



East Coast Columns & Mouldings

BUILDING COLUMNS

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INTRODUCTION – BUILDING COLUMNS

This Data Sheet is intended to provide information regarding the building columns manufactured by **EAST COAST COLUMNS AND MOULDINGS** as well as further information regarding storing, handling, and installation. An FAQ section is also included.

DISCLAIMER

East Coast Columns and Mouldings guarantees that its products are of the highest quality and that the goods are fit for their intended use. We are not responsible for the quality of work carried out on our products by the consumer or their contractor and are not responsible for the design or construction of any structure in which the products are incorporated. All consumers and their contractors should ensure that they comply with local by-laws in respect of any structures. Where our columns are to be incorporated as structural or load-bearing, the intervention of your architect and engineer is a pre-requisite.

THE COLUMNS

1. are manufactured from **polymer** based composites, rotocast to high performance standards. *
2. are approximately **4 times** the **compressive** and tensile strength of conventional concrete.
3. have a beautiful **smooth finish**, therefore no need for plastering and finishing off – simply paint with a primer and normal paint.
4. are available in standard straight (**161, 200, 230, 300, 350, 400, 450 and 600 diameter**) and **Tuscan tapered** designs with matching capitals and bases.
5. can be used as is for decorative purposes or as a **permanent shutter** and filled with concrete. Should it be load bearing however, an Engineer's Certificate will be required.
6. are **hollow**, allowing for easier transportation, handling and positioning. They require no cranes on-site. 5 ½ x lighter than concrete.
7. are **water, weather and corrosion** resistant

- *Polymer Concrete is an engineering material, composed by a thermosetting resin binder and carefully graded silica and quartz. The resulting product looks and feels like concrete.*

TESTING (TECHNICAL)

The structural performance of **POLYMER CONCRETE** versus **conventional concrete** is reflected in the table below:

Property	Unit	Polymer Concrete	Traditional Concrete
Compressive Strength	Mpa	133	35
Tensile Strength	Mpa	10	2.5
Flexural Strength	Mpa	22	2 - 8

Property	Unit	Polymer Concrete	Traditional Concrete
Bond Strength	Mpa	4.5	0.9
Young's Modulus	Gpa	35.6	10 - 40
Water Absorption	%	0.06	5.5

TESTING (TECHNICAL) - Continued

Our Columns have been subjected to rigorous load testing at the Faculty of Engineering, Civil Engineering Laboratories, University of Kwazulu-Natal. The table below reflects failure load levels.

OD mm	Height mm	Failure Load (Tons)
230	2100	41.50
300	2400	49.80
400	2500	65.00

STORAGE AND HANDLING

Columns should be stored on a flat surface, away from building activity. Care should be taken to avoid dropping heavy objects such as bricks, blocks and such-like on the columns, whilst stored. When moved from position, care should be taken not to drop the column when it reaches its destination.

INSTALLATION

1. NON STRUCTURAL INSTALLATION

For Columns installed for decorative purposes we recommend the following methods:

(a) INTERIOR – Non Structural

For Interior decorative installation

- I. Ensure that your floor base and top soffit or beam is clean and free of dust
- II. Ensure that your column is the full height required to be traversed. (Note: If you need to cut the column, trace your line around the column and cut using a diamond circular blade).
- III. Slide Base over the Column (Our Bases and Caps slide over the column like a collar – i.e. the column does NOT sit on the Base and the Cap does NOT sit on top of the columns).
- IV. Slide the Cap over the column. (Remember the cap sits in the opposite direction of the base).
- V. Apply Epoxy adhesive to the bottom and top of the column. (Note: We supply SolidKote or Pro-Struct 617 Epoxy Adhesive).
- VI. Slide the column into position and secure whilst in position with chocks or nails.
- VII. Allow to dry while allowing the Base and Cap to sit loosely.
- VIII. Once dry move Cap up the column and secure with wedges to ensure it sits evenly on the column. Add a few “blobs” of Epoxy at intervals around the column where it meets the Cap. Allow to dry.
- IX. Lift the Base and add a few “Blobs” of epoxy around the base. Position and allow to dry.
- X. Once the cap and the case are secure in position, caulk the remaining gaps with “Painters’ Mate” or similar filler. (Note: Some prefer to use epoxy as the filler, but this is optional).
- XI. Clean the Column, Capital and Base and apply a high quality primer.
- XII. Finish with premium grade topcoat paint or paint technique.

(b) EXTERIOR – Non Structural

Our columns are often installed as exterior features, either for decorative purposes or for pergolas, lean-to structures and car ports.

- I. Ensure the foundation base is prepared.
- II. Drill three holes in the foundation base and insert three “starter bars’, approximately 1 metre in length, securing with Epoxy. Bars can be Y8 to Y12 depending on column diameter.
- III. Lift column over bars and position.
- IV. Secure in position with wooden frame or other method.
- V. Pour concrete up to the top of the starter bars ensuring that the column remains in the plumb position.
- VI. Once dry, remove fixing, add base and cap as in method (a). If the installation is under a beam, ceiling or soffit, the cap and base must be installed at III.
- VII. If a cap is not going to be used (eg when the column is installed in a Pergola) we will supply a “Column Plug” which is epoxied on top of the column. Prior to installation of the plug, it can be drilled and fitted with a beam securing bolt.
- VIII. Note: Columns used for these purposes can be left as is with 1m of concrete in the base, filled with concrete, or filled with river sand.

