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MANUFACTURER
OF
QUALITY CONCRETE MASONRY

BRICKS

BLOCKS

RETAINING WALL BLOCKS



CONTACT INFORMATION

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CAPE BRICK
Cnr Old Lansdowne Rd & Weltevreden Rd, Duinefontein Road, Philippi, Cape Town, 7781.
tel. (021) 690 2020

- Directions from Cape Town:
- Follow the N2 out of Cape Town towards Cape Town International Airport
 - Before the airport turnoff, Take exit 15 (M10) and turn right onto Duinefontein Road
 - Follow Duinefontein Road passing underneath the Jakes Gerwel / M7 bridge and continue into Weltevreden Road
 - Cape Brick is located on your right hand side 100m past the bridge

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BUILDING A BETTER ENVIRONMENT

HOW DO YOU BUILD A BETTER ENVIRONMENT?

A better environment can only be created through the promotion of sustainable development. This means specifying and using building products that are energy efficient.

WHEN IS A MASONRY PRODUCT ENERGY EFFICIENT?

There are two requirements to an energy efficient masonry product. The first is that the product should have good thermal insulation properties. Concrete masonry is naturally thermally efficient, and when used in cavity wall construction has the effect of ensuring that buildings stay warm in winter and cool in summer, thereby lessening the need for artificial climate control and wasted energy. The second requirement is that the product should have a low embodied energy.

WHAT IS EMBODIED ENERGY?

This is the energy consumed in the manufacture and transportation of construction materials to site. To manufacture a masonry product with a low embodied energy the raw materials should be sourced as close as possible to the manufacturing plant and should contain as much recycled material as possible, the manufacturing process should use as little energy as possible, and the manufacturing plant should be as close as possible to the site to reduce the transport energy component.

WHAT MAKES OUR PRODUCTS ENVIRONMENTALLY FRIENDLY?

Cape Brick promotes sustainable development through the manufacture and supply of the most energy efficient and lowest embodied energy masonry available in the market. Up to 60% of our raw material (sand/stone) aggregates are recycled. In fact we recycle in excess of 75,000 tons of reinforced concrete annually. We substitute 15% of our cement with a slag & fly ash replacement to reduce our overall cement content. All our products are fully recyclable.

WHERE DOES RECYCLING FIT IN?

The use of recycled materials is crucial to lowering the embodied energy of masonry products.

WHY CHOOSE CAPE BRICK?

Our company vision and our promise to our customers, backed up by over 75 years of industry experience, means we take care of your masonry needs completely.

Our vision is to be South Africa's premier concrete brick & block manufacturer, trusted and recognised for offering the most environmentally friendly products, the best quality, best service, and best overall value

UNDERWRITTEN BY THE CAPE BRICK PROMISE

- The complete satisfaction of our customers will be our primary performance indicator (measure of success)
- Providing the most appealing, compelling and environmentally friendly product & service value proposition in our sector
- Never sacrificing quality in the pursuit of lower prices — we will achieve competitiveness through innovation and automation
- Being a people-centred business with friendly, motivated, knowledgeable and empowered professionals, who share in our success
- Investing in leading edge systems & processes and applying industry best practises across all facets of our business
- Earning the trust of our staff, clients, suppliers, peers and competitors — every day



watch our short recycling video...www.capebrick.co.za



WHO IS CAPE BRICK?

Established in 1938, we are the longest running manufacturer of quality concrete masonry in operation in Cape Town. With over 75 years of industry experience and a proven track record, we are the preferred masonry supplier to many of Cape Town's leading developers and construction companies. We have two factories, located in Philippi and Blackheath, which allow us to effectively service all surrounding areas.

Our product range includes bricks, hollow maxis, solid maxis, blocks, retaining wall blocks and decking blocks. With a commitment to customer service and the highest quality products, you can rest assured that we will take care of all your masonry needs completely.

OUR CUSTOMERS ARE THE REASON FOR OUR EXISTENCE:

"They are my 1st choice because they set the standards for the industry and always strive for new & better ways to meet my needs. Nothing is ever too-much-trouble and they go the extra mile to resolve any issues that may arise. They are smart, friendly, highly efficient, very easy to deal with and the 'Cape Brick Promise', underwrites their quality & value proposition, so I sleep easy. Oh, and by the way, I love their passion and I feel good about using their products - because they put their money where their mouth is when it comes to being genuinely "Green".



