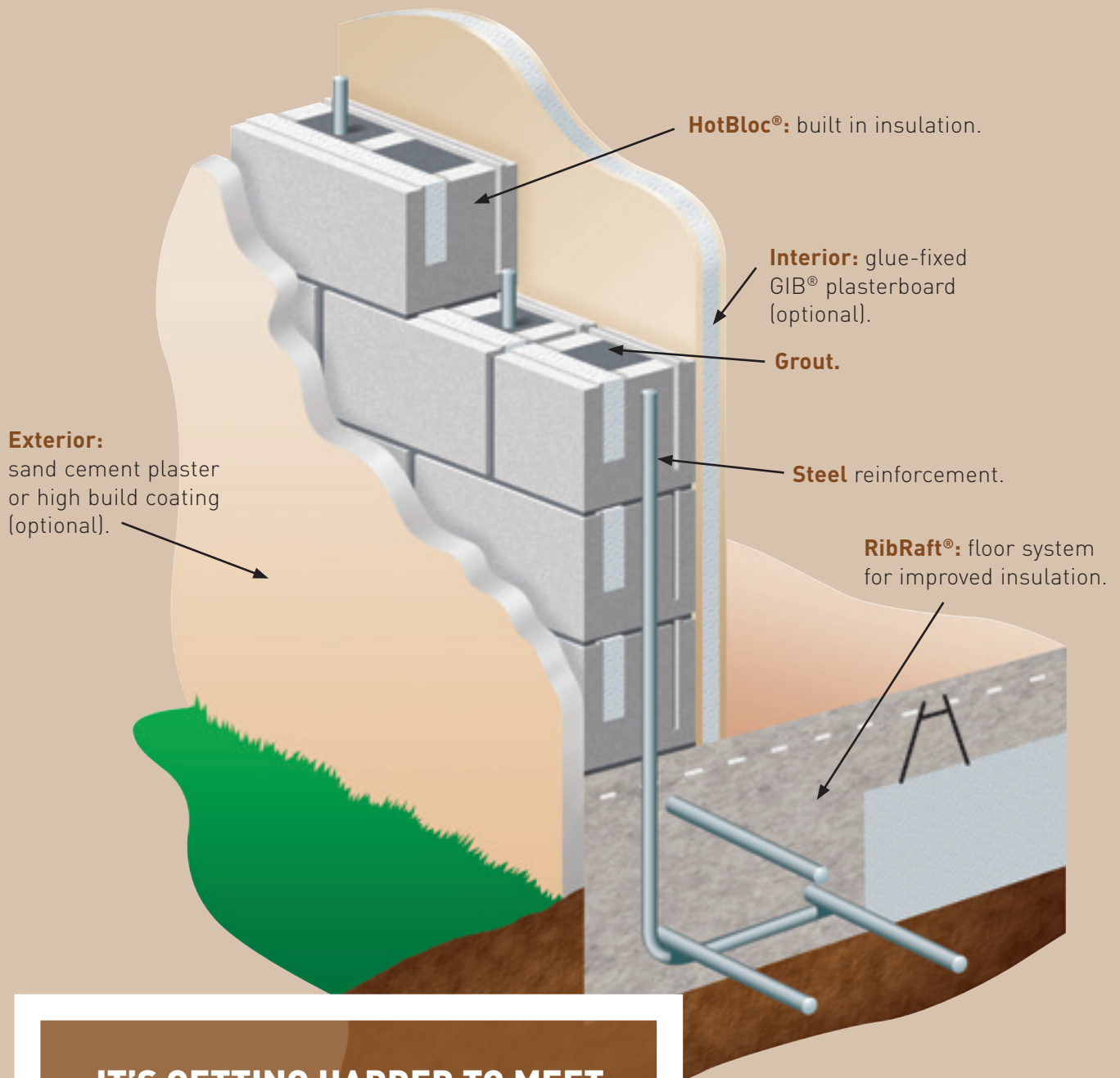




ENERGY EFFICIENT MASONRY CONSTRUCTION

The easy solution to the new Clause H1 Table 2(b) Insulation Code



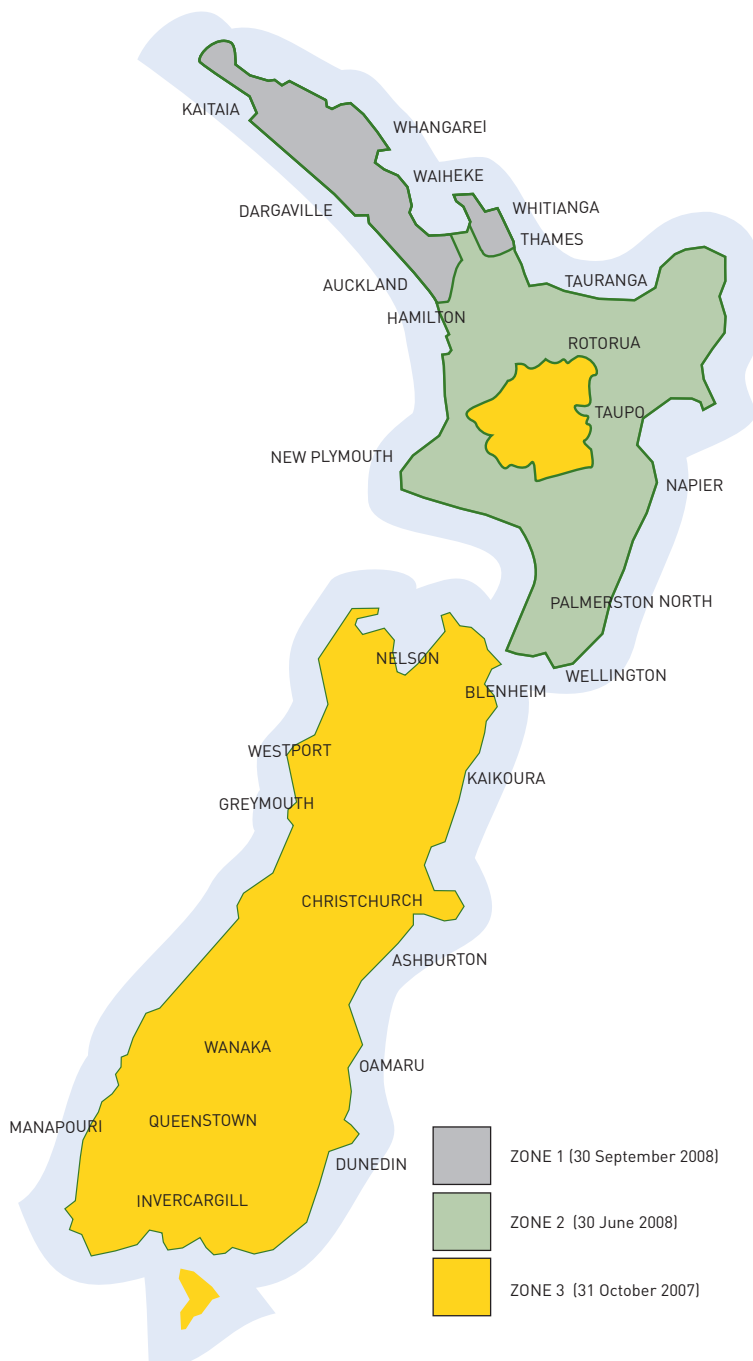
IT'S GETTING HARDER TO MEET
THE NEW STANDARDS FOR
BUILDING THERMAL INSULATION.

So you should receive this warmly...

After many years, NZ's thermal insulation standards are changing

In August 2007, the Department of Building and Housing announced major changes to Clause H1 (Energy Efficiency) of the Building Code. This is the first national change covering solid wall insulation in 30 years.

The thermal insulation standards are applied nationally, with differing R-value requirements specified over Climate Zones 1, 2 and 3 (ref. NZS 4218:2009). The first wave of changes became effective in October 2007, with the final round coming into effect in September 2008.



The big shift - the benefit of thermal mass is only recognised if it is available to the interior

R-values required for masonry recognise the energy and comfort benefits of thermal storage capability of solid construction. However, for these benefits to be realised the mass must not be isolated from the interior by insulation (H1 replacement Table 2(b) Note 11). This means that much higher R-values will be required if a strap, insulate and line solution is used.

Firth HotBloc® solid masonry and Firth RibRaft® floors are recognised as industry-leading products from New Zealand's only national concrete masonry company, a leader in both design and technical innovation.

Firth HotBloc® provides both thermal mass* and an integrated insulation component in one product. Use of HotBloc® solid masonry in solid-filled external walls forms part of the building's exterior envelope. In combination with the Firth RibRaft® insulated concrete floor system, Firth HotBloc® delivers the necessary R-values without the need for any specialist wall insulation.

So together, Firth HotBloc® and Firth RibRaft® provide you with the cost-effective and energy-efficient thermal mass solution that answers all the requirements outlined in Clause H1 of the new Building Code.

Problem solved in one!

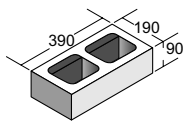
** Refer to NZ Building Code compliance document NZS 4218: 'Energy efficiency - housing and small building envelope' revised by the Department of Building and Housing Clause H1 Energy Efficiency - Third Edition, Table 2 (b) effective 31st October 2007*

Firth HotBloc® provides all the structural benefits of a normal masonry block with the added advantage of built-in insulation. Building with HotBloc removes the need for additional insulation - providing the added design flexibility of a solid plastered finish both inside and out.

