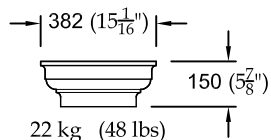


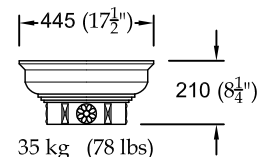
CAPITAL OPTIONS

(Interchangeable)

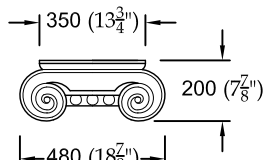
M400M TUSCAN



M400K DORIC

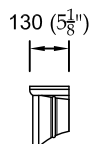


M400L IONIC



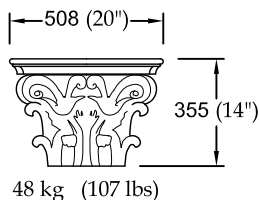
SIDE ELEVATION
36 kg (79 lbs)

M450L IONIC PILASTER



(M4 ONLY)
SIDE ELEVATION
18 kg (40 lbs)

M200J CORINTHIAN

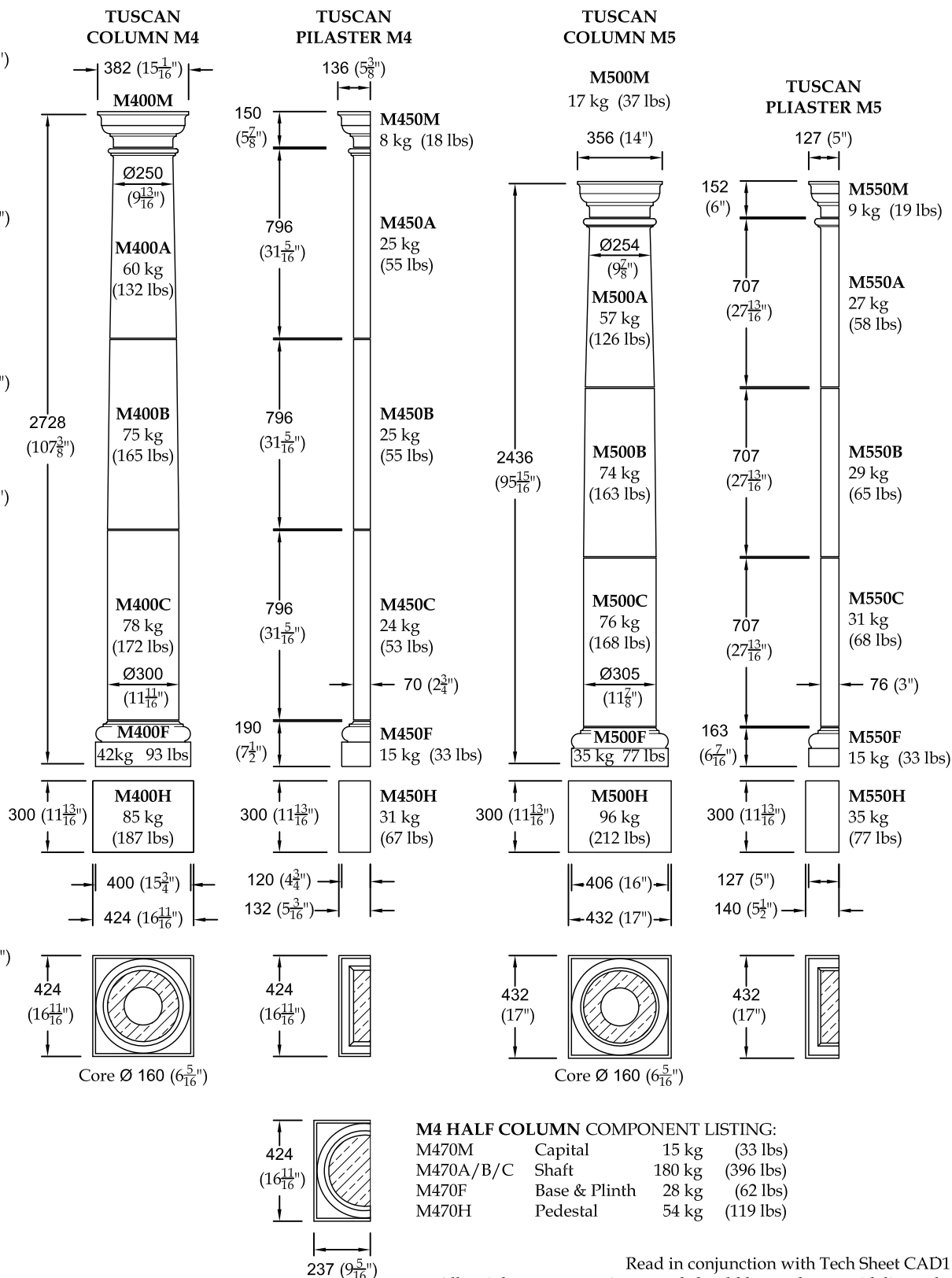


M250J CORINTHIAN PILASTER



(M4 ONLY)
SIDE ELEVATION
27 kg (55 lbs)

TUSCAN COLUMNS



M4 HALF COLUMN COMPONENT LISTING:

M470M	Capital	15 kg	(33 lbs)
M470A/B/C	Shaft	180 kg	(396 lbs)
M470F	Base & Plinth	28 kg	(62 lbs)
M470H	Pedestal	54 kg	(119 lbs)

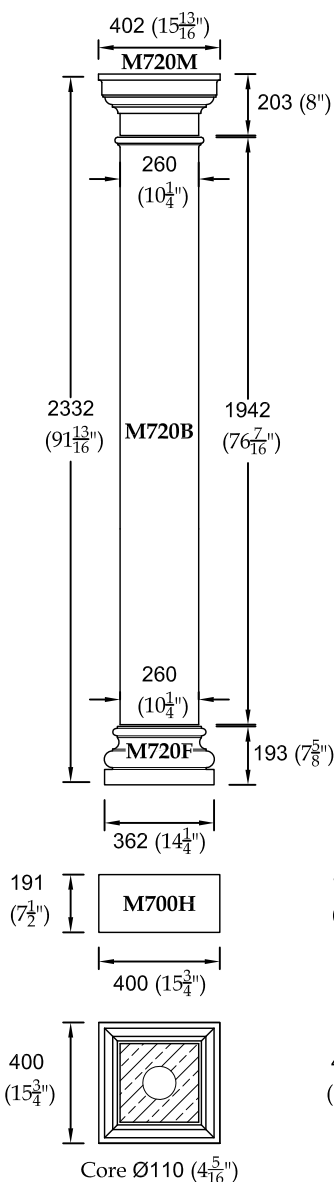
Read in conjunction with Tech Sheet CAD1

All weights are approximate and should be used as a guideline only

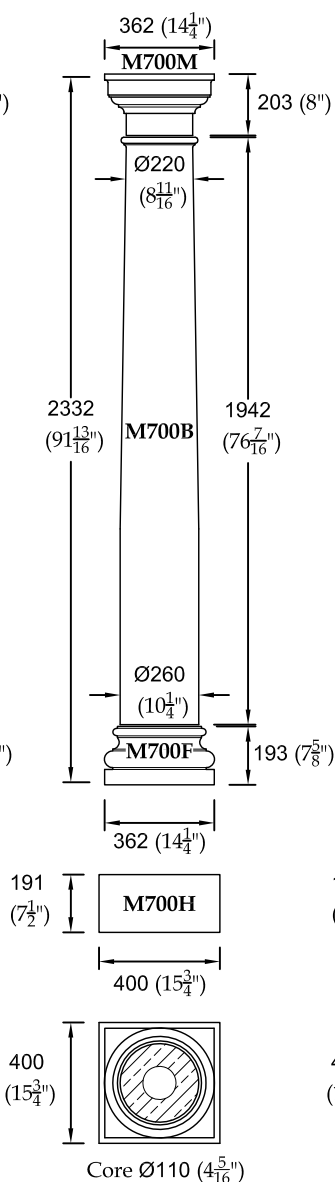
All dimensions exclude joints - allow 6mm (1/4") for vertical and bedding joints