IMPERIAL BRICK

PRODUCT CODE:	IMPVB4PLASTER
DIMENSIONS (LxWxH):	220mm X 106mm X 72mm
COMPRESSIVE STRENGTH:	14 Mpa (NFX)
MOISTURE ABSORPTION:	4%
MASS:	3.40 Kg
NO / M ² (SINGLE SKIN):	55



HOLLOW MAXI 7MPA

PRODUCT CODE:	HOLLOWMAXI7MPA
DIMENSIONS (LxWxH):	220mm X 90mm X 115mm
CORE DIAMETER:	47mm
COMPRESSIVE STRENGTH:	7 Mpa (NFP)
MASS:	3.40 Kg
NO / M ² (SINGLE SKIN):	35



HOLLOW MAXI 14MPA

PRODUCT CODE:	HOLLOW MAXI 14MPA
DIMENSIONS (LxWxH):	220mm X 90mm X 115mm
CORE DIAMETER:	38mm
COMPRESSIVE STRENGTH:	14 Mpa (NFX)
MASS:	3.90 Kg
NO / M ² (SINGLE SKIN):	35



SOLID MAXI 14MPA

PRODUCT CODE:	SOLID MAXI 14MPA
DIMENSIONS (LxWxH):	220mm X 90mm X 115mm
COMPRESSIVE STRENGTH:	14 Mpa (NFX)
MASS:	4.50 Kg
NO / M ² (SINGLE SKIN):	35



MA190 (2 CORE BLOCK) SANDSTONE

PRODUCT CODE:	MA190S
DIMENSIONS (LxWxH):	390mm X 190mm X 190mm
COMPRESSIVE STRENGTH:	7 Mpa
MASS:	16.00 Kg
NO / M ² (SINGLE SKIN):	12.5



MA190 (2 CORE BLOCK)

PRODUCT CODE:	MA190
DIMENSIONS (LxWxH):	390mm X 190mm X 190mm
COMPRESSIVE STRENGTH:	7 Mpa
MASS:	16.00 Kg
NO / M ² (SINGLE SKIN):	12.5



MA140 (2 CORE BLOCK)

PRODUCT CODE:	MA140
DIMENSIONS (LxWxH):	390mm X 140mm X 190mm
COMPRESSIVE STRENGTH:	7 Mpa
MASS:	13.50 Kg
NO / M ² (SINGLE SKIN):	12.5



MA90 (OVAL 3 CORE BLOCK)

PRODUCT CODE:	MA90
DIMENSIONS (LxWxH):	390mm X 90mm X 190mm
COMPRESSIVE STRENGTH:	7 Mpa
MASS:	10.50 Kg
NO / M ² (SINGLE SKIN):	12.5





MA140 (U BLOCK)

PRODUCT CODE: M140-U BLOCK
 DIMENSIONS (LxWxH): 190mm x 140mm x 190mm
 COMPRESSIVE STRENGTH: 3.5Mpa
 MASS: 6.50Kg
 NO / Linear M: 5
 NO / PALLET: 246

MA140 (SPLITTER BLOCK)

PRODUCT CODE: M140-SPLITTER BLOCK
 DIMENSIONS (LxWxH): 390mm X 140mm X 190mm
 COMPRESSIVE STRENGTH: 7 Mpa
 MASS: 13.50 Kg
 NO / M² (SINGLE SKIN): 12.5

Splitter blocks with a precast splitting groove, which allows easy splitting for half module requirements, are automatically included in every stack of blocks we supply.

MA190 (SPLITTER BLOCK)

PRODUCT CODE: M190-SPLITTER BLOCK
 DIMENSIONS (LxWxH): 390mm X 190mm X 190mm
 COMPRESSIVE STRENGTH: 7 Mpa
 MASS: 16.00 Kg
 NO / M² (SINGLE SKIN): 12.5

Splitter blocks with a precast splitting groove, which allows easy splitting for half module requirements, are automatically included in every stack of blocks we supply.



