

Forticrete[®] stone



Cast Stone dressings

Creating a tradition for over 40 years



Multiple Cast Stone elements at Kibworth Beauchamp, Leicestershire.

Front:
Multiple Cast Stone elements at St Elphin's Park retirement village, Robinson Court, Darley Dale, Matlock.

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Introduction

Forticrete's Cast Stone manufacturing facilities have been replicating the traditions of natural stone in Britain since 1968.

Today, Forticrete's Cast Stone Dressings are a perfect example of advanced technology and time honoured craftsmanship working together in perfect harmony. The result is a wide range of cast stone products using a semi-dry or wet cast format, of unrivalled quality with no compromise to aesthetic appeal.

Naturally high grade

Forticrete's factories use controlled processing that ensures an accurate mix of the raw materials is produced.

Design freedom

Forticrete has the ability and experience to create purpose-made products to your precise specification. Each piece of Forticrete Cast Stone is available in a choice of six standard colours that are intended to replicate the natural stones available throughout the UK. In common with natural stone, Forticrete Dressings are through coloured.

Quality without compromise

All Forticrete Cast Stone products are manufactured under an ISO 9001:2008 quality management system. Products that meet the specific requirements of the harmonised standards EN 771-5:2011 - Manufactured stone masonry units, and EN 845-2:2003 - Lintels, will be CE marked accordingly. Declarations of Performance are available at www.forticrete-ce.com.

All other products continue to be manufactured in accordance with the United Kingdom Cast Stone Association's Technical Specification, and also BS 1217:2008 - Cast Stone; BS 5642-1 - Specification for window sills of precast concrete, cast stone, clayware, slate and natural stone; and BS 5642-2 - Specification for copings of precast concrete, cast stone, clayware, slate and natural stone.

We introduced an 'ECO' branding scheme for product development some 10 years ago to enable our customers to instantly recognise that our products have high environmental credentials. These products have various benefits over traditional products. As a consequence of our manufacturing facilities conforming to the quality standard BS EN ISO 9001, environmental management standard BS EN ISO 14001 and the responsible sourcing standard BES 6001, all of our products carry an 'ECO' mark.

Design and technical advice are also offered and samples are promptly available.

Simply contact the Forticrete Sales Office to discuss your requirements.

Colours

Bespoke Cast Stone dressings

This brochure details a comprehensive range of standard profiles. Additionally, in the majority of cases, Forticrete's skilled craftsmen can fulfil your design requirements for bespoke items and turn them into reality; the only limitation is that Forticrete must be able to de-mould and handle the units. The designs you have in mind may be inspired by classical architecture or more decorative styles. Unusual sizes, intricate or irregular shapes and precise matches for special colours, Forticrete's bespoke service offers you the maximum design freedom.

It's the ideal service whether you are including distinctive design touches in a new build project, blending seamlessly into a sensitive environment or undertaking restoration work.

Individual quotations for these items will be provided on receipt of instructions. In the rare instance that your bespoke designs are not achievable, Forticrete's experienced sales and technical team are able to suggest alternatives that will complement your original ideas.

When used in conjunction with a unique bespoke colour matching capability, Forticrete can fulfil your cast stone requirements irrespective of their complexity in colour and finish.

Bespoke colours

Forticrete has a library of over 400 Cast Stone colours that can be reproduced with accuracy at any time. Should you require a specific colour that is not in the catalogue, this can be provided at a supplementary cost.

Weathering resistance

All Forticrete Specification Masonry products are manufactured with water repellent additives which dramatically reduce both water absorption and penetration.

These additives are incorporated in the constituent mix and are therefore an inherent feature of the products even after cutting, splitting or texturing of the surface.

This improved ability to repel moisture greatly accelerates the drying process following inclement weather, thereby reducing the adhesion of atmospheric dirt particles which normally lead to unsightly staining.

An additional benefit during construction is a reduced initial suction of moisture from the joints, allowing improved curing of the mortar without any loss of adhesion.

Engraving service

Communication is a key requirement in today's world. Forticrete can offer you engraved cast stone units, which could be simple name stones or logos, or a combination of both. This instantly differentiates your building, making it immediately recognisable and unique.

