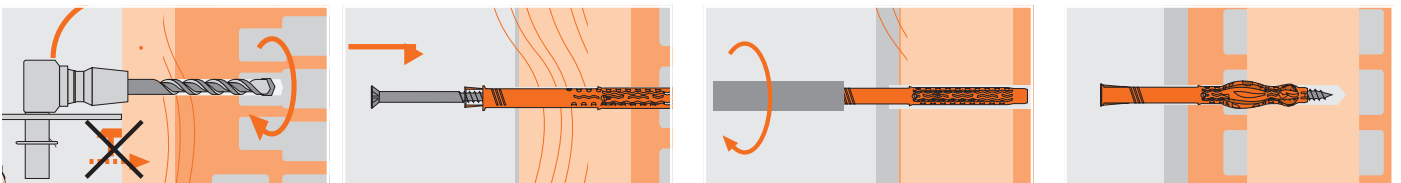
Quattro® Technology Increased load capacity due to 4 expansion zones

Technical Data









	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete tension load (kN)	Brick tension load (kN)	Sandstone tension load (kN)	Perforated Brick tension load (kN)	Perforated Brick tension load (kN)	Lightweight Concrete tension load (kN)	Aerated Concrete tension load (kN)	Bending moment (Nm) galv. steel	Bending moment (Nm) stainless steel
MQL 8	^{1) 6)} 1.8	-	-	-	^{2) 6)} 0.9	-	^{2) 6)} 0.3	^{2) 6)} 0.4	-	-
MQL 10	^{1) 6)} 2.0	⁵⁾ 1.0	⁵⁾ 0.9	⁵⁾ 0.7	^{2) 6)} 1.2	⁵⁾ 0.6	^{2) 6)} 0.4	^{2) 6)} 0.5	⁵⁾ 9.2	⁵⁾ 8.6

Values only valid when using Mungo safety screws/1 kN ≈ 100kg /1) Safety factor of 3 is included/2) Safety factor of 3.5 is included/5) ETA/6) Mungo lab tested

Installation

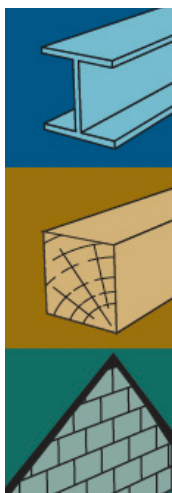


Available

Diameter	Useable length	Head/Material/Diameter					
		 Zinc plated Stainless steel A4		 Zinc plated Stainless steel A4		 Zinc plated Stainless steel A4	
					-		
Ø 8-10 mm	10 - 230 mm	Ø 8 -10 mm	Ø 8 -10 mm	Ø 10 mm	-	Ø 10 mm	Ø 10 mm



JUWÖ Evolved SmartWall™ MB Nylon Frame Plug for softer materials

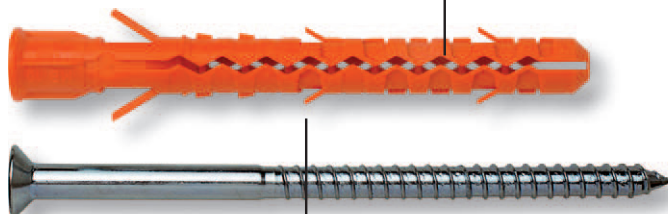


Knock-in Protection

Prevents premature expansion while installing

Expansion zone

MB with extended expansion zone for optimum applications in low density materials and hollow brick



Wings

Stop the plug rotating in the drill hole

Features

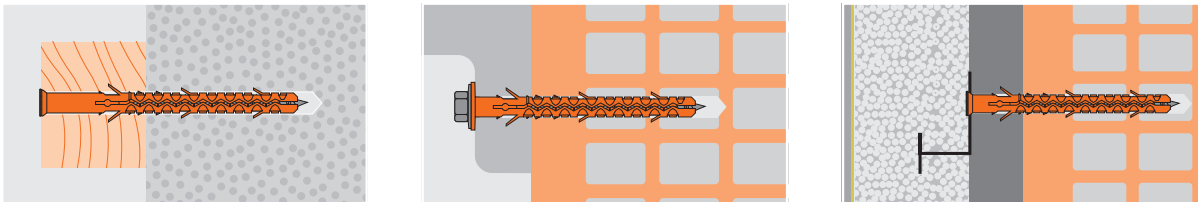
- Nylon Frame Plug with German national approval (DIBT)
- Fire resistance test certification F90 for fastening of façade systems
- Approved and suitable for applications in perforated brick, masonry and aerated concrete
- Aerated Concrete: Drill- Ø 9mm, setting depth 90mm
- Plug made from high-quality polyamide PA6
- Through fixing
- Indoor (zinc plated) and outdoor (stainless steel) applications