RETAINER WALL BLOCK R12 SANDSTONE

PRODUCT CODE:	RETAINERWALLRFS
DIMENSIONS (LxWxH):	380mm X 320mm X 220mm
COMPRESSIVE STRENGTH:	14 Mpa (Net area)
MASS:	28.00 Kg
NO / M ² :	12
INFILL VOLUME:	0.0132 (m ³)
WALL MASS:	561 (Kg/m ²)
FRICTION COEFFICIENT:	0.688992 (μ)

RETAINER WALL BLOCK R12 GREY

PRODUCT CODE:	RETAINERWALLRFG
DIMENSIONS (LxWxH):	380mm X 320mm X 220mm
COMPRESSIVE STRENGTH:	14 Mpa (Net area)
MASS:	28.00 Kg
NO / M ² :	12
INFILL VOLUME:	0.0132 (m ³)
WALL MASS:	561 (Kg/m ²)
FRICTION COEFFICIENT:	0.688992 (μ)

RETAINER WALL BLOCK S12 SANDSTONE

PRODUCT CODE:	RETAINERWALL
DIMENSIONS (LxWxH):	380mm X 320mm X 220mm
COMPRESSIVE STRENGTH:	14 Mpa (Net area)
MASS:	27.00 Kg
NO / M ² :	12
INFILL VOLUME:	0.0132 (m ³)
WALL MASS:	549 (Kg/m ²)
FRICTION COEFFICIENT:	0.737324 (μ)

RETAINER WALL BLOCK V12 SANDSTONE

PRODUCT CODE:	RETAINERWALLV12
DIMENSIONS (LxWxH):	380mm X 320mm X 220mm
COMPRESSIVE STRENGTH:	14 Mpa (Net area)
MASS:	22.00 Kg
NO / M ² :	12
INFILL VOLUME:	0.0095 (m ³)
WALL MASS:	428 (Kg/m ²)
FRICTION COEFFICIENT:	0.698587 (μ)



RETAINER WALL BLOCK VR18 GREY

PRODUCT CODE:

RETAINVR18G

DIMENSIONS (LxWxH):
 COMPRESSION STRENGTH:
 MASS:
 WALL MASS:
 NO / M²:
 INFILL VOLUME:

(G-Grey)
 290mm X 190mm X 190mm
 14 Mpa (Net area)
 13.75 Kg
 330 (kg/m²)
 18.00
 0.0033(m³)



RETAINER WALL BLOCK VR18 SANDSTONE

PRODUCT CODE:

RETAINVR18S

DIMENSIONS (LxWxH):
 COMPRESSION STRENGTH:
 MASS:
 WALL MASS:
 NO / M²:
 INFILL VOLUME:

(S - Sandstone)
 290mm X 190mm X 190mm
 14 Mpa (Net area)
 13.75 Kg
 330 (kg/m²)
 18.00
 0.0033(m³)



DECKBLOCK 140

PRODUCT CODE:
 DIMENSIONS (LxWxH):
 MASS:
 NO / M²:

DECKBLOCK
 395mm X 200mm X 148mm
 12.50 Kg
 10.00



WHY USE CONCRETE MASONRY?

Modern concrete masonry has evolved into a functional and aesthetically pleasing building material that gives the professional design team the artistic flexibility to create single and multi-story structures. Several outstanding examples include residences, office buildings, warehouses, boundary walling, manufacturing facilities, learning Institutions, hospitals, municipal buildings and several more applications. Most recently, in a first for SA, the Langa multi-storey high-rise loadbearing rental units are a fine example of what can be achieved. Since the late 1970's, concrete masonry has become the preference for masonry applications in South Africa.

In many leading countries, such as the USA, Australia, New Zealand, Canada and Australia, professionals are 60 years ahead of South Africa in terms of loadbearing block masonry applications. The leading example of this is the 29 story hotel complex in Las Vegas, designed and built as a loadbearing, high rise masonry structure. This example demonstrated the possibilities of innovation with precast concrete masonry applications.



WHAT ARE THE BENEFITS OF CONCRETE MASONRY?

Diverse range of strength offerings to suit structural and non-structural applications

The ability to offer suitable, cost effective solutions for any design requirement. There is no need to over-specify or add unnecessary costs to the design since we can offer the appropriate specification as required by the design. Design efficiency allows for cost savings in structural materials which can then be utilized for enhanced aesthetic features.

Versatility

Concrete masonry is probably the most versatile masonry product available. It offers the designer a rich variety of dimensions and aspect ratios. For facing (non-plastered) units there is a choice of texture and colour to offer enhanced architectural design options.