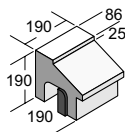
- a dual function solution
- the easy solution to Clause H1 in the Building Code

- same dimensions as a 25 Series block, and structurally equivalent to a 15 Series block
- Firth 25 Series HotBloc can be used in all seismic zones when used with schedule method under Clause H1 of the Building Code
- Firth 20 Series HotBloc can be used when designed with the calculation method under Clause H1 of the Building Code

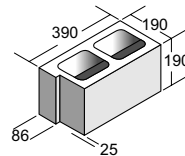
HotBloc® 20 Series



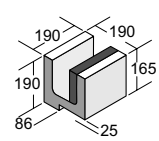
Hot-H04
Thermal Half High



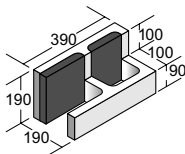
Hot-08
Thermal Sill (projecting)
(flush available in Auckland only)



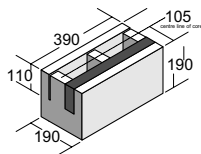
Hot-09
Thermal Rebate Whole



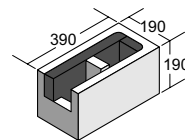
Hot-11
Thermal Rebate Half



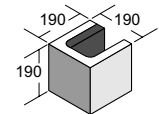
Hot-45
Thermal Header



Hot-STD
Thermal Whole, Knock-In Bond Beam

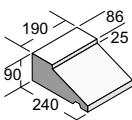


Hot-CNR(L and R)
Thermal Plain Ends and Corners

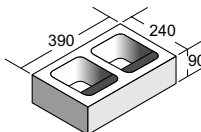


Hot-Half
Thermal Lintel and Half-End Closer

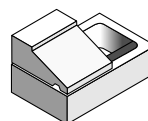
HotBloc® 25 Series



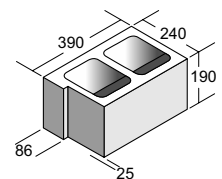
Hot-08
Thermal Sill (flush)



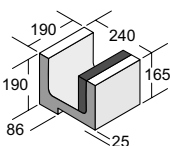
HotH25-04
Thermal Half High



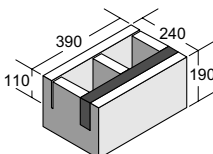
Hot-08 + HotH25-04
Sill Option to achieve 190 height



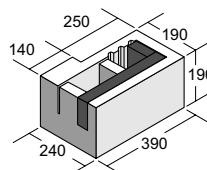
Hot25-09
Thermal Rebate Whole



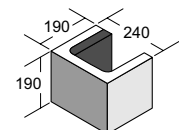
Hot25-11
Thermal Rebate Half



Hot25-14
Thermal Whole, Knock-in Bond Beam



Hot25-15(L and R)
Thermal Plain Ends and Corners



Hot25-12
Thermal Lintel and Half-End Closer

Choosing the right solution made easy!

To make it even easier and faster for you to know which combination of Firth HotBloc® masonry and Firth RibRaft® insulated concrete floors will meet

the required insulation standards across each of the 3 Climate Zones.

Effective from 30th September 2008

Climate Zones	Minimum R-values (m ² °C/W)					Firth HotBloc® + Concrete Floor Solution
	Roof	Wall	Floor	Glazing (vertical)	Glazing (skylights)	
Zone 1 Option 1(a)	3.5	0.8	1.5	0.26	0.26	25 Series HotBloc® (or 20 Series HotBloc® subject to the calculation method) + **RibRaft® floor
Zone 1 Option 1(b)	3.5	0.8	1.3	0.31	0.31	25 Series HotBloc® (or 20 Series HotBloc® subject to the calculation method) + RibRaft® floor or concrete floor slab
Zone 2 Option 2(a)	3.5	1.0	1.5	0.26	0.26	25 Series HotBloc® walls + **RibRaft® floor
Zone 2 Option 2(b)	3.5	0.9	1.3	0.31	0.31	25 Series HotBloc® walls + RibRaft® floor or concrete floor slab
Zone 3 Option 3(a)	3.5	1.2	1.5	0.26	0.31	25 Series HotBloc® walls with 10mm GIB® plasterboard and exterior plaster + **RibRaft® floor
Zone 3 Option 3(b)	3.5	1.0	1.3	0.31	0.31	Minimum of 25 Series HotBloc® walls + RibRaft® floor or concrete floor slab

*** RibRaft® floors to be no less than 80m² as a square. If not square, area to perimeter ratio must be greater than 2.3.*

More information?

You will find more information on Firth HotBloc® and Firth RibRaft® at www.firth.co.nz. Or if you'd like to ask any questions specifically relating to the new thermal

insulation standards and Firth's integrated solutions, please call us on 0800 800 576.

SUSTAINABILITY: THE FIRTH CONCRETE & CONCRETE MASONRY SUSTAINABILITY LIFECYCLE

- ☒ Environmentally compliant manufacturing plants
- ☒ Surplus water and some aggregates recycled
- ☒ Low transport impacts
- ☒ Leftover concrete returned from construction sites
- ☒ Passive solar heated thermal mass makes completed buildings more energy-efficient

- ☒ Most wash water returned from construction sites
- ☒ Highly durable, low maintenance buildings and no rot
- ☒ High degree of noise control
- ☒ Inherent fire resistance
- ☒ Overall longer effective building life
- ☒ Demolished concrete can be recycled as hard fill or aggregate

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.



0800 800 576
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Available in

masterspec

www.masterspec.co.nz