

# DINCEL STRUCTURAL WALLING

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ORDERING PROCESS

## PATENTS

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## PREAMBLE

Refer [download – Water or Liquid Storage Tanks](#) for design and detailing issues.

The following example is for a water storage tank. The same example including reinforcements shown can also be used for basement walls as well.

- (1) The example consists of a water storage tank with overall dimensions of 10,132 mm x 5,466 mm x 3,000 mm deep.
- (2) The top and bottom of the walls are restrained by a concrete lid and footing slab as shown on the following details.
- (3) The 100 mm x 100 mm hob shown at the bottom of the perimeter wall can be omitted if engineered dowels are used. Refer Dincel Construction Manual for further details.

(4) The steel reinforcements shown for the walls are designed by practising structural engineers and are adequate for this example and basement walls of 1 metre below the permanent water table position. The basement walls for full water submerged conditions will require additional reinforcements to those shown.

(5) The stabilised back filling shown on the details eliminates the need for reinforcement at each wall's face for the case when the water storage tank is full with water. Basement walls do not require stabilised backfilling. The reinforcements shown are also adequate in catering for the basement walls with back filling consisting of granular material and agricultural lines which is normally placed behind the walls to relieve the water pressure.

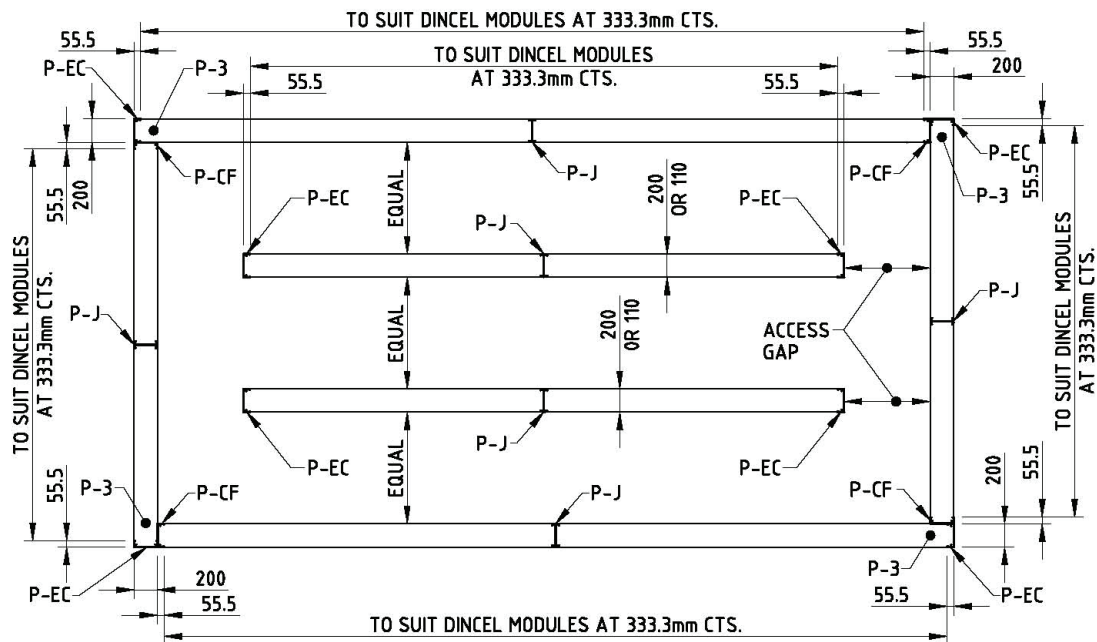
(6) Due to the inbuilt crack inducers Dincel Walls do not require crack control reinforcements – refer to certificate provided by the University of New South Wales ([Download – Why Engineers Can Omit Crack Control Steel in Dincel Wall](#)). The crack control reinforcements are the horizontal bars as in the case of this example. However, Dincel Construction System recommends the use of minimum N12 @ 600 centres horizontally placed 600 mm long bars with a standard hook at one end at the corners for the purpose of waterproofing at the wall corners. Refer Dincel Construction Manual for further details.

THE PROVISION OF HORIZONTAL BARS MAKES THE INSTALLATION OF DINCEL WALL CUMBERSOME, ESPECIALLY IN CIRCUMSTANCES WHERE SPACE IS NOT AVAILABLE TO FEED THE HORIZONTAL BARS IN POSITION.

THERE ARE MANY PRACTISING STRUCTURAL ENGINEERS WHO HAVE ALREADY DESIGNED AND CONSTRUCTED THE DINCEL WALLS WITHOUT USING CRACK CONTROL REINFORCEMENT AS CERTIFIED BY THE UNIVERSITY OF NEW SOUTH WALES.