Applications

Façade fixings, profiles, substructures, frames

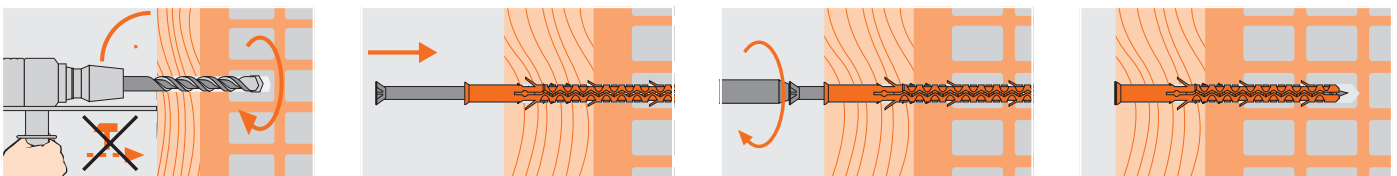


Technical Data

	Perforated Brick app. load (kN)	Lightweight Concrete app. load (kN)	Aerated Concrete app. load (kN)	Bending moment (Nm) galv. steel Fz = 0 kN	Bending moment (Nm) galv. steel Fz = 0.6 kN	Bending moment (Nm) stainl. steel Fz = 0 kN	Bending moment (Nm) stainl. steel Fz = 0.6 kN
MB 8	0.4	0.15	-	3.4	3.1	3.2	2.9
MB 10	0.8	0.25	0.3	11.1	10.6	10.4	9.9

Important: without hammer drilling in perforated brick and lightweight concrete / Values only valid when using Mungo safety screws/
Safety factor of 5 is included / 1 kN ≈ 100 kg / Fz = existing central traction/Approved loads: Tension, shear and combined loads
according to approval Z-21.2-177

Installation

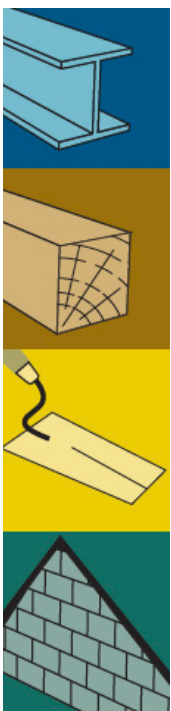


Available

Diameter	Useable length	Head/Material/Diameter							
		Zinc plated Stainl. steel A4		Zinc plated Stainl. steel A4		Zinc plated Stainl. steel A4		Zinc plated Stainl. steel A4	
							-		
Ø 8-10 mm	10 - 230 mm	Ø 8 -10 mm	Ø 8 -10 mm	Ø 10 mm	Ø 10 mm	Ø 8 -10 mm	-	Ø 10 mm	Ø 10 mm



JUWÖ Evolved SmartWall™ MIT-SP Polyester mortar, styrene free



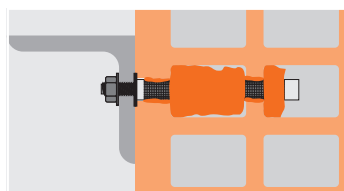
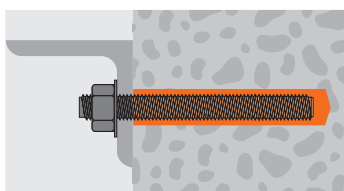
Features

- European Technical Approval according to ETAG 029 for use in masonry
- LEED - Test Report
- Suitable for assemblies in perforated brick with sleeve
- Low odour
- Colour of mortar: grey
- Indoor (zinc plated) and outdoor (stainless steel) applications
- European Technical Approval Option 7 for non-cracked concrete with anchor rod and with rebar used as anchor
- VOC free according to Swiss legislation and certified A+ according to DEVL 1101903D/DEVL 1104875A



