CONSYSTEX
CONCRETE SYSTEM TECHNOLOGIES

PRODUCT DATA SHEET

Circular Tubes

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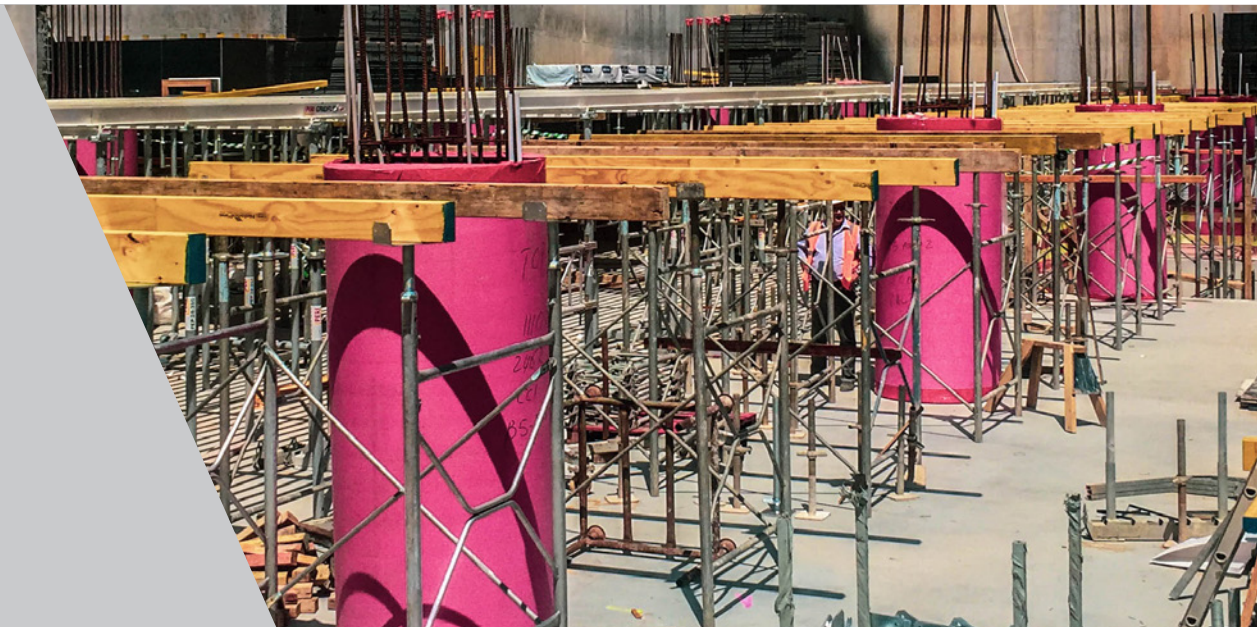
Consystex Pty Ltd
ABN: 14 160 650 368
62 Marigold St, Revesby NSW 2212
Tel: 1300 266 797 Fax: +61 2 9222 2633
Email: info@consystex.com
Web: www.consystex.com

Consystex offers the latest technology for perfect Columns

The advantages that this product offers over other solutions in the market include:

- Light weight material that can be easily shaped and transported with ease
- Can be manufactured to your desired requirements (rigid for pilling and flexible for various applications.)
- It is environmentally friendly and is made up of non-hazardous materials which can all be recycled.
- It is weatherproof and can be designed for underwater applications without affecting the strength of the tube.
- It can be offered in a range of desired finishes including spiral lined and textured
- Standard Diameters are shown on the following page (for custom sizes please consult one of our technical staff members who will be able to consult and design to your specifications)



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Consystex column dimensions

Internal Diameter	External Diameter	Avg Weight per Metre
260	264	1.00
310	314	1.25
360	364	1.75
410	414	2.00
460	464	2.25
510	514	2.50
560	564	2.75
610	614	3.00
660	664	3.25
710	716	4.25
760	766	4.75
810	816	5.25
860	866	5.75
910	916	6.25
960	966	6.75
1010	1016	7.25
1060	1066	7.75
1110	1116	8.25
1160	1166	8.75
1210	1216	9.25
1260	1266	9.75
1310	1317	10.25
1360	1367	10.75
1410	1417	11.25
1460	1467	11.75
1510	1517	12.25

Note: These specs are based on standard column specs for use up to 5m for details on longer lengths columns can be modified to ensure safe pourheights in compliance with Australian Standards.

