Save time and effort. Increased strength and superior insulation benefits.
The Firth RibRaft® system is one of New Zealand’s fastest growing residential and light commercial flooring solutions. The RibRaft® system is an innovative method of concrete floor construction, offering an insulated floor with a quick, practical and efficient construction method. It provides high strength and durability as well as saving time. The system uses polystyrene pods, steel reinforcing rods, plastic spacers and RaftMix™ concrete. Each of the components simply fit together, dramatically reducing labour and time. Compared to traditional flooring construction RibRaft® offers a number of significant benefits:

**Time Savings**

With the RibRaft® system the need to dig trenches for footings is eliminated allowing substantial reductions in time and labour. The need for extra sub-trades is also eliminated. With construction occurring above ground and the components not affected by rain, work can often continue even during wet weather.

**Energy Efficiency**

The insulation benefits (R value) of the RibRaft® floor provides excellent thermal efficiency. RibRaft® exceeds the minimum insulation requirements for H1 Energy Efficiency by varying amounts. Refer brochure “Superior Floor Insulation Design Solutions”.

**Increased Strength**

The raft design offers significantly increased strength and reduced cracking allowing the system to be built on soils with a minimum ultimate bearing capacity of 150kPa (for a single storey light roof/wall house). A reinforced concrete perimeter beam and reinforced concrete ribs over the floor area, results in a slab of immense strength.

**Reduced Spoil**

As the floor is ‘on ground’ not ‘in ground’ the amount of excavated material on your construction site is greatly reduced.

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### To obtain a Firth RIBRAFT® floor

#### Make decision to use RibRaft®
- RibRaft® specified by architect/designer.
- Change of design from traditional floor.

#### Design
- Follow the RibRaft® Technical Manual or for specific design consult an engineer.

#### Provide council with plans for their approval

#### Building consent approved
- Installation undertaken by a specialist RibRaft® installer. Contact Firth Information Service for a list of installers in your area. The installer will order all materials and arrange for full construction.
- Own installation. Contact Firth Information Service or your local RibRaft® distributor to order materials and for detailed installation advice.
STEP ONE
Cut building platform to level surface approximately 330mm below finished floor level. Council to inspect site before slab construction commences.

STEP TWO
Place a layer of fines, up to 50mm thick over the entire building area, extending 1m outside the perimeter. Shear key piles will be constructed at this stage if necessary.*

STEP THREE
Lay damp proof membrane [minimum thickness of 0.25mm] over the entire building platform at least to slab edge. Cut around and tape securely to plumbing pipes and laps. Set up formwork for slab perimeter and rebate if required.

STEP FOUR
Place Firth RibRaft® pods in a grid pattern [1200mm centres] as per your RibRaft® layout plan. Position pods with relevant spacers i.e. Firth 300mm spacers for edge beams and internal load bearing ribs; Firth 100mm spacers for standard internal ribs. The pods can be cut to accommodate the size and shape of the house and allow for load bearing walls.

STEP FIVE
Place reinforcing bars in edge beams and ribs being careful to ensure the steel is positioned in the lugs provided in the spacers. Lap all reinforcing steel as required and tie all corner steel laps. If required at this stage the plumbing can be installed and inspected as necessary.

STEP SIX
Place reinforcing mesh to mesh chairs on top of the pods. Ensure 50mm cover to edge formwork. Lap and tie mesh. Tie reinforcing bar to perimeter mesh. Re-entrant corners need additional shrinkage control steel tied to top of mesh.

STEP SEVEN
Pour Firth RaftMix™ concrete, taking care to ensure that the pods remain in place. For convenience it is easiest to use a concrete pump. It is desirable to pour some concrete over the pods before placing in the ribs. Concrete thickness above the pods is 85mm. Vibrate concrete, finish surface and ensure adequate curing takes place.

NOTE: The installation process described above is as per the Firth RibRaft® Floor System Manual. Different installation techniques may be required for designs that fall outside the scope of this Manual.
* Some regions throughout New Zealand require the use of shear key piles, refer to RibRaft® Floor System Manual. This manual is available from www.firth.co.nz or by phoning 0800 800 576.
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For more on Firth’s contribution to building a sustainable tomorrow today, visit www.firth.co.nz or call us on 0800 800 576 for our free brochure.

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