TUSCAN COLUMNS

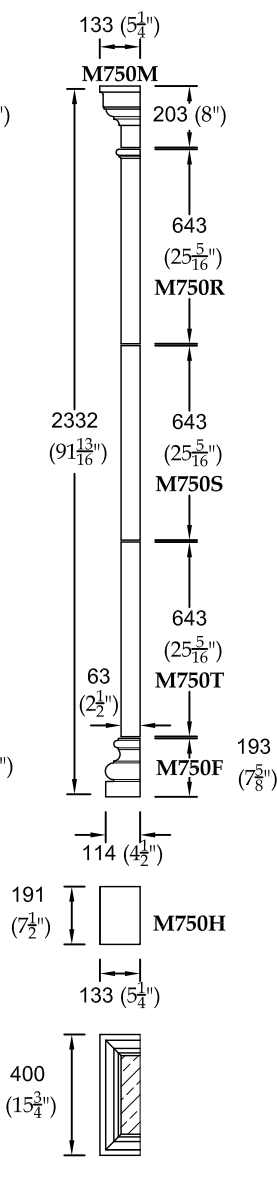
**TUSCAN COLUMN
SQUARE M7**



**TUSCAN COLUMN
M7 LONG SHAFT**



**TUSCAN PILASTER
M7 LONG SHAFT**



COMPONENT LISTING:

TUSCAN COLUMN SQUARE M7

Capital	M720M	40 kg	(88 lbs)
Shaft	M720B	224 kg	(494 lbs)
Base	M720F	36 kg	(79 lbs)
Pedestal	M700H	52 kg	(115 lbs)

TUSCAN COLUMN M7 LONG SHAFT

Capital	M700M	24 kg	(53 lbs)
Shaft	M700B	153 kg	(337 lbs)
Base	M700F	29 kg	(64 lbs)
Pedestal	M700H	52 kg	(115 lbs)

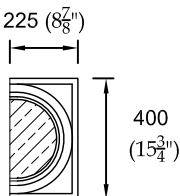
TUSCAN HALF COLUMN M7 LONG SHAFT

Capital	M770M	19 kg	(42 lbs)
Shaft	M770B	107 kg	(236 lbs)
Base	M770F	21 kg	(46 lbs)
Pedestal	M770H	34 kg	(75 lbs)

TUSCAN PILASTER M7 LONG SHAFT

Capital	M750M	11 kg	(24 lbs)
Shaft	M750R	18 kg	(40 lbs)
Shaft	M750S	19 kg	(42 lbs)
Shaft	M750T	21 kg	(46 lbs)
Base	M750F	12 kg	(26 lbs)
Pedestal	M750H	20 kg	(44 lbs)

HALF COLUMN PLAN



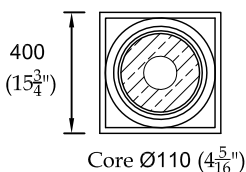
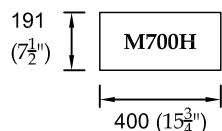
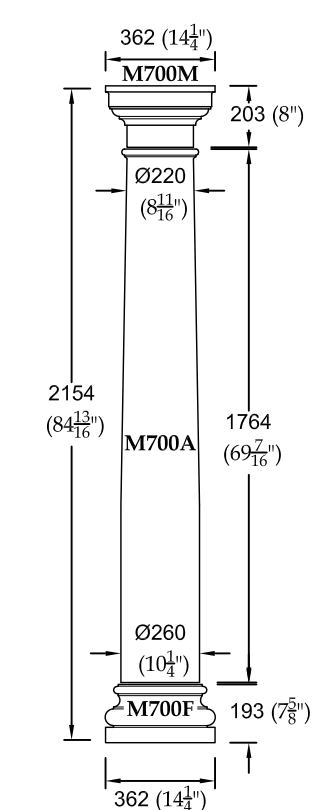
Read in conjunction with Tech Sheet CAD1

All weights are approximate and should be used as a guideline only

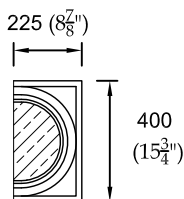
All dimensions exclude joints - allow 6mm (1/4") for vertical and bedding joints

TUSCAN COLUMNS

**TUSCAN COLUMN
M7 SHORT SHAFT**

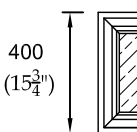
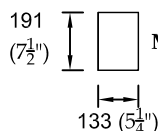
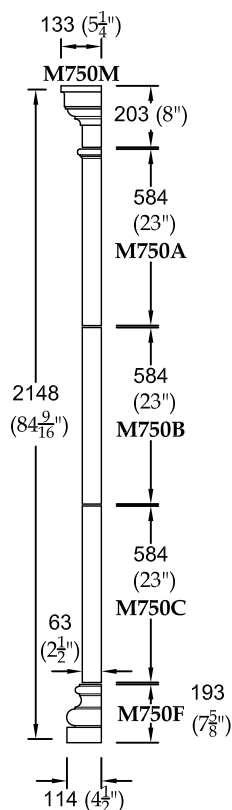


Core Ø110 (4 5/16 inches)



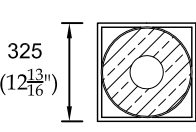
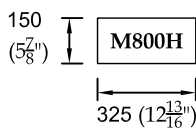
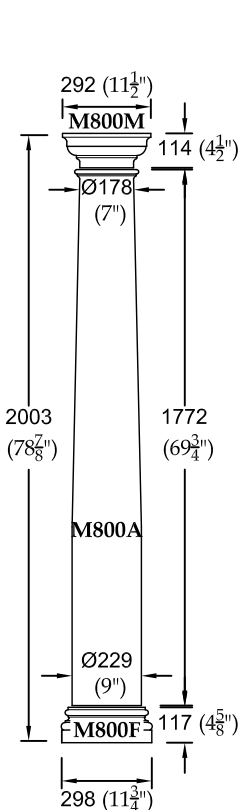
**HALF COLUMN
PLAN**

**TUSCAN PILASTER
M7 SHORT SHAFT**

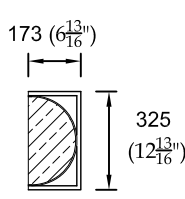


Core Ø110 (4 5/16 inches)

**TUSCAN COLUMN
M8**

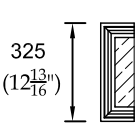
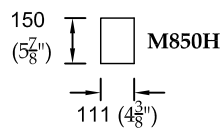
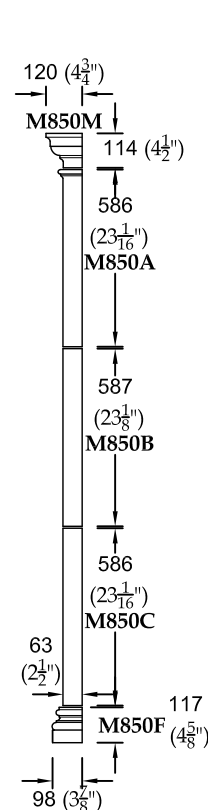


Core Ø110 (4 5/16 inches)



**HALF COLUMN
PLAN**

**TUSCAN PILASTER
M8**



Core Ø110 (4 5/16 inches)

COMPONENT LISTING:

TUSCAN COLUMN M7 SHORT SHAFT

Capital	M700M	24 kg	(53 lbs)
Shaft	M700A	142 kg	(313 lbs)
Base	M700F	29 kg	(64 lbs)
Pedestal	M700H	52 kg	(115 lbs)

TUSCAN HALF COLUMN M7 SHORT SHAFT

Capital	M770M	19 kg	(42 lbs)
Shaft	M770A	101 kg	(223 lbs)
Base	M770F	21 kg	(46 lbs)
Pedestal	M770H	34 kg	(75 lbs)

TUSCAN PILASTER M7 SHORT SHAFT

Capital	M750M	11 kg	(24 lbs)
Shaft	M750A	16 kg	(35 lbs)
Shaft	M750B	17 kg	(37 lbs)
Shaft	M750C	19 kg	(42 lbs)
Base	M750F	12 kg	(26 lbs)
Pedestal	M750H	20 kg	(44 lbs)

