RANZ
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PECIFY WITH
ONF DENCE

SUPERFORM
BUILDING SYSTEMS

Guide to using the Ultimate Building Block

- Energy efficient ☑
- Solid Concrete Core ☑
- High Thermal & Acoustic Insulation ☑
- All weather Construction ☑
- Create Curved Walls ☑
- BRANZ Appraised -#362 ☑
- 4hr FFR- Fire Rated ☑
- Mechanical Fixing for Linings-Interior & Exterior ☑

STRUCTURAL STRENGTH

ACOUSTIC INSULATION

FIRE RESISTANT

SOLAR STORAGE

THERMAL INSULATION

0800 765925
POLY BLOCK

HOW TO ASSEMBLE AND USE THE 'SUPERFORM' LIGHTWEIGHT (ICF) INSULATED CONCRETE FORMWORK SYSTEM

Congratulations!
You are about to use the most revolutionary system for forming concrete. It puts you in total control of building a strong foundation, wall or structure, either residential or commercial.

Superform Building Systems

Superform Building Systems, the leading supplier to the ICF construction sector in New Zealand, has recently again demonstrated its innovative thinking and continued commitment to research and development with the new BIG block which is now available throughout the country.

BIG Block Size

This remarkable BIG block which is 1.5 metres long x 300mm high and comes in three widths of 200mm 250mm and 300mm (all retailing at the same price) has several enviable advantages over other forms of construction.
The size combined with the lightweight nature of the components enables fast efficient construction of walls, either straight or curved, a feature that has fired up the imagination of designers with some remarkable homes being constructed.
The structural strength of reinforced concrete, which is pumped into the formwork gives the building structural integrity to withstand earthquakes, tornadoes and tsunami's and eliminates wall vibration in high winds.

Thermal Insulation

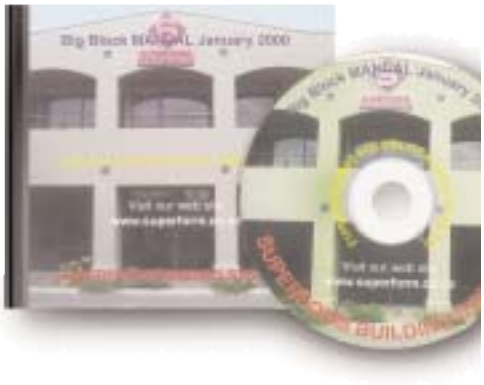
The next, and one of the most important advantages that the Superform ICF system gives the client, is high thermal insulation (R2.7) as the formwork is manufactured from high density fire retardant polystyrene beads, fused together and moulded into hollow blocks using high pressure steam. No CFC's are used and no rain forests are felled making the whole system environmentally friendly.

STC Rating

Also inherent is an STC (sound transmission class) rating well in excess of most other forms of residential construction. This means quiet zones are an achievable reality.
Superform has carried out extensive testing at Auckland University to ensure that, through design we can achieve sound ratings in excess of STC 55 as required under the NZBC for intertenancy walls.

Fire Resistance

Fire resistance tests have been conducted at BRANZ with a certified rating of 240x240x240 (4hr) being awarded, the maximum achieva under the code.
BRANZ (Building Research Associati of New Zealand) have appraised th Superform ICF System (Appraisal number 362) and comprehensive Technical Manual been prepared by Registered Engine and approved by BRANZ. If a building is designed wit the parameters of the Manual the Territorial Authority issuing the Consent requires no Producer Statement.



The Technical Manual

The Technical Manual is available or CD-rom complete with the construction details that can be dov loaded directly onto the drawing.
For a copy of the Manual including CD-rom, technical advice and our fr estimating service call the freephon number 0800 76 59 25.
To take advantage of the many features that the 200, 250 or 300m wide Superform BIG block has to of please read this instruction guide completely before you begin.