Energy efficiency

Concrete masonry is naturally energy efficient, the secret being in its mass. The thermal mass of concrete slows down the passage of heat moving through a wall and allows the masonry structure to absorb heat instead of passing it through to the inside of the building, keeping the inside cool. As the wall is cooled by nightfall, the absorbed heat is released, gradually warming the inside. Likewise, this thermal barrier helps to keep a concrete masonry structure warmer in the winter months. This effect of ensuring that buildings stay warm in winter and cool in summer lessens the need for artificial climate control and therefore wasted energy. From manufacture to transport to construction, concrete masonry is modest in its energy needs and generous in its payback.

Environmentally friendly

The use of concrete masonry also benefits the environment and promotes sustainable building practice. Not only is our high quality concrete masonry fully recyclable, but we also use recycled high quality crushed aggregate, from demolished reinforced concrete structures, in the manufacture of our products. This has major advantages in terms of lessening environmental impact and gives rise to a truly green building product. Concrete masonry manufactured using recycled crushed aggregate (RCA) has possibly the lowest embodied energy of any masonry product available in the Western Cape today. An independent study by the University of Witwatersrand, demonstrated that Cape Brick concrete products contained roughly ¼ of the embodied energy of comparative clay bricks and ½ the embodied energy of comparative concrete bricks.

Cost Effective

Typically, the purchase price of concrete masonry is 10%-15% cheaper per 1000 units than clay masonry. Added to this, the per square meter cost of larger masonry units (blocks) offers significant additional savings in mortar and labour costs.



Dimensional Accuracy

Concrete masonry is dimensionally accurate unlike most ROK (Run of Kiln) clay masonry products. This means contractors can work to line on both wall sides, reducing waste, improving plaster efficiency, gaining cost savings and achieving a greater final quality wall finish.

Acoustic insulation

Concrete masonry is a highly suitable material for attenuating noise as it is extremely dense, which reduces the transmission of airborne sound. Resistance to sound transmission increases with wall thickness and mass.

Control Joint Spacing

Walling of whatever type is subject to some degree of movement. Clay masonry expands over a long period of time whereas concrete masonry contracts. Both masonry types are equally subject to movement and require control joints to manage this movement. Cape Brick, using the most technically advanced curing system, ensures only properly cured products are supplied, meaning that in terms of international standards, no bed joint reinforcement is required in wall lengths of up to 8 meters or as specified. Mortar quality and correct application of the designed control joints (see the separate page on control joints) is critical in ensuring the final wall quality.

Fire resistance

Concrete masonry is fire resistant and meets the National Building regulations.

Availability Throughout the year

The winter rainfall is a much lamented fact of building in the Western Cape, and often leads to a shortage of clay masonry products. Cape Brick, due to our manufacturing and curing process, is not impacted by the weather and our products are readily available.

Durability

Concrete masonry is a durable material, proven to withstand the intended lifecycle of designed structures.



Due to our advanced curing process and our use of slag, our products are highly durable and designed to withstand the most aggressive environmental conditions. Our extremely low water absorption characteristics (around 4% compared to typical clay bricks which are 10%-12%) ensure resistance to salt attack and other chemical ingress which could compromise lesser quality masonry.

MOST COMMON MYTHS SURROUNDING CONCRETE MASONRY?

Concrete bricks are not as strong as clay bricks...MYTH

All the structural elements of a building, from the foundations to the lintels and slab, are made of concrete. The bricks are even glued together with concrete. So why would you consider concrete to be in any way unsuitable or not strong enough for the masonry? Both clay and concrete bricks are made to a strength specification. A 14MPa (compressive strength) concrete brick is exactly the same strength as a 14MPa clay brick. One is not stronger than the other. There is a comprehensive range of strength specifications from 3.5MPa up to 21MPa engineering grade bricks available.

Concrete bricks cause cracking...MYTH

Poor quality masonry and workmanship, the incorrect specification and application of Brickforce, as well as inadequate mortar mixes (i.e. leaving out builders lime), are the most common reasons for cracking in walls and are largely responsible for the existence of this myth. Normal settlement of the structure, including the foundations, can cause settlement cracks. These factors would apply to all forms of masonry, including both clay and concrete, which are subject to the same stresses.

Concrete bricks allow moisture penetration... MYTH

Water penetration of a wall occurs through fine cracks at the interface between the masonry unit and the mortar joint, and only very rarely through the masonry unit itself. The greater the bond between the mortar and masonry, the greater the resistance to leakage. Large scale tests have shown that lime mortar has a 60% higher bonding strength than non-lime mortar provided that jointing of the wall has been done. Cape Brick masonry units have very low (4%) moisture absorption properties.