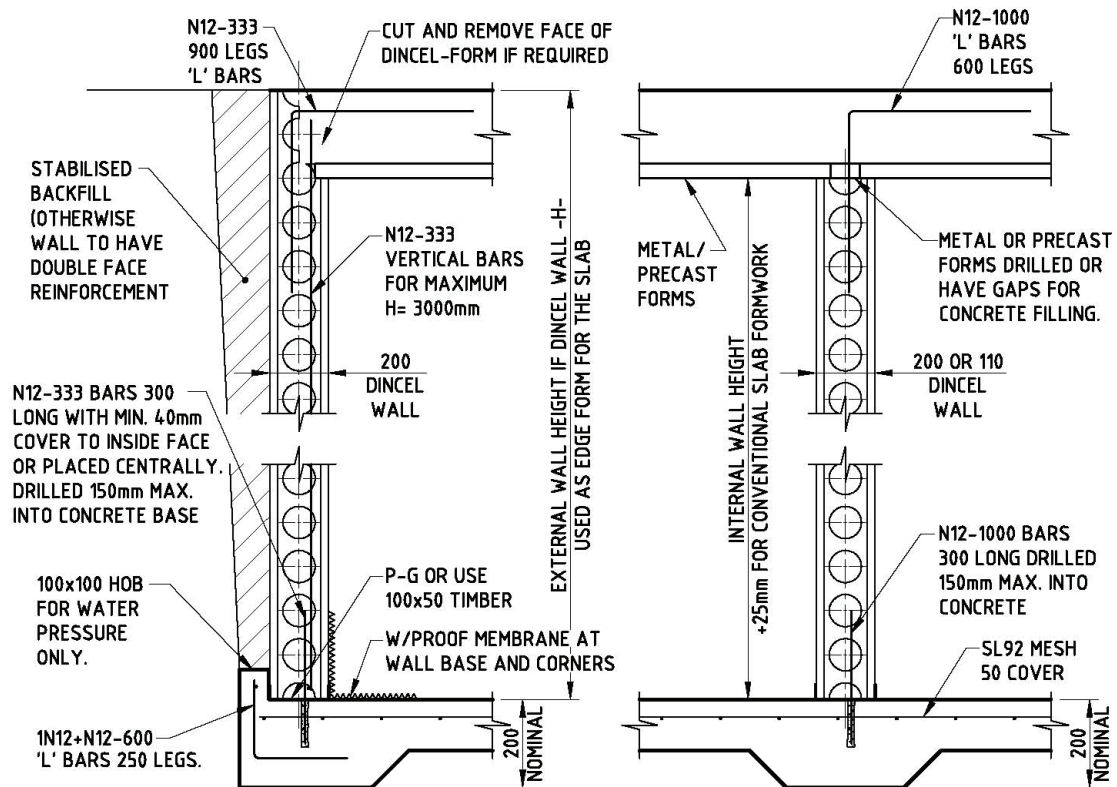
**FOR EXAMPLE,** THE COCHLEAR BUILDING AT MACQUARIE UNIVERSITY, NEW SOUTH WALES, BUILT BY WATPAC CONSISTS OF 140M LONG WALLS WITH NO HORIZONTAL REINFORCEMENT AND NO JOINTS.

