

Koolfoam BLACK PEARL® Slab Insulation Koolfoam THERMALOCK® jointing system

ADVANTAGES Koolfoam BLACK PEARL® Slab Insulation

- 20% better thermal performance than white EPS
- Thinner sheets can be used to achieve relevant R values
- No glare when installing
- Low water absorption
- Excellent compressive strength
- Increased Eco efficiency
- Complies with all aspects of AS1366 1992

ADVANTAGES Koolfoam THERMALOCK® jointing system

- No sheet separation
- Eliminates thermal bridges
- Speed construction

Compressive Strength Tables

Type	@1% Compressive Stress kPa	@10% Compressive Stress kPa	Density kg/m ³
Black Pearl	62	125	22
S Grade White	51	88	16
H Grade White	63	122	22

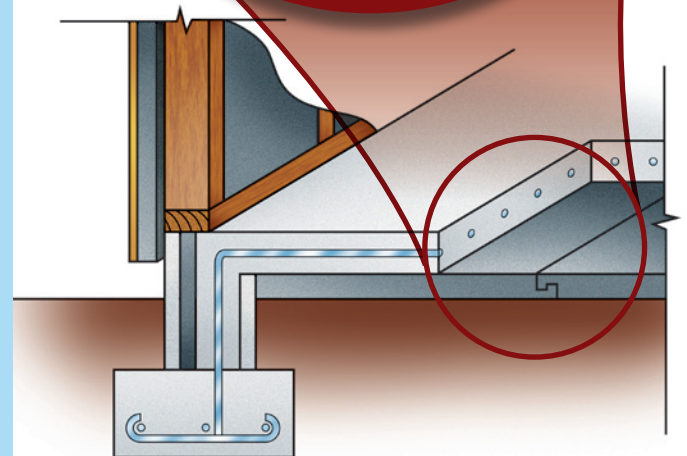
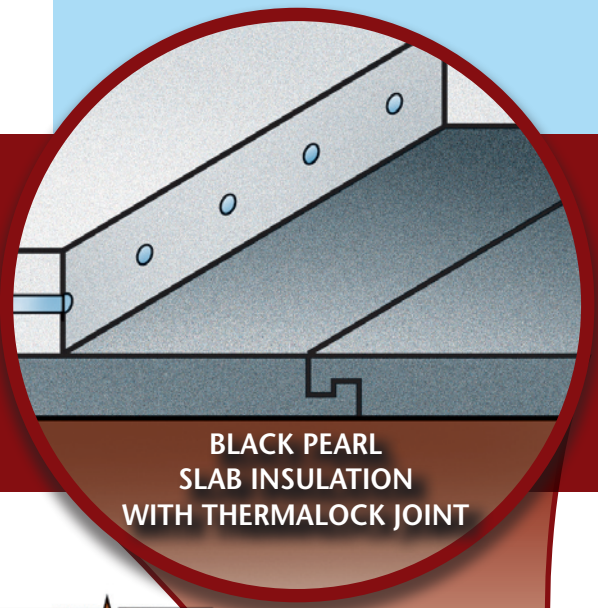
What to specify?

The insulation used under a concrete floor should be specified according to the compressive strength of the product and the R value of the product.

Heated floors under the NZBC and NZS 4218 require an R value of R1.9

Black Pearl R1.9 = 60mm
S Grade White R1.9 = 75mm
H Grade White R1.9 = 70mm

Note: For further R values refer to the Koolfoam thermal chart. All R values and compressive strength figures are specific to Koolfoam Black Pearl® and white EPS only.