General notes

All dimensions shown in this brochure are in millimetres. Stone to stone joints are nominally 5mm unless otherwise stated.

No provision will be made for fixings unless they have been specified or are stated in this brochure.

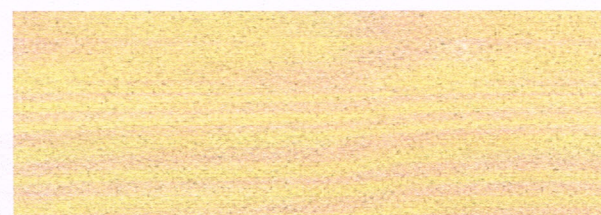
Any product sold will be sold subject to Forticrete's current terms and conditions of sale, which are available from its sales office.



Portland



Bath



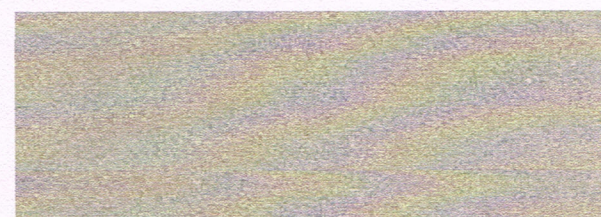
Buff



Holyrood



Glamis Red



Sherwood

The reproduction of colour is as close as is possible within the photographic and printed processes. Where precise colour tolerances are vital, you are advised to view actual product samples.

Stone in Stock

A number of standard items are available from stock in the Bath colour. Stone-in stock supplied in Scotland is available in Buff colour.



Multiple Cast Stone elements at a Private House in Doncaster.

General specifications

Forticrete Cast Stone Dressings are manufactured from high grade limestone and sandstone aggregates that have been chosen for their known performance and reliable quality. The cement, pigments and waterproofing agents all conform to their appropriate British or European Standard.

Forticrete Cast Stone Dressings are created from an homogeneous mix, without using a 'backing' material. This ensures that no undue stresses are built up within the unit.

The major technical performance characteristics of Forticrete Cast Stone Dressings exceed the requirements of BS EN 771-5:2011, BS EN 845-2, BS 1217 and the United Kingdom Cast Stone Association specification.

Normalised compressive strength:

Category I, 25N/mm² (perpendicular to bed face) (BS EN 771-5:2011)
In excess of 35N/mm² (BS 1217 and UKCSA Specification)

Density:

Gross Dry Density: 2000kg/m³

Thermal conductivity 'K':

1.00 W/mK

Water absorption (typical):

<2g/m².s

Drying shrinkage:

Less than 0.04% and is freeze thaw resistance.

Weathering

Weathering class: CAT to BS 1217 and UKCSA Specification.

Factors such as design, detailing, exposure, climate and local environment all contribute to the way in which Cast Stone will weather. Forticrete Cast Stone will weather in much the same way as natural stone in similar circumstances.

Mortar

Mortar used for the installation of Cast Stone Dressings should not be stronger than Designation III (1:1:5/6).

Dimensional tolerances cast stone	
Unit Length	Tolerance
0-600mm	±2mm
601-1000mm	±3mm
1001-2500mm	±4mm
2501-4000mm	±5mm
>4000mm	±6mm

Handling reinforcement

Any units over 600mm in length contain one or more steel bars. These are included to comply with Health and Safety Regulations, relating to the handling of the product by site operatives.

Fixings for support, restraint and handling

Some Forticrete Cast Stone Dressings will incorporate 100mm stainless steel dovetail slots to restrain lateral movement in vertical units i.e. window jambs, door jambs etc. M16 sockets may also be used for handling purposes and other fixings may be incorporated to assist with construction on site. Please discuss your requirements with us.

Structural properties

Unless otherwise agreed with Forticrete, all cast stone units are decorative and are not designed to be load bearing. The structural stability of all units in their finished state should be approved by the structural engineer carrying out the overall design for the project. Wind loading on large window features, sections of stonework, supporting lintels and fixings to cast stone units should also be considered early in the design process.

Due care and attention should also be given to the differential shrinkage and expansion rates between clay and cast stone units when employed in combination.