TUSCAN COLUMN M8

Capital	M800M	9 kg	(20 lbs)
Shaft	M800A	86 kg	(190 lbs)
Base	M800F	14 kg	(31 lbs)
Pedestal	M800H	27 kg	(59 lbs)

TUSCAN HALF COLUMN M8

Capital	M870M	6 kg	(13 lbs)
Shaft	M870A	56 kg	(123 lbs)
Base	M870F	9 kg	(20 lbs)
Pedestal	M870H	18 kg	(40 lbs)

TUSCAN PILASTER M8

Capital	M850M	4 kg	(9 lbs)
Shaft	M850A	14 kg	(31 lbs)
Shaft	M850B	16 kg	(35 lbs)
Shaft	M850C	17 kg	(37 lbs)
Base	M850F	7 kg	(15 lbs)
Pedestal	M850H	11 kg	(24 lbs)

Read in conjunction with Tech Sheet CAD1

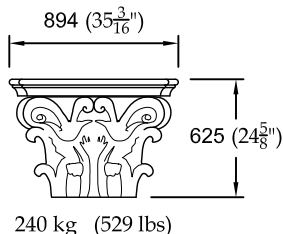
All weights are approximate and should be used as a guideline only

All dimensions exclude joints - allow 6mm (1/4 inches) for vertical and bedding joints

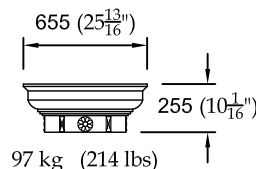
TUSCAN COLUMN M3

CAPITAL OPTIONS (Interchangeable)

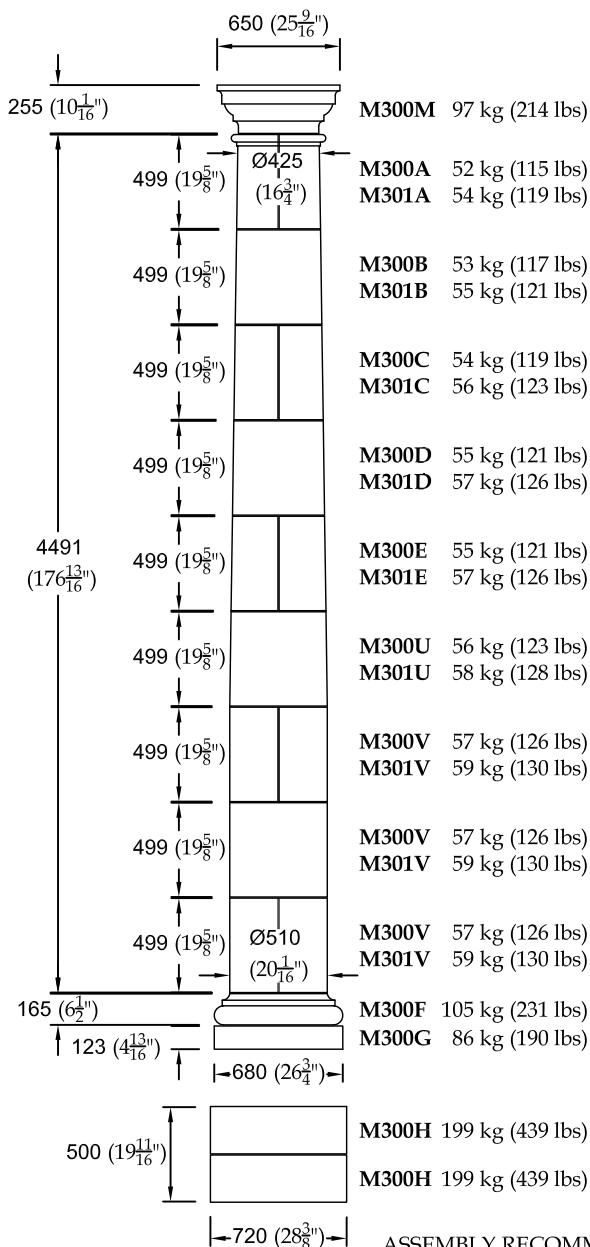
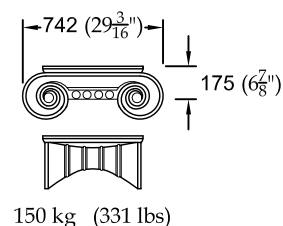
M300J CORINTHIAN



M300K DORIC



M300L IONIC



Isolating medium
(polystyrene, styrofoam, or similar)

Reinforced core
designed by others

Stainless steel lugs
[US: Epoxy coated]
cast into shaft sections

M301

M300

CAPITAL

Tuscan capital supplied as one piece

SHAFT

The shaft is supplied in 9 drum sections, with each drum section supplied in two halves, with a vertical joint

BASE

Supplied as one piece

PLINTH

Supplied as one piece

PEDESTAL (if required)

Supplied as standard in two pieces with horizontal joint

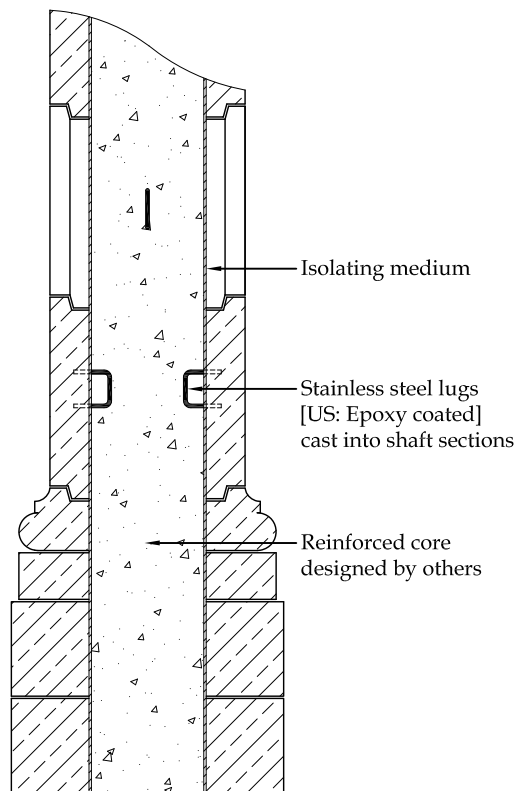
ASSEMBLY RECOMMENDATIONS:

Refer to tech Sheet CAD1 for general column assembly recommendations.

Prior to concrete in-filling the vertical and horizontal joints between shaft sections must be sealed to prevent grout loss through the joints during infilling.

It is important that the halves of each drum section are securely clamped together to prevent movement during concrete infilling.

Core Ø225 (8 7/8) - Ø310 (12 3/16)



SECTION

(Not to scale)

Foundations, concrete and steel reinforcement to be designed by others to suit site conditions and loadings.

Read in conjunction with Tech Sheet CAD1

All weights are approximate and should be used as a guideline only

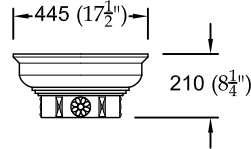
All dimensions exclude joints - allow 6mm (1/4) for vertical and bedding joints

Unless otherwise stated, all materials other than stonework to be supplied by others

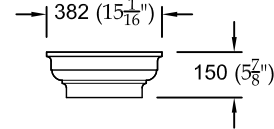
CORINTHIAN COLUMN M2

CAPITAL OPTIONS:
(Interchangeable)

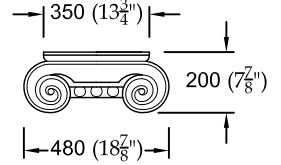
M400K DORIC



M400M TUSCAN



M400L IONIC



**CORINTHIAN COLUMN
M2 LONG SHAFT**

**CORINTHIAN COLUMN
M2 SHORT SHAFT**

PILASTER M2
(shaft has no diminution)

SIDE ELEVATION

COMPONENT LISTING:

**CORINTHIAN COLUMN
M2 LONG SHAFT**

Shaft	M200A	61 kg (134 lbs)
Shaft	M200D	92 kg (203 lbs)
Shaft	M200C	68 kg (150 lbs)
Base	M200F	18 kg (40 lbs)
Plinth	M200G	18 kg (40 lbs)
Pedestal	M200H	91 kg (201 lbs)