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Handling of Consystex column tubes

a) Transportation

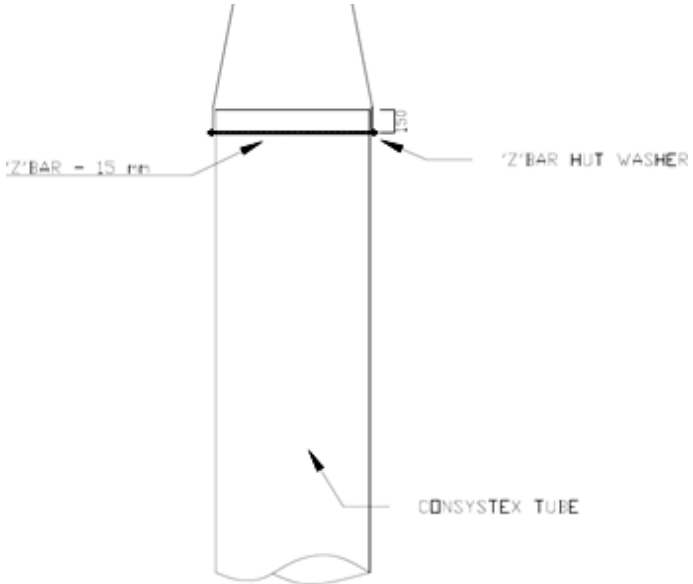
Consystex columns can optimise maximum space during transportation as they have a flexible tolerance that allows you to load an average of 30% more columns on a truck by squashing them down.Due to the thin wall structure smaller diameters can also be placed inside larger columns to optimise space.

b) Unloading Manually

Consystex columns can be removed manually by sliding columns off the back of the truck. It is recommended that columns are handled with care as throwing or mishandling can create unwanted creases which will affect the finish of the column.

c) Unloading with the aid of a Crane

In this situation it is advised that the columns are lifted with slings (we recommend the use of slings as chains can create internal creases which will not affect the strength of the tube but can create unwanted surface marks on the finished concrete). It is also crucial that slings do not place too much pressure on the column tubes. Only apply sufficient pressure to securely hold the column tubes when lifting.



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d) Storage

Consystex columns are water resistant and can be left on-site in a horizontal position, however, it is best to place and fill columns as soon as possible after delivery. Avoid continual movement of columns around your site as this may cause unwarranted damage. Do not over stack columns and ensure that they are held in position by placing timbers on either side of the tubes and stacking them in a pyramid shape. It is recommended to turn columns around if they begin to warp after long periods of storage. Columns stored for any length of time should be protected from the elements or placed under cover. If placed upright, please ensure that columns are secure. Due to the light weightiness of the product, they may be blown over by wind, therefore they should be securely braced and tied. It is not advised to place columns higher than 3m in an upright position.

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Column Installation

Columns can be installed in several ways. The two most common are listed below. If you require a setup which is not listed below (I.e. submerged, angled etc.) please contact our technical department.