Applications

Light steel constructions, frames, gates, light duty applications

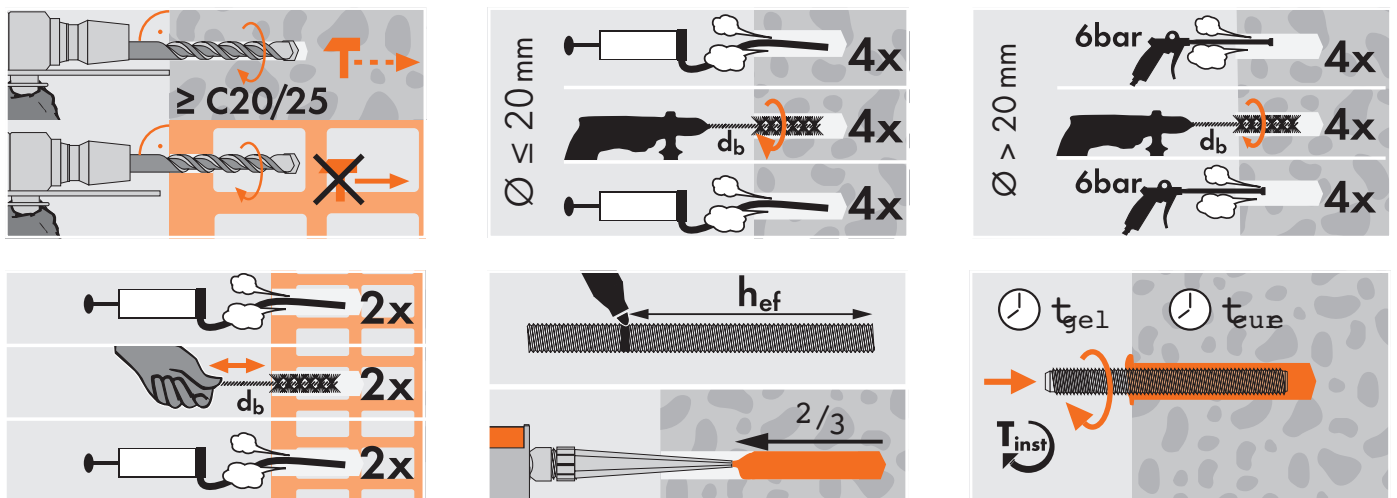




Temperatures

	-5±0°C	-5±0°C	5±10°C	10±20°C	20±30°C	30±35°C	>35°C
Working time, in minutes (Min.) t_{gel}	90	45	25	15	6	4	2
Curing time, in minutes (Min.) t_{gel}	6h	3h	2h	80	45	25	20

Installation



Available

300ml	350ml	400ml	Also in systainer 300ml

MIT Accessories

MIT-PP-H Manual Injection Gun



Easy-Press

- Easy and smooth grout injection
- Effortless application
- Automatic release
- Ergonomic, lightweight and robust
- Comfortable grip even when wearing gloves

Applications

Sporadic and frequent applications

MIT-PP-A Cordless Injection Gun



Easy-Press

- Effortless injecting even at low temperatures or deep anchor holes
- Automatic pressure release to avoid chemical material dropping out
- Lithium ion battery 10.8 V/1.5 Ah lasts up to 35 cartridges
- Recharges in 30 minutes

Applications

Frequent and repetitive applications

MIT-PP-P Pneumatic Injection Gun



Easy-Press

- For increased productivity on large sites
- Effortless application
- Lightweight and easy to use
- Automatic release
- Low air consumption

Applications

Repetitive applications

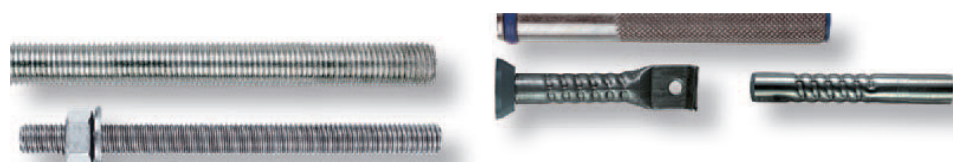
MIT-R Accessories for cleaning drill holes



MIT-V Accessories for filling drill holes



MIT-GS Threaded rod, Anchor rod, Anchor Sleeve with internal thread





Gypsum Contact Primer

Primer for gypsum and lime-gypsum plasters

Liquid bonding bridge containing red pigment. Bonds plasters that contain gypsum onto smooth and slightly absorbent substrates. With fillers containing quartz, for a surface-expanding effect. Ready-to-use and solvent free.

Properties

- Only for plasters that contain gypsum
- Excellent bonding
- Red pigment throughout
- Solvent
- Ready for use
- Only for indoor use

Area of Application/Subsurfaces

For pretreating smooth, impermeable or slightly absorbent substrates before applying products containing gypsum.

These surfaces include concrete surfaces made of in gypsum plasterboard etc. The residual moisture content of concrete surfaces must be no more than 3 % by mass.

Subsurfaces must have cured completely and be dry, load-bearing, clean and free of any adhesion inhibiting residues.

NOTE: Even when the Gypsum Contact has been applied correctly and when applied on concrete substrates that ave a residual moisture content of less than 3% by mass, shear stresses may still develop due to shrinkage of the concrete. This can result in plaster coming loose from ceilings and walls, even after a considerable period of time.



GMP-L Gypsum machine One Coat applied lightweight plaster

Gypsum machine-applied lightweight plaster

B4/50/2 in accordance with DIN EN 13279-1

- Particularly high yield

Types of use

- Single-layer smoothing and base plaster for all indoor, load-bearing subsurfaces
- On small areas it can also be applied manually
- Not suitable for wet rooms or garages
- Suitable for domestic kitchens and bathrooms

Properties

- Very high yield
- Mineral
- Quick and easy processing
- Behaviour in fire: A1 - non-flammable
- Practically shrink-free hardening
- Ideal base for painting and wall-papering



Gypsum Hand-Applied Lightweight Plaster

GHP-R Gypsum base coat hand applied plaster

Item type: Adhesive plaster

Grit: up to 0.8 mm

Container size: 20 kg

Processing: Hand processing

Use: Inside

Consumption: approx. 7.6 kg / m² per 10 mm plaster thickness



KGP-PF Lime-Gypsum hand applied finish

Thin layer plaster for flat substrates

- for flat substrates indoors -
- for reworking plaster surfaces -
- suitable for kitchens and bathrooms in the home -
- not suitable for wet rooms, splash water areas or garages

Grit: up to 1 mm

Container size: 20 kg

Processing: Hand processing, machine processing

Use: Inside

Consumption: approx. 5.7 kg / m² per 5 mm of plaster thickness





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www.evolvedsupplies.co.uk