**CORINTHIAN COLUMN
M2 SHORT SHAFT**

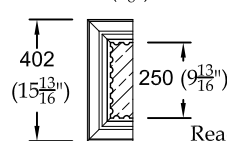
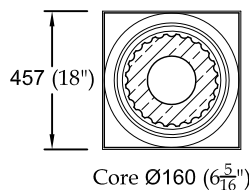
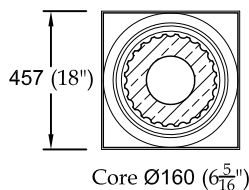
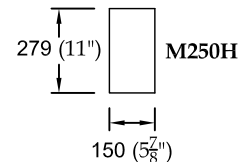
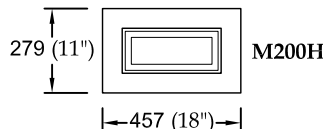
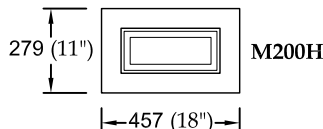
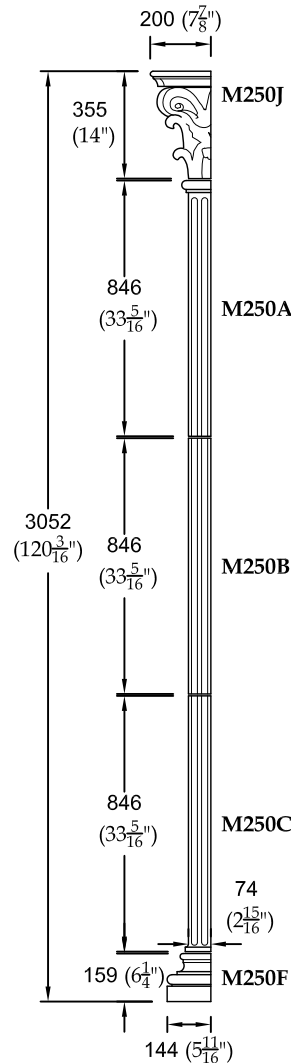
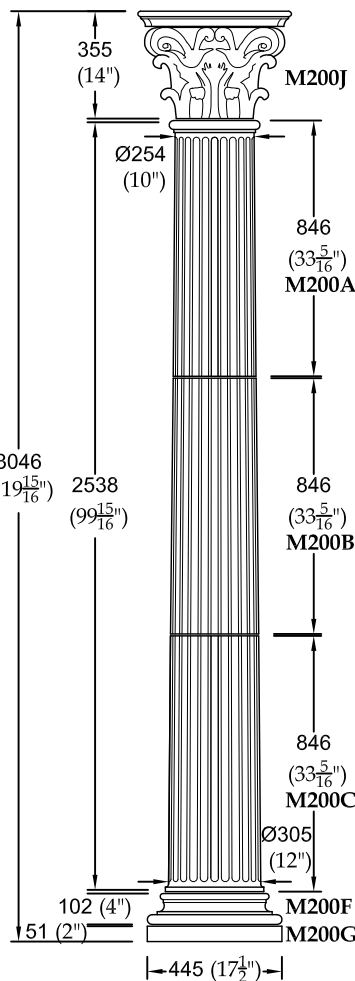
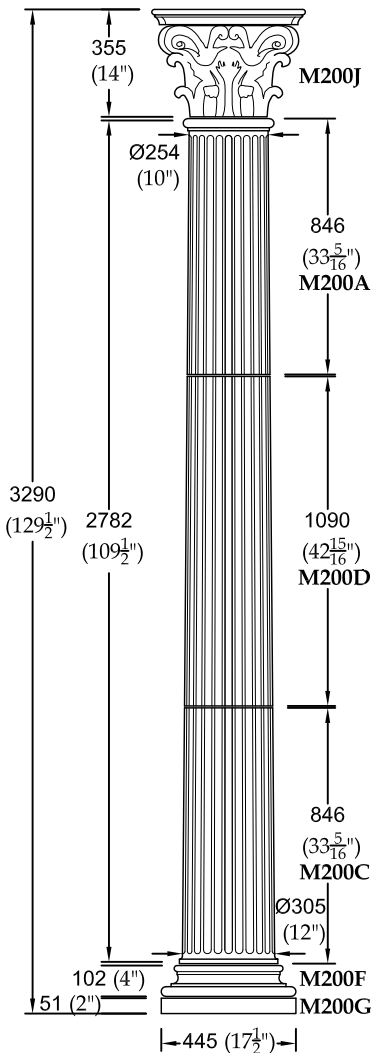
Shaft	M200A	61 kg (134 lbs)
Shaft	M200B	64 kg (141 lbs)
Shaft	M200C	68 kg (150 lbs)
Base	M200F	18 kg (40 lbs)
Plinth	M200G	18 kg (40 lbs)
Pedestal	M200H	91 kg (201 lbs)

**CAPITAL OPTIONS
(Interchangeable)**

Corinthian	M200J	48 kg (106 lbs)
Doric	M400K	34 kg (75 lbs)
Tuscan	M400M	21 kg (46 lbs)
Ionic	M400L	36 kg (79 lbs)

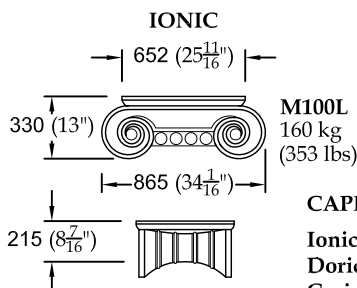
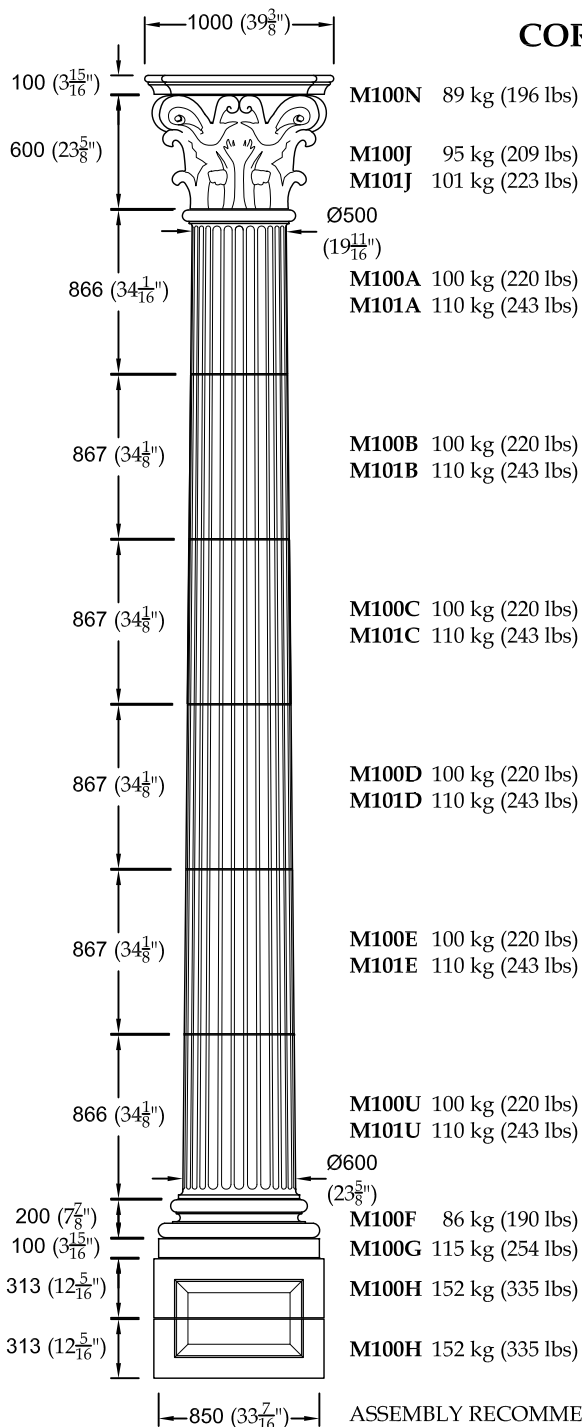
PILASTER M2

Capital	M250J	25 kg (55 lbs)
Shaft	M250A	31 kg (68 lbs)
Shaft	M250B	30 kg (66 lbs)
Shaft	M250C	31 kg (68 lbs)
Base	M250F	16 kg (35 lbs)
Pedestal	M250H	36 kg (79 lbs)