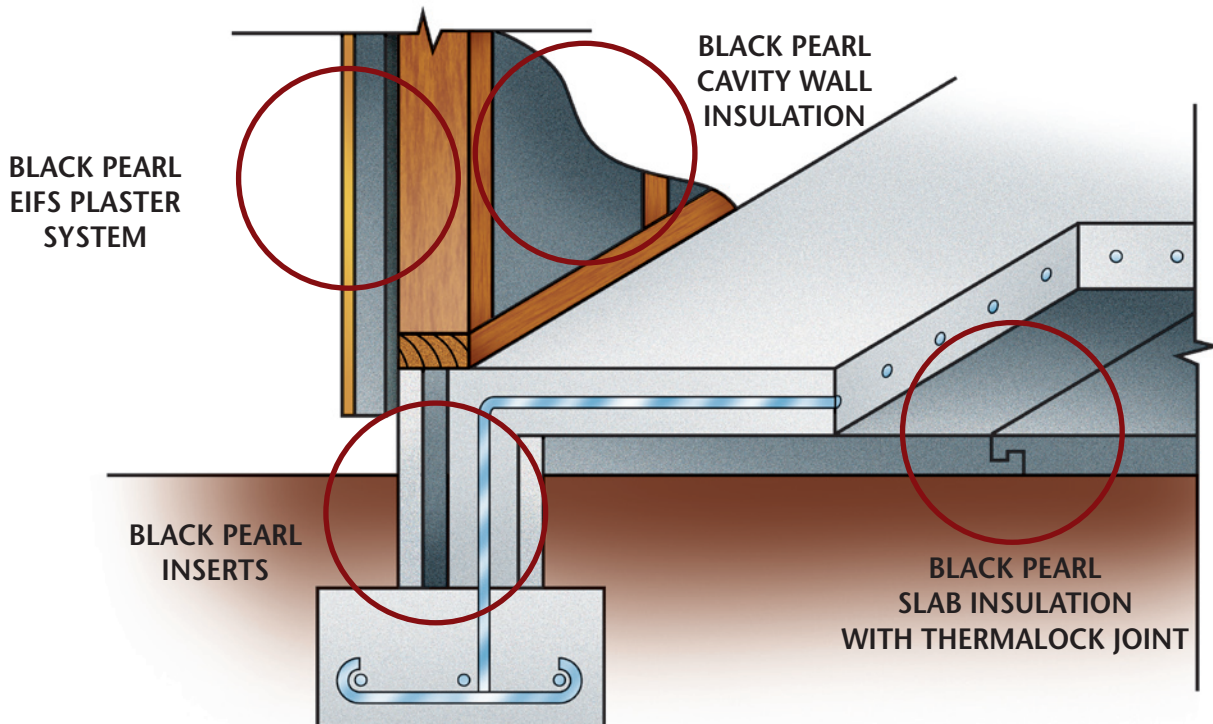
Koolfoam BLACK PEARL®

APPLICATIONS

Black Pearl® offers designers the ability to achieve high thermal performance with a thinner product.

This allows smaller structural members to be used for example in Skillion roof construction 100mm of Black Pearl®= R3.22.

- Under slab Insulation
- Slab edge Insulation (pre coated)
- Framed cavity Insulation - Roof - Wall - Floor
- EIFS (exterior insulating finishing system)
Timber and steel frame
- EIFS masonry overlay (Thermal Mass solution)
- Masonry wall insulation (Interior Insulation solution)
- Pre cast panel insulation
- Panel wall construction
- Warm roof (membrane underlay)



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"Solution based innovations for an environmentally responsible future"

Koolfoam BLACK PEARL® Cavity Insulation

Advantages of Black Pearl® Cavity Insulation

- High thermal performance with thinner product
- Thinner product allows the structure to be smaller and lighter
- Cut to common sizes with easy fit concertina edges
- No sagging
- Increased eco-efficiency
- Can reduce overall cost

Cavity insulation is available in the following lengths:

1.2 2.4 2.7

Example - 2.7 x 550 x 50mm

Roof Cavity Insulation

Code Requirements			
Climate Zone	1	2	3
	R2.90	R2.90	R3.30
Black Pearl®	90mm = R2.90		
Black Pearl®	105mm = R3.30		

Black Pearl® allows the designer to use smaller structural roof framing members and still achieve the required thermal performance.

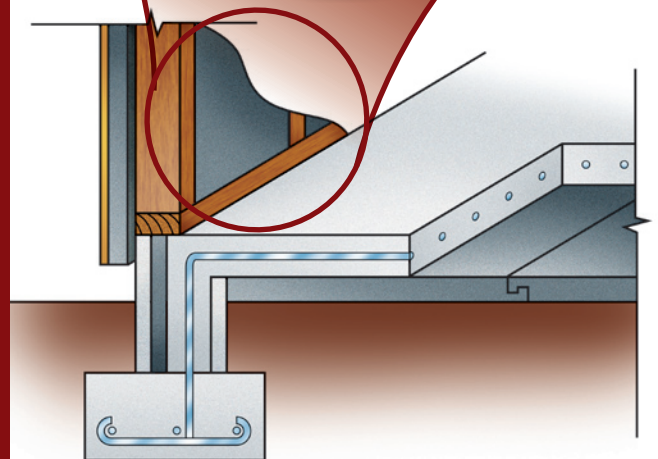
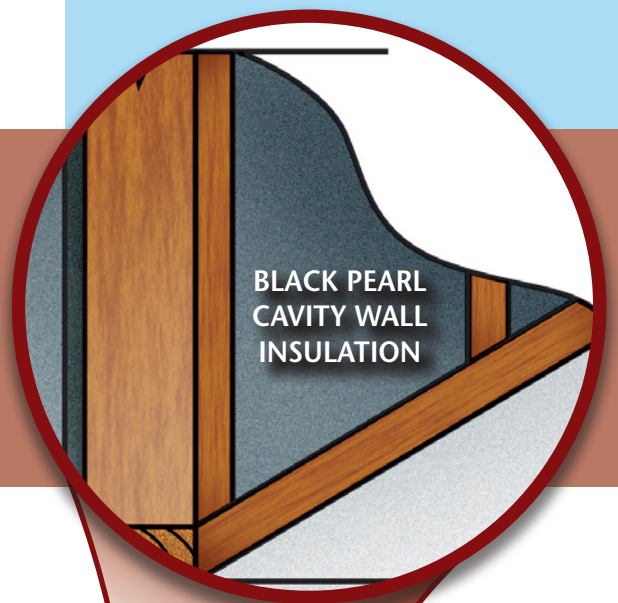
Wall Cavity Insulation

Code Requirements			
Climate Zone	1	2	3
	R1.90	R1.90	R2.00
Black Pearl®	65mm = R2.09		

Floor Cavity Insulation

Code Requirements			
Climate Zone	1	2	3
	R1.30	R1.30	R1.30
Black Pearl®	50mm = R1.61		

Note: Please refer back to the Black Pearl® thermal tables for further R value information. Climate Zone R value requirements are referenced from NZS 4218 and refer to construction R values.