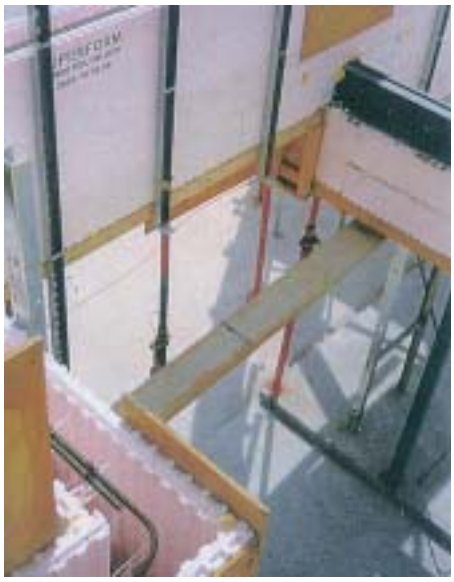
Local building codes

Before construction, check your loca building codes on poured concr construction, or your local Superform BIG block agent. Th instructions cover typical buildir construction and are not meant replace your local building or engineering codes.

Tools required

Tape measure, felt pen, level, hammer, carpenters saw, key h saw, a square, chalk line, plumb bob, wire tying pliers, 40mm x

ends and are screw fixed to the block on every course using a 8-gauge superscrew. The foot on the brace is located directly against the base of the blocks and in line with the wall, these are fastened down using a 8mm x 45mm Dyna bolt. When drilling for these bolts make the hole deep enough to enable the bolt to be



driven out of sight after bracing is removed. The adjustable arm of the brace is fastened in the same manner approximately 1300mm from the base of the wall. If under-floor heating is being installed in the concrete slab, ensure that there are no wires in this area eg: for 200mm blocks 1200 to 1400mm from the wall base.
The temporary bracing system can be hired from your nearest Superform Building System agent at a nominal charge. For more information and pricing call freephone 0800 76 59 25
Work proceeds to the window and door head height.

Windows and Doors

(see Technical Manual pages 67 to 73)
Door and window openings are formed as the wall laying proceeds. When setting out the walls for placement of windows, doors and other openings, mark on the floor or bottom block where these go and as

you erect the blocks place the end timber and polystyrene stop-ends into the blocks, at the sides of the openings to form your windows and doors etc. Blocks are cut horizontally or vertically to coincide with door and window openings or top plate and wall ends. Timber framing is installed as temporary formwork to the opening head. The cut blocks provide side forms for lintel beams over door and window openings. Always install a block tie on the window side of the polystyrene stop-end as this will minimise the chance of a blow-out when pouring the concrete.
Care must be taken when setting out the window openings to allow the clearances as specified in the window details. (see Technical manual pages 67 and 68). This shows the need to add to the stated window height.

1. Window height plus 95mm for Sill Option SF13. (see Technical manual page 67). This allows for a piece of rough sawn 100 to 150 wide x 25mm thick H3 treated continuous timber head packer, fitted in the opening and fixed to H3 treated timber blocks set into the concrete. (supplied by Superform Agents)
The sill has a 100 to 150 wide x 50mm thick H3 treated continuous timber sill packer, fitted in the opening and fixed to H3 treated timber blocks set into the concrete and 10mm packing top and bottom allowed as needed.

2. Window height plus 45mm for Sill Option SF14. (see Technical manual page 68). This allows for a piece of rough sawn 100 to 150 wide x 25mm thick H3 treated continuous timber head packer, fitted in the opening and fixed to H3 treated timber blocks set into the concrete. The sill is boxed to form a rebate in the concrete. Packing of 10mm top and bottom is allowed as needed.

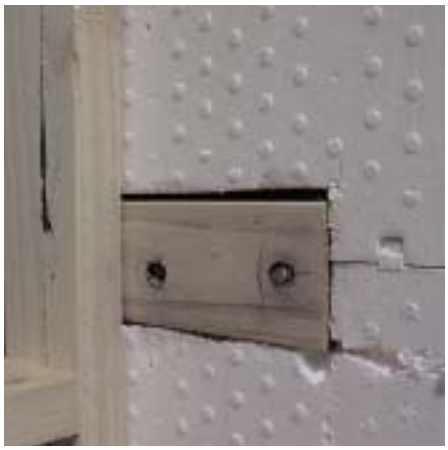
3. Window width plus 75mm for Jamb detail SF15. (see Technical manual page 69). This allows for a piece of rough sawn 100 to 150 wid x 25mm thick H3 treated continuous timber jamb packers, fitted in the opening and fixed to H3 treated timber stop-ends in the block work. Open block ends are formed and braced, using polystyrene block stop-ends. At corners and at wall intersections the blocks are butted and not overlapped as this allows the walls to be plumbed when the bracing system is fitted to the blocks.

maximum pour rate of 900mm per lift is maintained when vibrating. The vibrator head size is to be a maximum of 25mm.
To minimise the risk of blow out, pours must be carried out in lifts of no greater than 900mm of height per hour up to 3.6m. Each lift being poured, and the lift directly below the lift being poured, must be consolidated.
Each lift must have gone plastic before the next lift is poured on top.