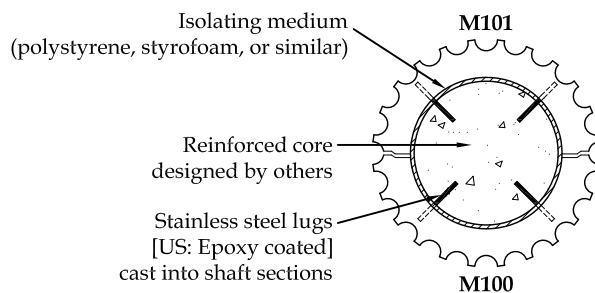
Read in conjunction with Tech Sheet CAD1
All weights are approximate and should be used as a guideline only
All dimensions exclude joints - allow 6mm (1/4'') for vertical and bedding joints

CORINTHIAN COLUMN M1



CAPITAL OPTIONS

Ionic - supplied as one piece
Doric - supplied as two pieces (abacus and capital)
Corinthian - supplied as three pieces (abacus and two piece capital with vertical joint)



Cast-in lifting sockets (2 No. per half shaft section only) for use (if required) with M12 lifting loops, not supplied

SHAFT

The shaft is supplied in 6 drum sections, with each drum section supplied in two halves, with a vertical joint. One vertical half of the column shaft comprises M100 stones with the other vertical half comprising M101 stones

BASE

Supplied as one piece

PLINTH

Supplied as one piece

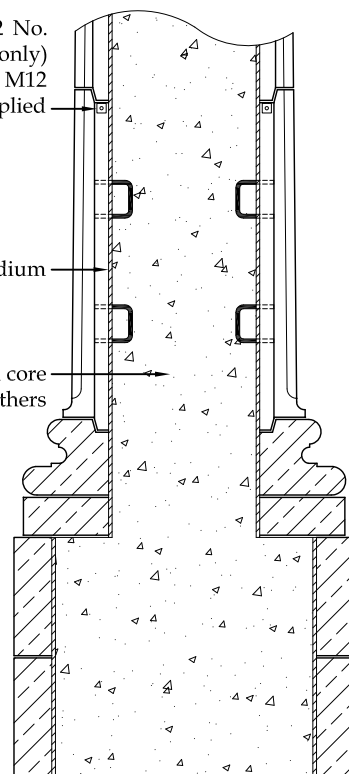
PEDESTAL (if required)

Supplied as standard in two pieces with horizontal joint. Intermediate pedestal blocks are also available as illustrated

ASSEMBLY RECOMMENDATIONS:

Refer to tech Sheet CAD1 for general column assembly recommendations. Prior to concrete in-filling the vertical and horizontal joints between shaft sections must be sealed to prevent grout loss through the joints during infilling.

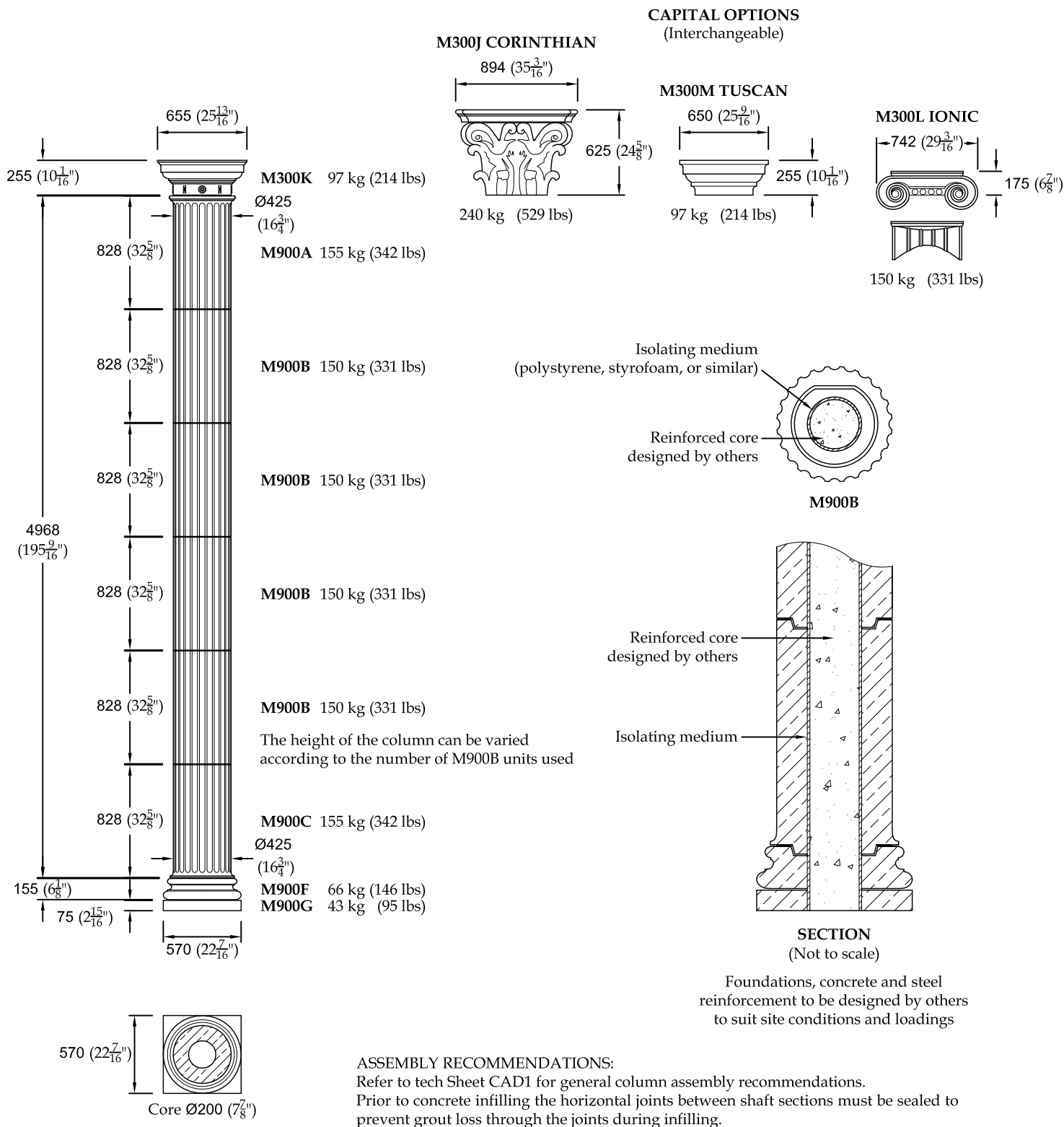
It is important that the halves of each drum section are securely clamped together to prevent movement during concrete infilling. As with the column shaft sections the capital should be lined with an isolating medium, and the Corinthian capital clamped together with all joints made grout tight prior to concreting.



All weights are approximate and should be used as a guideline only

All dimensions exclude joints - allow 6mm (1/4") for vertical and bedding joints
 Unless otherwise stated, all materials other than stonework to be supplied by others

COLUMN M9



Read in conjunction with Tech Sheet CAD1

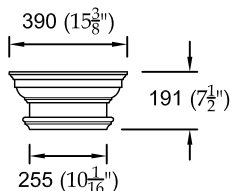
All weights are approximate and should be used as a guideline only

All dimensions exclude joints - allow 6mm ($\frac{1}{4}$ "") for vertical and bedding joints

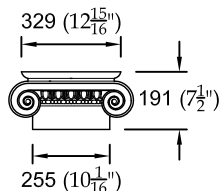
COLUMN M6 (TECSTONE) GIBBS RANGE

CAPITAL OPTIONS: (Interchangeable)

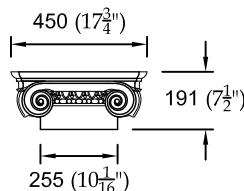
HM400K DORIC



HM600L IONIC I (parallel sided)



HM600X IONIC II (four sided)



COMPONENT LISTING:

M6 LONG SHAFT HOLLOW

Shaft	HM600AH	75 kg (165 lbs)
Shaft	HM600BH	75 kg (165 lbs)
Shaft	HM600CH	75 kg (165 lbs)
Base	HM600FH	46 kg (101 lbs)