Site operatives must be made aware of the need to support and protect all cast stone units in their temporary state to negate the risk of any load being implied upon them whilst construction is taking place e.g. window heads.

Inserts and anchor slots can easily be incorporated into cast stone for restraint and for lifting at the request of the specifier/designer. However, if any unit is to be hoisted with more than one lifting socket, this should be carried out in conjunction with a spreader beam to eliminate any bending action of the unit. Forticrete may use lifting sockets to transport units at the source of manufacture. The use of such sockets on site should be checked with the factory of origin.

Forticrete are able to offer guidance on all areas of design and can be contacted via the telephone number on the back of this brochure.

Control joints

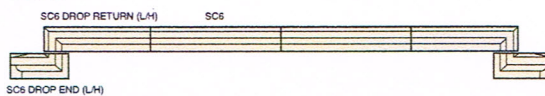
Consideration must be given to the creation of suitable movement control joints, full recommendations for which are given in the Forticrete Architectural Products Design Guide. Generally, control joints for Cast Stone should be spaced at a maximum of 6m centres.



Window Surrounds

Jambs will have 100mm s/s dovetail anchor slots where they exceed 450mm in length. No fixings or allowance will be made for the interconnection of head, mullion, cill and jamb unless specified. Please specify if surrounds are to be finished internally.

Label

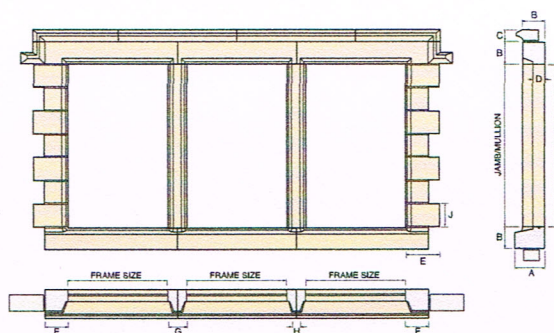


Alternative label suitable for each profile. Refer to page 7 for details.

A	B	C	D	E	F	G	H
190	140	70	75	See table below	140	118	48

Wensley

Label type SC7 refer to page 7 for details



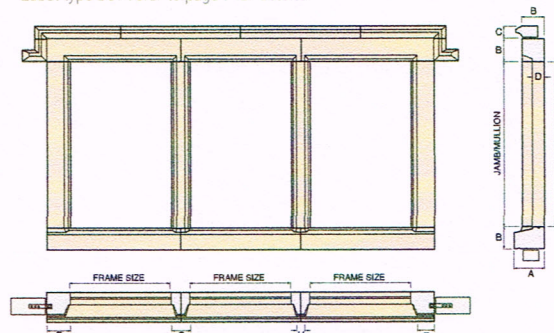
Jamb Blocks

E	140	215	140	215	140	215
J	140	140	215	215	290	290
Kg Per Unit	6	9	9	14	12	19

A	B	C	D	E	F	G	H
190	140	70	75	105	140	118	48

Winster

Label type SC7 refer to page 7 for details



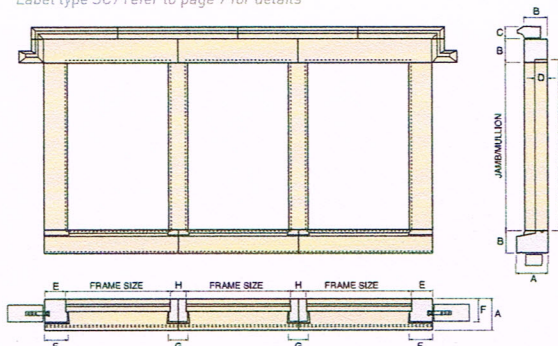
S/S Anchor slots cast in jambs at a maximum of 450mm centres

Note: If the Wensley or Winster surrounds are required to course with adjacent brickwork, the window frames should be 10mm higher than standard, ie. A 1050mm high frame would need to be 1060mm. This is due to the fact that ordinary masonry frames are smaller in height by 10mm to allow for the structural lintel to sit in-between the frame and masonry. When using stone heads the structural lintel is ideally placed above the self supporting head.