Bolt Fixings

Bolts, straps and fixings for all structural and non-structural fittings should be embedded in the wet concrete rather than anchored in drilled holes after the concrete has been poured.
Any fixings to be cast in should have polystyrene removed so as to provide a 50mm concrete cover around the fixing. The length of fixings must allow for the thickness of the polystyrene to ensure the minimum bedding in, (as required by details in this Manual or by specific design), is maintained in the body of the wall. Insert hold down bolts for the top plate.

Internal timber frame walls joining exterior Superform BIG Block system walls are connected by fixing the end stud against timber blocks bolted to



the concrete infill via cast in M12 bolts. (see Technical Manual page 78).
Internal Superform BIG Block walls joining exterior Superform BIG Block walls are connected by forming a continuous concrete infill joint and providing L shaped reinforcing bars with adequate returns. A vertical reinforcing bar must be placed at the inside bend of the L bars (see Technical Manual page 77).

Services & Wall Penetrations

Chases, holes, cut-outs and recesses for small size services such as electrical wiring and piping up to 40mm diameter can be located against the concrete in slots cut into the Superform BIG Block external polystyrene skins.
Small size services are fixed to the concrete with U clamps and tappets. Larger services up to 100mm diameter can be located in ducts passing directly through the Superform BIG Block walls. The ducts must not be located within 400mm of a lintel, beam or bond beam, and reinforcing cover of 50mm must be maintained. Any penetrations outside this scope must be specifically designed.
Wall penetrations for services and ventilation can be made by cutting through the Superform BIG Block

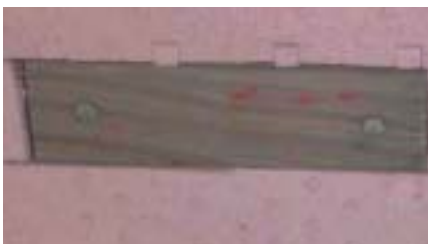
polystyrene face shell. Where this procedure is used, the casting holes should be covered to prevent them being filled with concrete.

Electrical Cables

The plasticiser in PVC sheathed electrical cables can migrate. PVC sheathed electrical cables must therefore be contained within plastic conduit or laid without conduit in oversize channels cut back to the concrete core. The conduit or the cables must be fixed at approved centres to the concrete core.

Provision for Fittings & Cabine joinery.

Ensure that adequate fixing for kitchen and bathroom joinery, and al household fittings such as towel rails shower mixers and laundry taps, etc, is provided at appropriate locations o the internal wall face by removing portions of the internal EPS face shel and replacing with solid timber block before pouring. Fix the blocks to the concrete infill as shown. These connections can carry a combined load of 25kg shear and 5kg tension.



Linings

Interior linings are simply glued to walls or fixed to the thermoplastic block ties identified by the vertical marks on both faces of the Superforr BIG blocks, with screws per the lining manufacturers instructions.

Curved walls

Mark out the wall on the footing or floor to plan, mark out 1.5metres on the outside of the curve, draw lines from the 1.5 metre marks to the poir of radius and measure the length of the inside face of the block between these lines. Subtract the inside measurement from the 1.5m and

SUPERFORM
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Superform is the ultimate start. Rockcote is the better finish.

Rockcote offers a range of finishes which will enhance the appearance of your building project.
All Rockcote hand plastered finishes have been tested with Superform and are proven as the right choice[1].
For further information on the products available contact :

ROCKCOTE

0800 50 70 40

help@rockcote.co.nz
www.rockcote.co.nz

[1] *Superform Building Systems have been tested and appraised by recognised testing methods. Not based on assumptions or opinions.*

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Details can be obtained by:
Freephone 0800 76 59 25
Visit our web site at
www.superform.co.nz
help@superform.co.nz