## WATER STORAGE TANK



## TANK PLAN LAYOUT

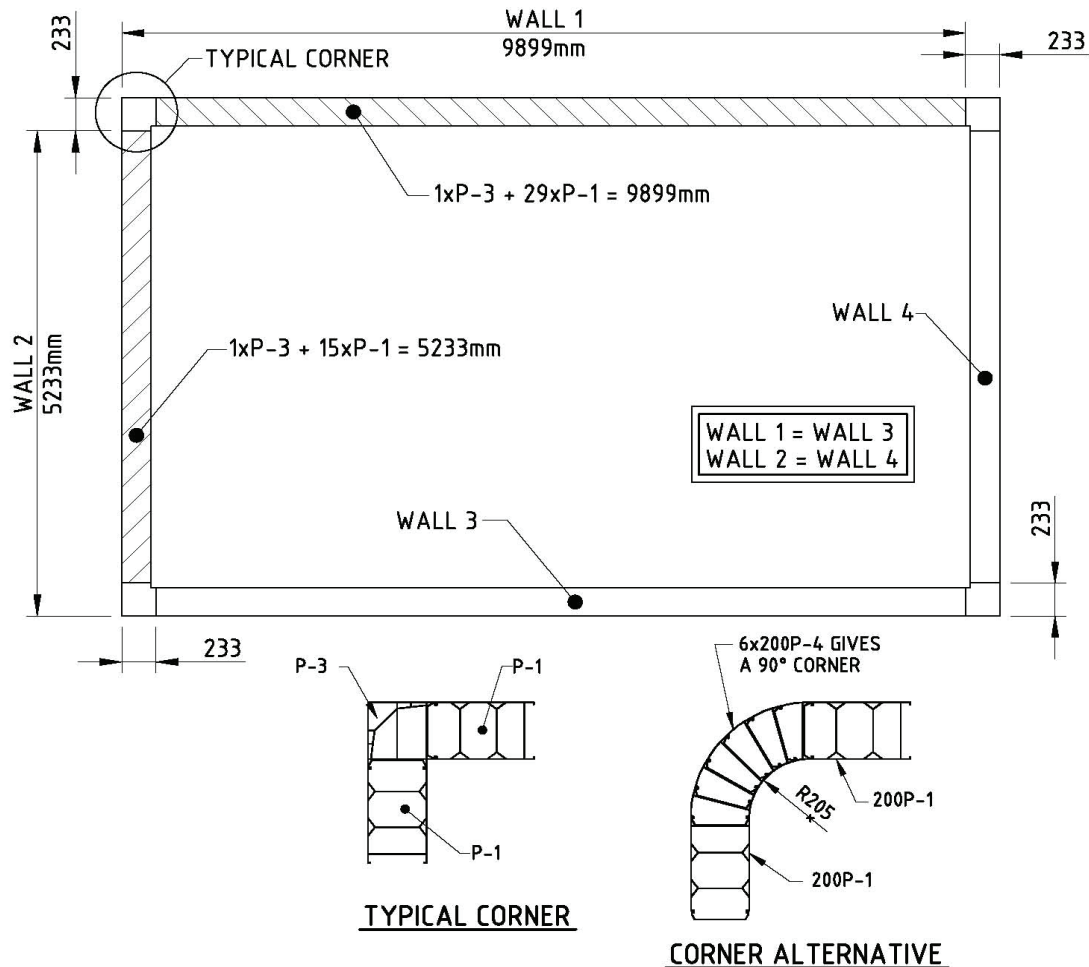
SHOWING DINCEL PROFILE LAYOUT



## PERIMETER WALLS

## INTERNAL WALLS

## EXAMPLE - WATER STORAGE TANK



### CALCULATE DINCEL PROFILES REQUIRED FOR WALL 1 AND WALL 2 ONLY AND COMPLETE DINCEL ORDER FORM

**WALL HEIGHT** = 3000mm

**WALL 1** = 233 (P-3) + 29 x 333.3 (P-1) = 9899mm

CHANGE NUMBER OF P-1 PROFILES TO  
SUIT VARYING WALL DIMENSIONS


**WALL 2** = 233 (P-3) + 15 x 333.3 (P-1) = 5233mm

- ADD 1xP-J PROFILE AT EACH STRAIGHT WALL, i.e 2xP-J FOR WALLS 1 & 2
- USE P-G AT THE BOTTOM OF THE WALLS FOR CONCRETE POURING PURPOSES.  $(9.899 + 5.233) \div 3.6m = 4xP-G$  FOR WALL 1 & WALL 2





**NOTE:** THE USE OF P-2 PROFILE IN WALLS 1 & 2 OFFERS THE FLEXIBILITY TO ACHIEVE ANY WALL DIMENSION WITHIN 55.5mm INCREMENTS.

Once you complete this form, please either fax or email to Dincel Construction System (DCS).  
 An invoice will be sent out and your order will only commence upon deposit payment.

ORDER DATE:		ORDER RECEIVED OFFICE USE ONLY	
CUSTOMER'S NAME: (See clause 1 below)			
CUSTOMER'S ADDRESS:			
SITE ADDRESS:			
CONTACT NAME:			
CONTACT PHONE NO:		FAX NO:	
EMAIL:			
ORDER NAME / NO:			
DELIVERY METHOD:	DELIVERY TO SITE (Sydney, Wollongong, Newcastle & Canberra Metro Only) <input type="checkbox"/>		PICKUP FROM FACTORY <input type="checkbox"/>

MAIN PROFILE - 200P-1 					
	LENGTH (mm)	QUANTITY		LENGTH (mm)	QUANTITY
LENGTH 1	3000	29+15	LENGTH 5		
LENGTH 2			LENGTH 6		
LENGTH 3			LENGTH 7		
LENGTH 4			LENGTH 8		

**NOTE:** All 200P-1 profiles are produced at minimum 1800mm to maximum 7950mm in 1mm increments. The main profiles incur a lead time of minimum 7 business days.

ACCESSORIES			
MODULE		LENGTH (mm)	QUANTITY
200P-2		3,600	-
200P-3		3,600	2
200P-4		3,600	-
200P-EC		3,600	-
200P-J		3,600	2
200P-G		3,600	4
200P-WS		3,600	-
200P-WJ		3,600	-
200P-TC		3,600	-
200P-EG		3,600	-
200P-RC		100 Per Bag	-

(1) Customer means the person and/or company name that appears on the Dincel Order Form. Use a single customer name for all orders to qualify for the accumulative discount rates.

(2) I confirm that I have read and understood the DCS 'Terms & Conditions of Sale' document as it appears on the DCS website.

(3) I confirm that the lengths and quantities nominated in this order are correct.

(4) I understand that DCS will not accept any returns of the unused product and no refunds will be made.

(5) The requested delivery date noted below will be confirmed by DCS once the deposit payment is made.

(6) I hereby certify that I have the legal capacity to purchase the goods named here-in and sign this Order Form on behalf of the customer named herein.

.....  
 Full Name in Block Letters

.....  
 Signature

.....  
 Requested Delivery/Pickup Date  
 (To be confirmed by DCS)

**NOTE:** The notches on the above accessory diagrams indicate if the panel has pre-drilled holes.