M6 LONG SHAFT SOLID

Shaft	HM600AS	78 kg (172 lbs)
Shaft	HM600BS	78 kg (172 lbs)
Shaft	HM600CS	78 kg (172 lbs)
Base	HM600FS	48 kg (106 lbs)

M6 LONG SHAFT PILASTER

Shaft	HM650AS	39 kg (86 lbs)
Shaft	HM650BS	39 kg (86 lbs)
Shaft	HM650CS	39 kg (86 lbs)
Base	HM650FS	24 kg (53 lbs)

M6 SHORT SHAFT HOLLOW

Shaft	HM601AH	71 kg (157 lbs)
Shaft	HM601BH	71 kg (157 lbs)
Shaft	HM601CH	71 kg (157 lbs)
Base	HM600FH	46 kg (101 lbs)

M6 SHORT SHAFT SOLID

Shaft	HM601AS	73 kg (161 lbs)
Shaft	HM601BS	73 kg (161 lbs)
Shaft	HM601CS	73 kg (161 lbs)
Base	HM600FS	48 kg (106 lbs)

M6 SHORT SHAFT PILASTER

Shaft	HM651AS	37 kg (82 lbs)
Shaft	HM651BS	37 kg (82 lbs)
Shaft	HM651CS	37 kg (82 lbs)
Base	HM650FS	24 kg (53 lbs)

HOLLOW CAPITAL OPTIONS (Interchangeable)

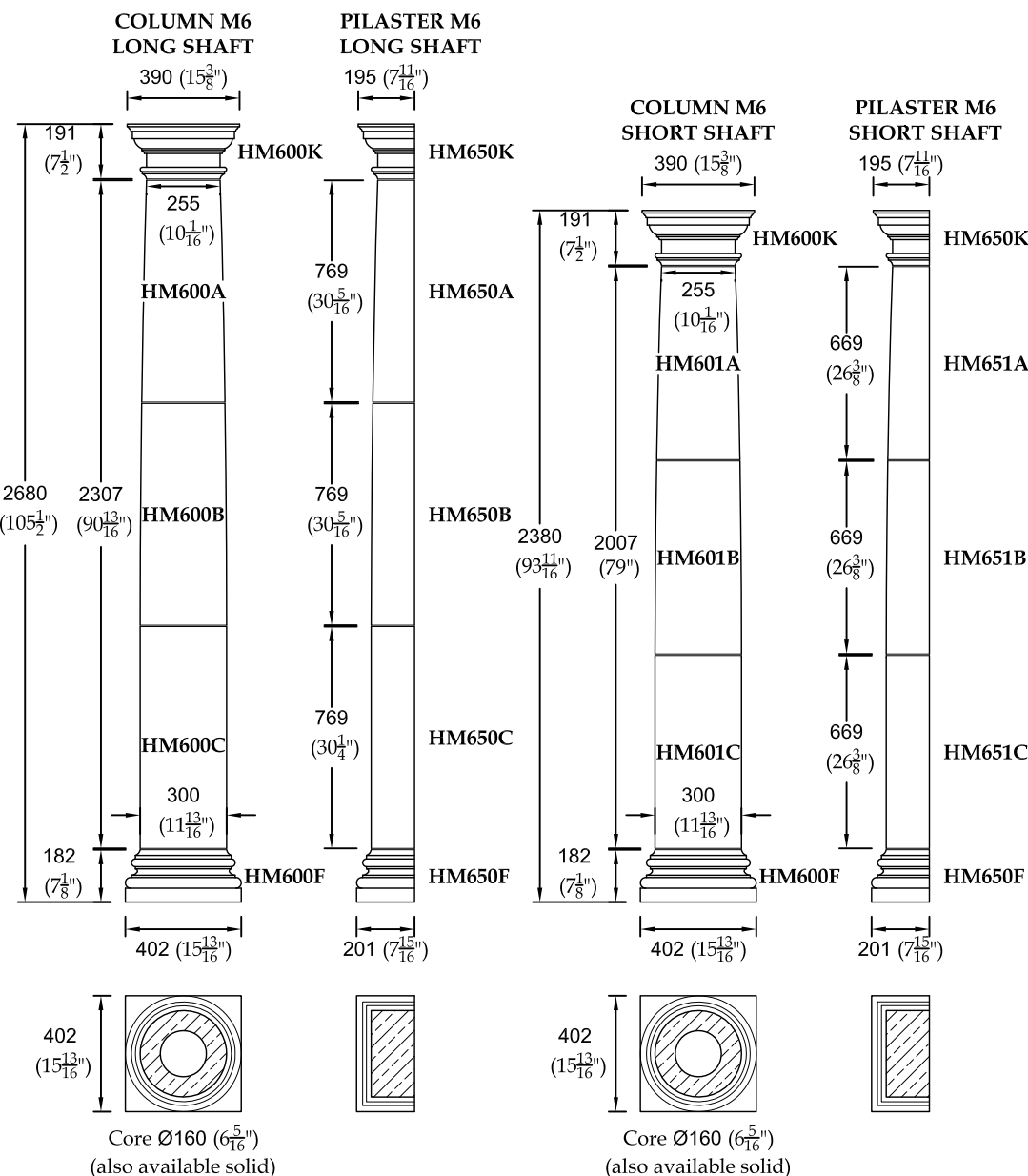
Doric	HM600KH	33 kg (73 lbs)
Ionic I	HM600LH	36 kg (79 lbs)
Ionic II	HM600XH	36 kg (79 lbs)

SOLID CAPITAL OPTIONS (Interchangeable)

Doric	HM600KS	35 kg (77 lbs)
Ionic I	HM600LS	38 kg (84 lbs)
Ionic II	HM600XS	38 kg (84 lbs)

PILASTER CAPITAL OPTIONS (Interchangeable)

Doric	HM650KS	18 kg (40 lbs)
Ionic I	HM650LS	19 kg (42 lbs)
Ionic II	HM650XS	19 kg (42 lbs)

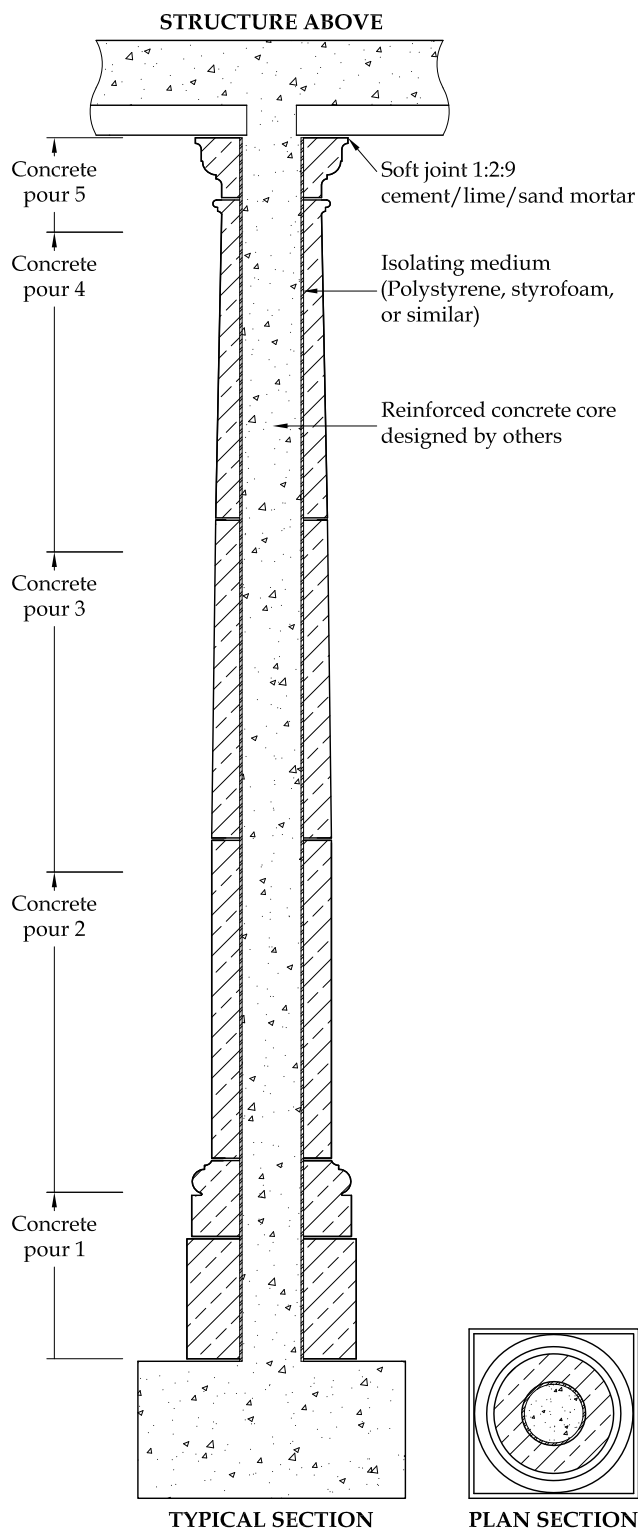


Read in conjunction with Tech Sheet CAD1

All weights are approximate and should be used as a guideline only

All dimensions exclude joints - allow 5mm ($\frac{3}{16}$ ") for vertical and bedding joints