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Koolfoam BLACK PEARL® Performance

BLACK PEARL®

N.Z Building Code requirements Foamed Plastic building materials

As required by the NZBC for all foamed plastics must be protected from ignition by the following:

- Installing flame barriers
- Providing fire resistant surface finishes
- Restricting the flame propagation properties of the foamed plastics to permitted levels

BLACK PEARL® Flame Propagation

Koolfoam Black Pearl® is made from the raw material Neopor®. Neopor® contains a flame retardant.

TESTING

Koolfoam Black Pearl® has been tested for Flame Propagation to the internationally recognised test AS 2122.1-1993 and complies with all classes of Black Pearl® produced.

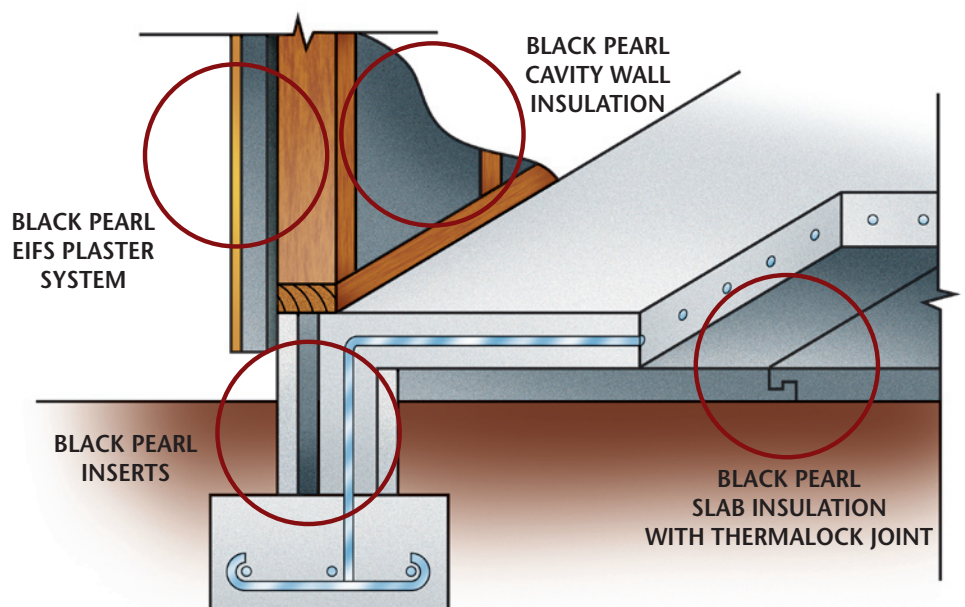
FIRE BEHAVIOUR

Koolfoam Black Pearl® is made of Neopor® with a flame retardant. The flame retardant reduces the flammability and spread of flame on the surface of the foam if an ignition source comes in direct contact with the foam.

Electrical Wiring

The following options are recommended:

- Separate PVC cables from contact with the Black Pearl® insulation
- Sleeve cables in conduit when in contact
- Use Polyethylene or Polypropylene tape between PVC and Black Pearl®
- Use cables with a non migratory PVC sheath
- Separate electrical cables from insulation panels with a strip of paper



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Koolfoam THERMAL CHART

Thickness	Black Pearl®	S Grade White	H Grade White
20mm	R0.62	R0.52	R0.55
25mm	R0.80	R0.65	R0.69
30mm	R0.96	R0.78	R0.83
35mm	R1.13	R0.92	R0.97
40mm	R1.30	R1.05	R1.11
45mm	R1.45	R1.18	R1.25
50mm	R1.61	R1.31	R1.38
55mm	R1.77	R1.44	R1.52
60mm	R1.93	R1.57	R1.66
65mm	R2.09	R1.71	R1.80
70mm	R2.26	R1.84	R1.94
75mm	R2.41	R1.97	R2.08
80mm	R2.58	R2.10	R2.22
85mm	R2.74	R2.23	R2.36
90mm	R2.90	R2.36	R2.50
95mm	R3.06	R2.50	R2.63
100mm	R3.22	R2.63	R2.77
105mm	R3.38	R2.76	R2.91

Note: All of the R values listed are calculated from actual thermal conductivity tests of Koolfoam EPS and Black Pearl®/Neopor by an independent approved authority BRANZ.

Sheets in any thickness are available up to 815mm.