2. STRUCTURAL INSTALLATION

Our columns are specified for use as a permanent shutter and concrete filled as part of the supporting structure. Builders, Engineers and Architects employ varying methods of installation. Some elect to cast the column into the slab, some elect to cast them into the deck, some deal with them on a unitary basis, etc. Installation is very much similar to that described above, save the following that is offered as advice:

- I. Despite the strength and permanent shutter nature of the Column, where Engineers have specified steel reinforcing, they invariably specify reinforcing cages of 3 to 4 bars (from y8 to Y12) depending on the length and diameter of the column. Stirrups are specified at centres of 200 to 250mm using 3mm to 5mm wire. Before having your steel fabricated, please consult with us regarding the internal dimensions of our hollow columns.
- II. The column is slid over the cage, fixed in place (as before), leveled, and filled with concrete.
- III. Don’t forget the Caps and Bases. (tip, Your cap is going to be sitting at the base “upside down”. To stop misdirected concrete filling it, fill it with builder’s sand. When it is ready to slide up for fixing, just remove the sand and clean).
- IV. While filling ensure that the column remains plumb and that its position is not compromised by any movement in the reinforcing. For best results, concrete should be added incrementally and not just “dumped wholesale” into the column.
- V. We have seen workmen beating the column with sticks, hammers, spades, (or what have you), while pouring concrete. Our Columns are strong but this method is not recommended. For best compaction results, vibration or poking is recommended at every incremental layer.
- VI. When complete, fix base and cap as before.



FAQ

Q: Is East Coast Columns and Mouldings a manufacturer?

A: For some years now East Coast Columns and Mouldings has been the largest polymer concrete column manufacturer in the country. From our three locations in the Durban (New Germany), Cape Town (Saxenburg Park) and Gauteng (Brits) areas, we have been operating nationally while still maintaining a close relationship with each of our customers.

Q: Do you sell directly to customers?

A: In order to preserve a close relationship with our customers, we work directly with them. We also do business with a few distributors in RSA, but our focus is to accommodate any builders, contractors, architects, developers and even homeowners that contact us directly.

Q: What is the material used in your products?

A: Carefully graded fillers such as Quartz and Silica sand, Limestone together with Polymer Resin are the main components in our material. Depending on the product, a different percentage of each component is added to create our distinct polymer concrete blend.

Q: Is the product/material strong?

A: Our polymer concrete mixture is an extremely durable material. The polymer resin is used as a bonding element that also works as a moisture repellent. It is approximately 4 ½ times stronger than conventional concrete.

Q: What is the appearance and texture of your product like?

A: Our polymer concrete finished products are extremely smooth in texture and are grey in appearance. They look like and feel like ultra-smooth concrete, no honey combs.

Q: What products do you offer?

A: Originally, East Coast Columns and Mouldings was a manufacturer and distributor of architectural columns. We are still primarily focused on producing architectural columns, but because of our extremely versatile material, have expanded our range into many other architectural products. Fireplaces, window and door surrounds, quoins, windowsills, corbelling, wall profiles, wall capping, pillar caps and custom mouldings are some of the additional products that we produce from our material. We also provide our customers the option of customizing their product if needed. In fact our motto is "If you can draw it, we can make it".

Q: What is the weight scale of the finished products?

A: Unless specified, most our products are made hollow in order to take weight out of the product. This makes the end product cost effective and helps ease installation and transportation. Specific weights of each product are reflected in our pricelist or can be obtained telephonically or by email. Generally our products are between 6 and 12 times lighter than their conventional concrete counterparts.

Q: Do you offer installation?

A: We focus purely on manufacture and do not offer installation of our products. We do offer installation advice on-site.

Q: Can your products be painted?

A: The products can be painted normally but the prerequisite is a good primer.



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Q: Can I drill into your columns, say, to mount a light fitting?

A: Yes. A steel drill bit is preferred to a concrete bit as it produces a cleaner hole. The finished product is fairly hard so your steel bit will deteriorate in sharpness.

Q: Can your architectural columns be cut if they are too long?

A: Yes, they can. All you need is a circular cutter with a diamond blade.

Q: What if I need a column that is higher than your standard maximum length?

A: Simple. We will supply you the requisite length in two or three sections with a column sleeve that you will install at each join. Epoxy adhesive completes the job.

Q: Are your architectural columns load-bearing?

A: Our architectural columns are load-bearing, but the structural requirements of your project should be cleared with your Architect and Structural Engineer. For this reason, Engineers often specify steel cages within the column filled with concrete. The column then acts as a permanent shutter to fully sustain a structure.

Q: Is the material weather resistant?

A: The polymer resin component used in our products ensures that our material can only absorb moisture at a very minimal rate (0.06%). This is in comparison to traditional concrete's 5.5%. So yes, Our products are extremely weather resistant.

Q: Are these interior or exterior columns?

A: All East Coast Columns and Mouldings architectural columns are made to accompany interior and exterior environments.

Q: Do you deliver?

A: At East Coast Columns we will deliver free of charge in the greater metropolitan areas where our factories are based. Outlying areas are supplied via independent contractors or by ourselves at additional cost.

Q: How much height do a capital and base add to an architectural column?

A: No additional height is added to column. The bases and standard capitals on our architectural columns wrap around (slip over) the column shaft.

Q: How do you fix a capital and base to the floor and top structure?

A: Simple. With Epoxy adhesive, just follow the installation instructions.

Q: Do you supply Epoxy Adhesive?

A: Yes, we supply Epoxy Adhesive in Two-Part kit form.

Q: Do you have a web site where I can see some info on previous projects?

A: Have a look at www.ecc-m.co.za



East Coast Columns & Mouldings

CONTACT DETAILS

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