a) Pour Up Method

Where columns are set up prior to the suspended slab (i.e. stood vertically from the base slab), they are to be lowered down over the column reinforcement. Consideration should be given to any cogged bars at the top which are wider than the tube diameter as this will prevent placement of the tube. Cogged bars can be turned in and turned back out if approved or top cogs can be placed after the tube is in place - subject to the project engineer's approval. Ensure bar chair spacers are attached to the column reinforcement to avoid scratching or tearing the liner. Alternatively, PVC conduit can be attached to the outside of the column reinforcement and removed after the tube is positioned. The tubes are then braced and levelled accordingly with diagonal bracing. We recommend that a circular collar cut out to the external diameter of the Consystex tube is used and placed no less than 100mm from the top of the tube. This collar can be supported by 3 vertical bearers to create a tripod like support to aid in the stability of keeping the column level. The bearers should not contact the tube. Diagonal bracing can then be attached and the column plumbed vertically. The bottom of the tube is to be braced for lateral movement by fixing four (4) timbers (kickers) equally spaced ie at North, South, East & West points at the bottom of the column so that they are positioned on the outer face of the tube. They should not push into the base of the tube and they should allow the tube to expand to the full diameter when the concrete is poured. Ensure top and bottom of the column have a nail placed into support and tube ensuring no lift or movement once levelled.

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Column Installation

b) Pour Down Method

Where columns are installed from a suspended deck, the tube is lowered into position from above through the circular penetration in the beam/slab soffit plywood. The top of the column must be nailed to the plywood to ensure the column doesn't move. Please ensure that the cut out is at the correct external diameter to ensure that the column is free to take its shape. The bottom of the column is braced for lateral movement as per the detail in a) above. The bottom of the column must have a nail placed into the base support and tube ensuring no lift or movement once levelled (we recommend 2 nails on top and bottom opposite to each other).

As per a) above, ensure bar chair spacers and/or conduit is in place to avoid damage to the liner before lowering tube into position.

c) Columns for Piers and Piles

When installing, ensure that the column is placed into the pier hole without excessive ground pressure. Columns can be designed to all specified grounds i.e sand, water, dirt. It is crucial that columns are not subject to any piling after the installation of the pier column.

Cutting Columns

When columns need to be cut they should be cut using a Stanley knife or equivalent. If the column is lined ensure to retape the liner to the column so that no concrete can enter in between the tube and the liner. This is very important. We recommend that all lined columns be ordered and heights specified so that we can cut to size in our factory to ensure the best quality finish.

If any box outs need to be added or plates etc. we recommend that you contact our technical department as any form of penetration to the column could affect the strength of the tube. Instructions on reinforcing the column can be given depending on the specification.

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Pouring of Concrete

Before pouring check all columns are braced adequately and internal liners have not been displaced. It is crucial that the concrete is poured into the column by placing the pump hose and vibrator as far down as possible. Pouring from the top of the column is not recommended and can lead to damage of the liner and to the finish of the tube. If the column is not vibrated evenly there is a high chance of honeycombing. Ensure concrete pour rates are not exceeded.

Stripping Columns

All supports should be removed and the column should be clear of any possible interference. A knife can be used to cut a vertical incision from the top to the bottom of the column. Ensure not to cut through to the concrete as this may scratch or damage the surface finish of the concrete.

Alternatively, you can utilise the option of **Consystex Stripping Tape**, which will split the column vertically for easy removal of the tube.

Once the outer column shell is cut, peel off the tube and safely place on the ground. Cut the column shell into manageable pieces for ease of handling and dispose of responsibly into rubbish bins.