COLUMN ASSEMBLY DETAIL (M4 COLUMN ILLUSTRATED)



Each Haddonstone column is supplied as a non-structural decorative cladding with a hollow central core. For structural use the hollow core can be used to accommodate a reinforced concrete, or structural steel, member. The column is supplied in component form: i.e. capital, shaft, base, plinth and pedestal. Depending on the column type, each column shaft is supplied in either one piece (M7, M8), multiple drum sections (M2, M4, M5, M9) or multiple half drum sections (M1, M3). Generally the other column components are one piece except where detailed on the relevant Tech Sheets.

Please note M1, M2, M3 and M9 columns have spigot and socket joints in shaft sections.

FOUNDATIONS

A column should be erected on a suitable foundation, designed to suit loadings and ground conditions. We strongly recommend that professional advice is taken to ensure that any proposal meets building regulations and is designed to be structurally sound.

BEDDING AND JOINTING

All components should be bedded and jointed using 1:1:6 cement/lime/sand mortar or similar. Joints should be approximately 6mm ($\frac{1}{4}$ " wide to allow for any irregularities in the mating surfaces, and to provide for a full bedding and pointing joint. The jointing mortar should be left slightly recessed from the surface of the stonework or subsequently raked out, leaving a rebated joint. Pointing should be carried out using Haddonstone's colour-matched dry mix in accordance with the instructions printed on bags. Alternatively use the bedding mix, colour matched to suit, in which case white cement may be necessary. The joint between the capital stonework and the structure above should be formed using a compressible filler or a weak mortar mix, to form a soft joint and ensure that any load is carried by the central structural core and not by the reconstructed stonework.

INFILLING TECHNIQUES

It is important that the hollow core of each column section is lined with polystyrene, styrofoam, or similar (not supplied), to act as an isolating medium when column cores are infilled with concrete. This will accommodate any possible differential movement between the stonework and the concrete core. The isolating material, when inserted, should make continuous contact with the inner core surface. Care should be taken to ensure sufficient overlap of material at both vertical and horizontal joints.

Concrete used to infill the cores should ideally have a rounded gravel aggregate of 10mm ($\frac{3}{8}$ " maximum size. The concrete should be of medium to high workability to assist core filling whilst minimising the effort required during hand compaction. The use of proprietary concrete plasticising admixtures can assist this operation. All columns with shaft drum sections should be concreted one section at a time. Subsequent concrete pours should only take place after the concrete in the preceding section has reached its initial set. If the column is used to sleeve a structural steel member, the resultant void between the stone and steelwork can be left as a void or grouted up. If grouting up is carried out an isolating medium must be incorporated adjacent to the stonework.

FREESTANDING OR TIMBER PERGOLA COLUMNS

The top of the capital will need to be waterproofed, as a minimum, with bituminous paint (applied strictly in accordance with manufacturers instructions) to approximately 25mm (1") from the edge of the stone.

Foundations, concrete and steel reinforcement to be designed by others to suit site conditions and loadings

Allow 6mm ($\frac{1}{4}$ ") for vertical and bedding joints

Unless otherwise stated, all materials other than stonework to be supplied by others

A: Revised Feb 2015

To be read in conjunction with Tech Sheet CAD1/TS, appropriate column Tech Sheet and Pointing Recommendations.

The column is supplied in component form: ie capital, shaft, base, plinth and pedestal. Depending on column type, each column shaft is supplied in either one piece or multiple drum sections as detailed on the relevant Tech Sheets. Unless otherwise stated, all materials other than the stonework are to be supplied by others. Consult a qualified builder or installer to ensure all relevant Building Regulations/Codes are adhered to prior to installation of columns.



The column should be erected on a suitable foundation. Foundation, concrete and steel reinforcement to be designed by others to suit loadings and ground conditions. Shown is a suitable steel starter bar set into a concrete foundation.



The pedestal is then bedded on 1:1:6 cement/ lime/sand mortar. All joints would normally be 6mm (¼") with the mortar slightly recessed from the surface of the stonework to allow for pointing after the column is erected.



The column base is bedded on the pedestal as previously described.



It is important that polystyrene/Styrofoam (or similar) is used to act as an isolating medium between the stone and infill concrete. This is inserted into the core of the pedestal and base. Care should be taken to ensure sufficient overlap at both vertical and horizontal joints with continuous contact between the isolating material and the inner stonework core.



The pedestal and base are then infilled with concrete. The coarse aggregate of the concrete being rounded gravel of maximum 10mm (⅜"). All subsequent concrete pours should only take place after the concrete in the preceding section has reached its initial set.



The steel main bar reinforcement is tied to the starter bar insuring sufficient overlap. The concrete is then carefully compacted by hand.



The bottom shaft section is then bedded and the isolating medium inserted as previously described. The concrete is again infilled.



The concrete is then hand compacted. The second and third shaft sections being installed in the same way (unless a single shaft unit).



The capital is then bedded. The isolating medium is inserted into the core. The core is then partly infilled with concrete as previously described



The isolating medium is then trimmed flush. Column ~ Entablature or Structure above: the Continue concrete infill until level with top of joint around the structural core between the capital. The capital is now ready for the next stage, either (11) or (12).



Column ~ Entablature or Structure above: the capital and the entablature or structure above should be formed using a compressible filler, or a weak mortar mix, to form a 6mm (1/4") soft joint. This ensures that any loading is carried by the central structural core and not by the stonework.



Column ~ Freestanding or timber pergola: the top of the capital will need to be waterproofed, as a minimum, with bituminous paint (applied in accordance with manufacturers instructions) to approximately 25mm (1") from the edge of the stone.

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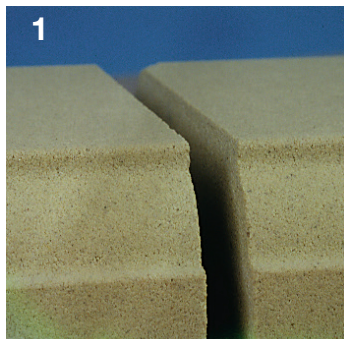
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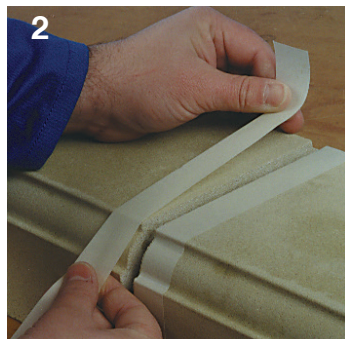
Issue date: 02/15

Required: pointing mix, pointing trowel, masking tape, mixing bowl, water, mist sprayer.

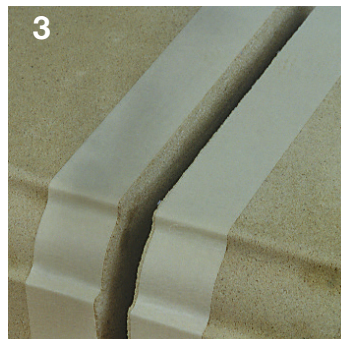
Please note: all text and photographs relate to Haddonstone semi-dry pointing mix.