Code	Kg Per Lin/M
CILL (overhanging)	52
CILL (flush)	41
JAMB	41
MULLION	35
HEAD	41
SC6	38
SC7	18

Darley

Label type SC7 refer to page 7 for details

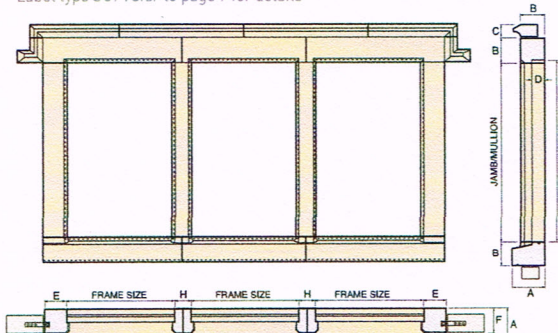


S/S Anchor slots cast in jambs at a maximum of 450mm centres

A	B	C	D	E	F	G	H
190	140	70	75	128	140	118	94

Derwent

Label type SC7 refer to page 7 for details



S/S Anchor slots cast in jambs at a maximum of 450mm centres

Note: If the Darley or Derwent surrounds are required to course with adjacent brickwork, the window frames should be 22mm higher than standard, ie. A 1050mm high frame would need to be 1072mm to allow for 2 no. 5mm joints and a 12mm rebate.

Code	Kg Per Lin/M
CILL (overhanging)	52
CILL (flush)	41
JAMB	41
MULLION	35
HEAD	41
SC6	38
SC7	18

Structural Heads

These units contain a post-tensioned stainless steel element. They will support loads as indicated in the table. It is essential that this load is in one direction and that the head is laid so that the orientation is correct.

Additional Requirements:

- 1 The maximum lengths shown cannot be exceeded.
- 2 Structural Heads cannot be CUT, GROUND, DRILLED or CHASED under any circumstances. Please advise of special requirements at the time of ordering as these may be accommodated in the casting process.
- 3 Structural Heads must be installed with the top uppermost.
- 4 Structural heads must be used with a 150mm bearing.

Please allow an extra 2 weeks for Structural Heads above standard availability for full curing to take place.

Code	A	B	Allowable Safe Working Load (kN/m) at maximum length	Max Length	Weight Kg/m
SH1	100	140	9.4	1642	29
SH2	100	215	4.7	2800	46
SH5	100	290	4.7	2800	61

Rectangular Structural Head

Structural heads must be used with a 150mm bearing

✖

Code	A	B	C	D	Allowable Safe Working Load (kN/m) at maximum length	Max	Weight
SH3	100	140	150	18	9.4	1642	29
SH4	100	215	150	18	4.7	2800	46
SH6	100	290	150	18	4.7	2800	61

Chamfered Structural Head

Structural heads must be used with a 150mm bearing

Code	A	B	C	D	E	F	Weight (Kg)
K1	265	215	165	150	65	18	9
K2	305	290	165	150	65	18	13
K3	346	365	165	150	65	18	16

Cosmetic Keystone K1/2/3

Degree angle Q = 105° to match Splayed Heads
If chamfered Keystone is required please pre-fix with C



Decorative Heads

Decorative Heads of greater length than those shown in the tables are available and are made in pieces.

Code	A	B	Max Length	Kg Per Lin/M
DH1	100	140	1547	29
DH2	100	215	2500	46
DH5	100	290	2500	61

Rectangular Head

Code	A	B	C	D	Max Length	Kg Per Lin/M
DH3	100	140	102.5/140	18	1547	29
DH4	100	215	102.5/140	18	2500	46
DH6	100	290	102.5/140	-	2500	61

Chamfered Head

Code	A	B	C	Max Length	Kg Per Lin/M
DH11	100	215	58	2500	45
DH12	100	290	78	2500	61

Splayed Head

Code	A	B	C	D	F	Weight (Kg)
K4	265	215	130	150	18	12
K5	305	290	130	150	18	18
K6	346	365	130	150	18	24

Keystone K4/5/6

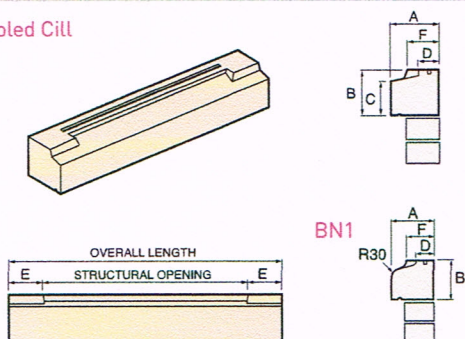


Stooled cills are built in at the time of construction.