Chart Specifications

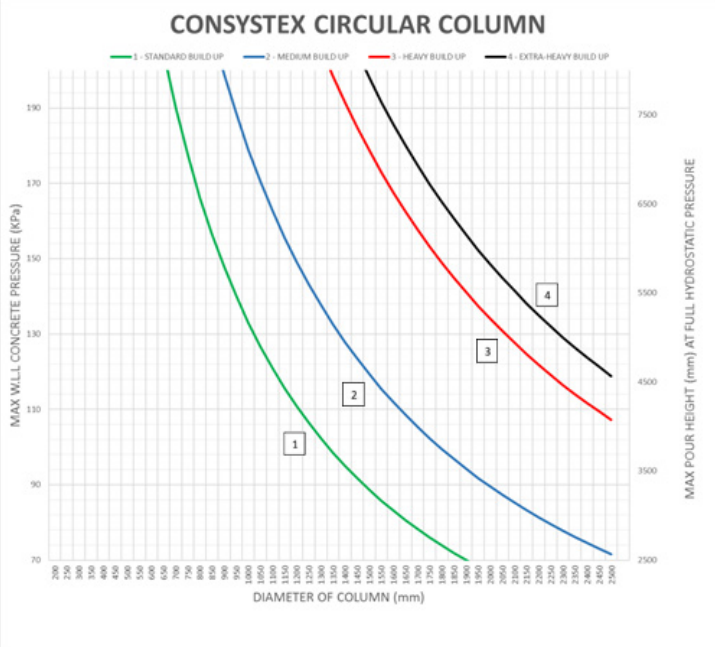

CHART USE CONDITIONS:

DETERMINE CONCRETE PRESSURE USING AS3610-1995.
FULL HYDROSTATIC PRESSURE VERTICAL POUR HEIGHT IS BASED ON A 25KN/M3.
NO EXTERNAL VIBRATION ALLOWED.
NO PUMPING FROM BELOW ALLOWED.
VIBRATE IN LAYERS. NO DEEP RE-VIBRATIONS ALLOWED.
POUR IN A CONTROLLED MANNER. NEVER POUR FASTER THAN 8 METERS/HOUR. FOR USING HEAVY AND EXTRA-HEAVY BIULD UP COLUMNS POUR RATE SHOULD BE NO MORE THAN 3 METERS/HOUR TO REACH ANY HEIGHT.
KEEP STEEL REO CAGE BETWEEN VIBRATOR AND THE FORM.
COLUMNFORMMUST BE HORIZONTALLYSUPPORTEDAGAINSTIMPACT AND WIND LOADS, PARTICULARLY AT THE BOTTOM AND AT THE TOP.
THE BASE OF THE COLUMN NEEDS TO BE SUPPORTED ON 4 SIDES BY TIMBERS SCREW BOLTEDTO THE CONCRETE SLAB OR SIMILAR.
COLUMN FORM MUST BE PLUMB.
COLUMN FORM MUST BE FIXED AGAINST UPLIFT MOVEMENT. CHART ONLY APPLIES TO UNDAMAGED, AS NEW CONDITION FORMS.
USE ACCORDING TO PROPERLY DEVELOPED WORK METHOD
iF IN DOUBT CONTACT CONSYSTEX.
THE LIMIT STATE CONVERSION FACTOR AS PER AS 3610-1995 = 1.5
CONTACT CONSYSTEX TEAM FOR SPECIAL REQUIREMENTS FOR HIGHER COLUMNS.

A STANDARD BUILD UP COLUM IS MADE FROM SIX PLYS.
A MEDIUM BIULD UP COLUMN IS MADE FROM EIGHT PLYS.
A HEAVY AND EXTRA-HEAVY BUILD UP COLUMN ARE MADE FROM 12 PLYS.

THIS INFORMATION COMPLIES WITH THE STRUCTURAL REQUIREMENTS OF AS3610-1995.

CONSYSTEX PTY LTD MADE THIS CERTIFICATION AND IS RELIED UPON THE FOLLOWING INFORMATION: THE TESTING CARRIED OUT BY CERTIFIED TESTING FACILITIES AND MATERIAL SPECIFICATIONS SUPPLIED BY CONSYSTEX SUPPLIERS.

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Characteristics of Consystex Columns

Consystex column tubes are manufactured out of non-hazardous materials in their manufactured state. They do not emit any form of odour. No components of the column should be exposed to fire or hazardous materials. This can result in harmful emissions and affect its structural integrity.

Weather resistant characteristics allow the Consystex column to withstand natural temperature changes, moisture and humidity. Normal weather conditions will not affect the structural integrity of the tubes. If columns are subject to any extreme weather conditions, please contact our quality control department to ensure that the columns are in usable condition)

Care should always be maintained with the use of the column.

The less exposure to water, dirt and poor handling will maximise performance and optimize the quality of the columns that are formed.

For any further assistance please contact us on
1300 266 797 or via email on info@consystex.com