Before pointing ensure each 6mm (1/4") joint is free from loose particles. Avoid pointing in extreme conditions, particularly wet and cold.



Apply masking tape to both sides of the joint, keeping the tape approximately 1mm (1/16") from the edge of the joint.



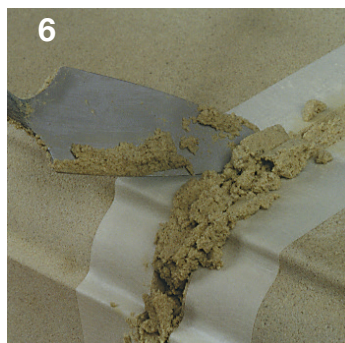
The joint is now ready to start pointing.



Carefully add small quantities of water to the Haddonstone pointing mix, mixing thoroughly to ensure the water is fully dispersed. **See note below.*



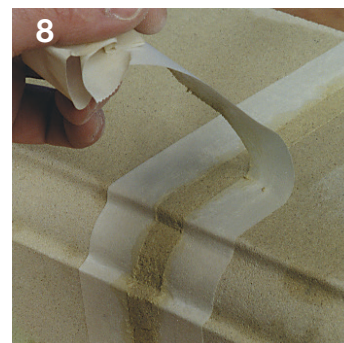
The Haddonstone pointing mix is ready to use when it has the consistency of damp sand. **See note below.*



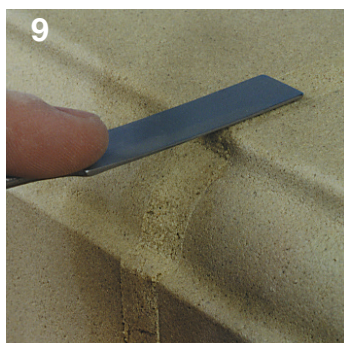
Scoop the mix into the joint, pressing with a trowel to ensure an even fill.



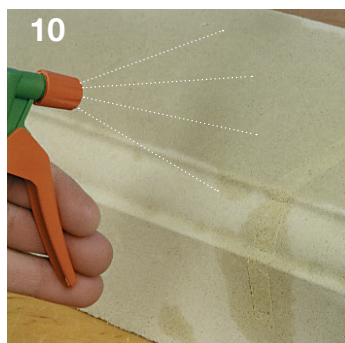
Smooth the pointing mix to the profile of the stone, removing any excess pointing mix.



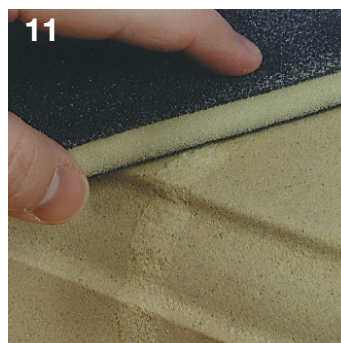
Carefully remove the masking tape.



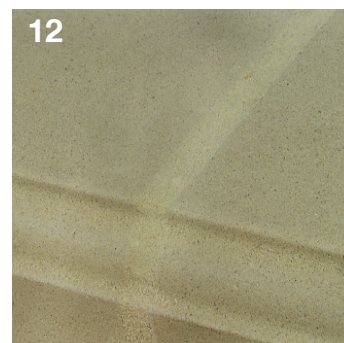
If necessary trowel over the joint once more to ensure a flush finish.



Apply a fine and even mist of water to the joint to prevent drying out.



Any mix residue may be rubbed away with fine abrasive paper 2-3 days after completion.



The finished joint.

** NOTE: It would be advantageous to use a waterproofing additive in the mixing water (SBR or other proprietary mortar admixture). The use of too much water can lead to the pointing mix colour and texture becoming unsightly, and the possibility of the mix bleeding into the adjacent cast stone.*

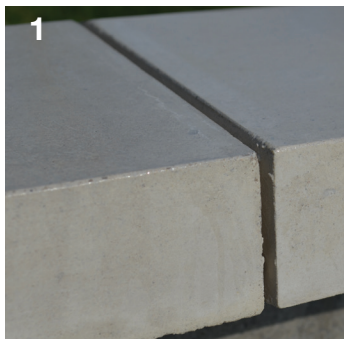
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Issue date: 10/18

Required: pointing mix, pointing trowel, masking tape (if required), mixing bowl, water, sponge.
Please note: all text and photographs relate to TecStone pointing mix.



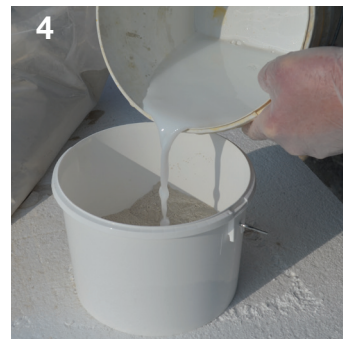
Before pointing ensure each 6mm (1/4") joint is free from loose particles. Avoid pointing in extreme conditions, particularly wet and cold.



The TecStone pointing mix is supplied as separately bagged aggregate and cement, with an information leaflet.



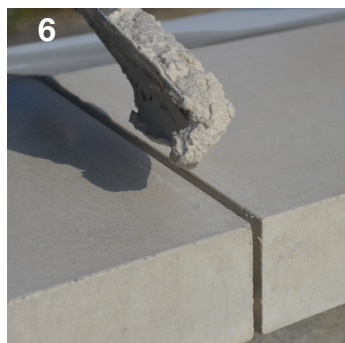
The pointing mix, cement and aggregate should first be mixed together dry in the ratio of 1 part cement to 4.5-6.5 parts aggregate.



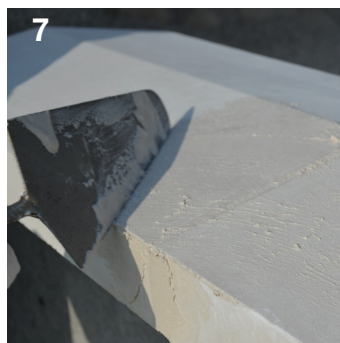
Carefully add small quantities of water to the TecStone pointing mix, mixing thoroughly to ensure the water is fully dispersed. **See note below.*



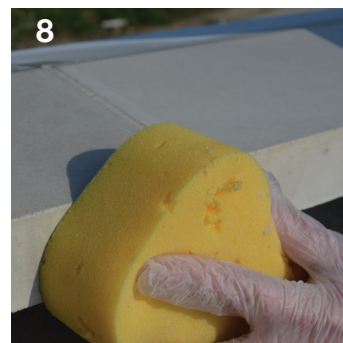
The TecStone pointing mix is ready to use when it has the consistency of putty. **See note below.*



Scoop the mix into the joint, pressing with a trowel to ensure an even fill.



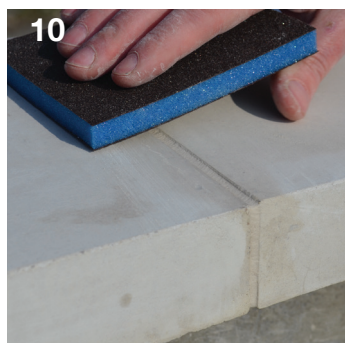
Smooth the pointing mix to the profile of the stone, removing any excess pointing mix.



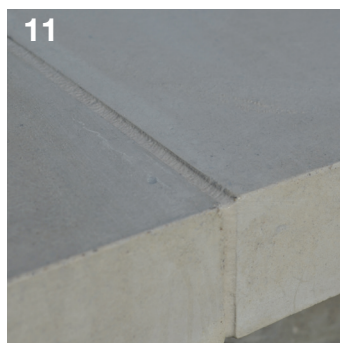
Wipe over the surface of the joint and surrounding area with a dampened sponge to remove all surplus pointing material off the surrounding areas and ensure a flush finish to the joint.



If necessary trowel over the joint once more to ensure a flush finish.



Any mix residue may be rubbed away with fine abrasive paper 2-3 days after completion.



The finished joint.

** NOTE: It would be advantageous to use a waterproofing additive in the mixing water (SBR or other proprietary mortar admixture). The use of too much water can lead to the pointing mix colour and texture becoming unsightly, and the possibility of the mix bleeding into the adjacent cast stone.*

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