They should be bedded under the stooling only at the time of installation with an inert packer in the centre. The cill should be solidly pointed as the scaffold is taken down upon completion of the construction.

Code	A	B	C	D	E*	F	Max Length	Kg Per Lin/M
T1-40	150	140	105	40	102.5/140	100	1547	39
BN1	150	140		65	102.5/140	100	1547	39
T2	150	65	40	65	102.5/140	100	1000	17
T3	200	140	105	65	102.5/140	150	1547	53
T4-40†	175	140	105	40	102.5/140	125	1547	46

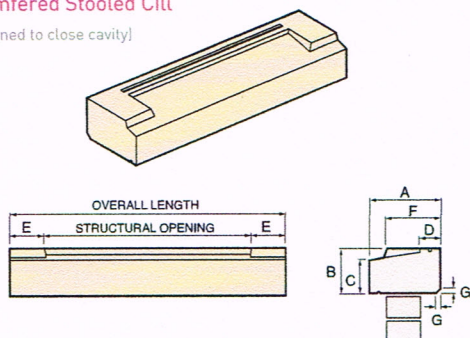
Stooled Cill



Code	A	B	C	D	E*	F	G	Max Length	Kg Per Lin/M
ST6	215	140	105	65	102.5/140	165	18	1547	56
ST7	215	65	40	65	102.5/140	165	18	1000	24
ST8	245	140	105	65	102.5/140	195	18	1547	63

Chamfered Stooled Cill

(Designed to close cavity)



* Specify on ordering
† Designed for use with render

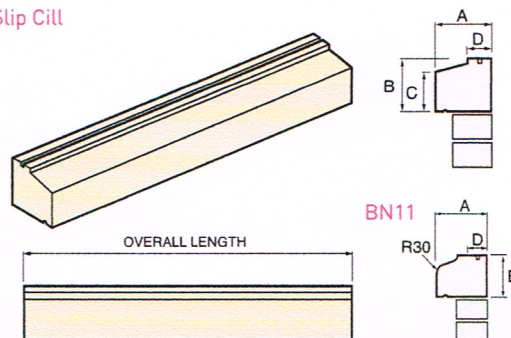
Cills

Cills are manufactured in accordance with BS 5642.

Cills of greater length than those shown in the tables are available and are made in more than one piece.

Code	A	B	C	D	Max Length	Kg Per Lin/M
T11-40	150	140	105	40	1547	39
BN11	150	140	-	65	1547	39
T12	150	65	40	65	1000	17

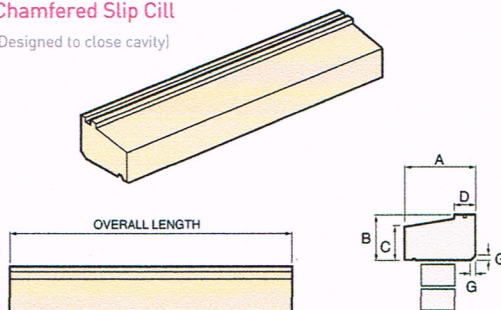
Slip Cill



Code	A	B	C	D	E	Max Length	Kg Per Lin/M
SC10	215	140	105	65	18	1547	55
SC11	215	65	40	65	18	1000	22
SC12†	245	140	105	65	18	1547	62

Chamfered Slip Cill

(Designed to close cavity)



Code	A	Kg
T11-40-90E	265	15
BN11-90E	265	15

90° Slip Cill

Available to suit any standard or special section, please specify cill type and external dimensions of brickwork. Purpose-made products are available on request.

Code	A	Kg
T11-40-135E	236	16
BN11-135E	236	16

135° Slip Cill

Available to suit any standard or special section, please specify cill type and outer dimension of brickwork. Purpose-made products are available on request.