Buildings built with concrete bricks are cold... MYTH

This is a wide spread perception caused by the fact that concrete masonry is gray (perceived to be cold) and clay masonry products are red (perceived to be warm). The truth could not be further misrepresented. Due to its density, concrete masonry has excellent thermal insulation properties. The thermal mass of concrete slows down the passage of heat moving through a wall and allows the masonry structure to absorb the heat, keeping the inside cool during the warm day cycle and then allowing the heat to gradually transfer through to the inside during the cool night cycle, keeping the building warm during the night.

Concrete bricks are only for low cost housing...MYTH

Concrete masonry was started on the back of large low cost housing developments in South Africa. Combined with the fact that concrete masonry is more cost effective (cheaper) than clay masonry, a myth was created that "cheap" concrete masonry was only used for low cost housing whereas more expensive clay masonry was regarded as superior. Over time the truth and perceptual change is that concrete masonry is now the preferred choice for structural load bearing buildings around the world, providing a more cost effective and durable building system. Some of the most expensive and luxurious private residences in South Africa and the world are built from concrete masonry.



THE IMPORTANCE AND BENEFITS OF USING SLAKED LIME IN MORTAR AND PLASTER MIXES

What is Lime?

Lime is made by burning Calcium Carbonate to form Calcium Oxide and then water is added to the oxide which rapidly converts to Calcium Hydroxide (slaked lime), a very fine white powder.

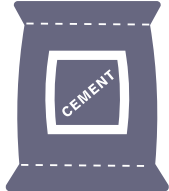


How does it help us?

Lime has been used in conjunction with cement in mortar mixes for many years. Although it has nowadays often been replaced by chemical admixtures, it has many benefits, which if properly understood, would result in it being used. We cannot emphasise its importance enough.

- **PLASTICISER.** The extremely fine lime particles fill the voids between the larger sand particles of the mix and retain the moisture between the grains. This makes the mortar mix workable and buttery. The mortar clings to the trowel and edges of the bricks and doesn't fall off. This results in less mortar waste
- **BOND STRENGTH.** Lime mortar has a 60% greater bonding strength to sand cement only mortars. This helps to reduce moisture penetration through the mortar as well as prevent mortar waste occurring when mortar falls off masonry, causing waste. Typically builders use up to 3 times the amount of mortar originally estimated as a result of waste.
- **EVEN CURING.** The fine particles of the lime retain moisture in the mix resulting in the continued curing of the cement, which requires water to cure. Mortars often dry out too quickly resulting in low strength mortars and increased mortar waste.
- **SLOW CURING.** The slight alkalinity of the lime retards the setting of the cement allowing the mortar to remain malleable and take up slight movements of the brickwork without cracking. This means that less dried out mortar is wasted from each batch produced.
- **SELF SEALING.** All brick work (clay and concrete) moves continually as a result of changes in temperature and moisture as well as ground conditions. Eventually the mortar bond between the bricks may fail leaving hairline cracks. Over time the lime component of the mortar will convert to Calcium Carbonate and fill the hair line fracture.
- **MOISTURE RESISTANCE.** The denser mix created by the presence of fine lime particles helps resist the entry of moisture through the mortar. Moisture almost always penetrates through mortar joints and not through the bricks themselves.

In summary, almost all of the problems experienced with cracking can be avoided by using a lime mortar and plaster. Whilst upfront it may appear to add to the cost of the mortar and plaster mix, the overall savings as a result of less waste, better quality finish and elimination of cracking and moisture penetration more than outweighs the upfront cost.

RECOMMENDED MORTAR MIX

CEMENT	LIME	SAND
		
50KG	25KG	3 HEAPED WHEELBARROWS (3 x 67L = approx 200L)

This will make approximately 0.2m³ (200L) of mortar mix.
The cement and lime fills the voids in between the sand and does not add to the total volume.

MORTAR: To lay 1000 BRICKS, you will need:		
3 X CEMENT 50KG	3 X LIME 25KG	9 X HEAPED WHEELBARROWS OF SAND (0.6³)
		

PLASTER: To plaster 100m² (15mm), you will need		
12 X CEMENT 50KG	12 X LIME 25KG	36 X HEAPED WHEELBARROWS OF SAND (2.4m³)
		

- NOTES**
- The amount of water added to a mix must be enough to make the mix workable and plastic
 - Use only cement that has the SABS mark proving compliance with SANS 50197
 - Wheelbarrows should be a builder's wheelbarrow with a capacity of approximately 65 litres
 - Exact quantities may vary depending on specific materials used.

USING LIME IN MORTAR AND PLASTER MIXES
CANNOT BE EMPHASISED ENOUGH

QUANTITES OF CONCRETE MASONRY AND MORTAR

Masonry unit size, mm				Mortar, m³ per		Plaster, m³ per	
Length	Width	Height	Units per m²	1000 units	100m² of wall	*1000 units	100m² of wall
						* Plaster is calculated on one face only	
IMPERIAL BRICKS							
220	106	72	55	0,37	1,70	0,19	1,04
MAXI BRICKS							
220	90	15	35	0,36	1,06	0,29	1,01
BLOCKS							
390	90	190	12,5	0,54	0,68	0,80	1,00
390	140	190	12,5	0,84	1,05	0,80	1,00
390	190	190	12,5	1,14	1,43	0,80	1,00
(No allowance is made for waste or breakages in this table)							

This table calculates theoretical quantities only. On-site management and monitoring of waste has a large influence on the final quantity of materials that would actually be used.

EXAMPLE:
A 190mm boundary wall, 80m long and 2m high using MA190 blocks, with class II mortar is to be built.

Area of wall : 80m x 2m = 160m²
Number of blocks / m² = 12.5
Total number of blocks required = 12.5 x 160 = 2000

Mortar required = 160m²/100 x 1.43 = 2.29m³ OR 2 x 1.14 = 2.28m³
Plaster required = 2 x 0.80 = 1.60m³
Combined mortar and plaster = 3.88m³



CONTROL JOINTS

All masonry types move to some degree. Clay masonry expands over time, whilst concrete masonry contracts in the same way. In addition to the basic material characteristics, all exposed walls will be stressed and destressed, by the daily and seasonal effects of the sun, wind and rain, irrespective of walling type. Walls are therefore designed and constructed with the adequate provision of vertical control joints and horizontal reinforcing. Wall reinforcements do effectively counteract the natural movement behaviour of walls. The primary objective of control joints is to divide the wall into separate panels in such a way that stresses along its length produced by differential movement can be relieved. As a general rule, vertical joints to accommodate horizontal movement should be provided at intervals of 6m to 7m.

Since there could be several variables involved, other acceptable spacing may be recommended by professionals. SANS 10145 permits joint spacing up to 9m for unreinforced masonry and up to 18.4m where vertical spacing of horizontal reinforcement is 200mm or less (subject to the length of the wall not exceeding twice the height of the wall).

Control joints are typically not required for interior walls of dwellings and buildings as these are not exposed to the effects of repeated heating and cooling to the extent of the exterior walls. Control Joints should be shown on drawings and then be built into the wall during construction and should run the full height of the wall. Sawn joints are not only costly but largely ineffective and are not recommended. Care needs to be taken that control joints extend through any plaster applied and control joints should NEVER be plastered over.

BRICK FORCE (HORIZONTAL REINFORCING)

There are two fundamental types of horizontal reinforcing. 75mm wide brickforce is suitable for imperial size masonry only. Modular masonry, being 90mm, 140mm and 190mm widths, require a different width of brickforce as per the table below. Brickforce should be made of the correct diameter wire (2.8mm-3.5mm) and should be ordered in the appropriate size (width) for the product being used. Brickforce supplied in rolls is largely ineffective and should be ordered as straight sections of 2.4m lengths. The purpose of brick force is to limit horizontal movement and when the rolled type is laid out on the wall it does not lie perfectly flat, but has an element of wavelike curvature to it. This allows a degree of horizontal lengthening when the loading is applied, rendering the brickforce ineffective. Brick force needs to be fully embedded within the mortar and must not merely lie on top or below it.

BRICK OR BLOCK TYPE	Width (mm)	Brick force width	Brick force diameter
IMPERIAL	106	75mm wide	2.8mm - 3.5mm
MAXI	90	55mm - 60mm	2.8mm - 3.5mm
MA90	90	55mm - 60mm	2.8mm - 3.5mm
MA140	140	105mm - 110mm	2.8mm - 3.5mm
MA190	190	155mm - 160mm	2.8mm - 3.5mm

Incorrect brick force selection and control joint detailing as well as the lack of Lime in mortar is the primary cause of both structural and surface cracking of masonry.

