



# UnderSlab

High-performance insulation  
designed to work beneath every build.

# Koolfoam UnderSlab

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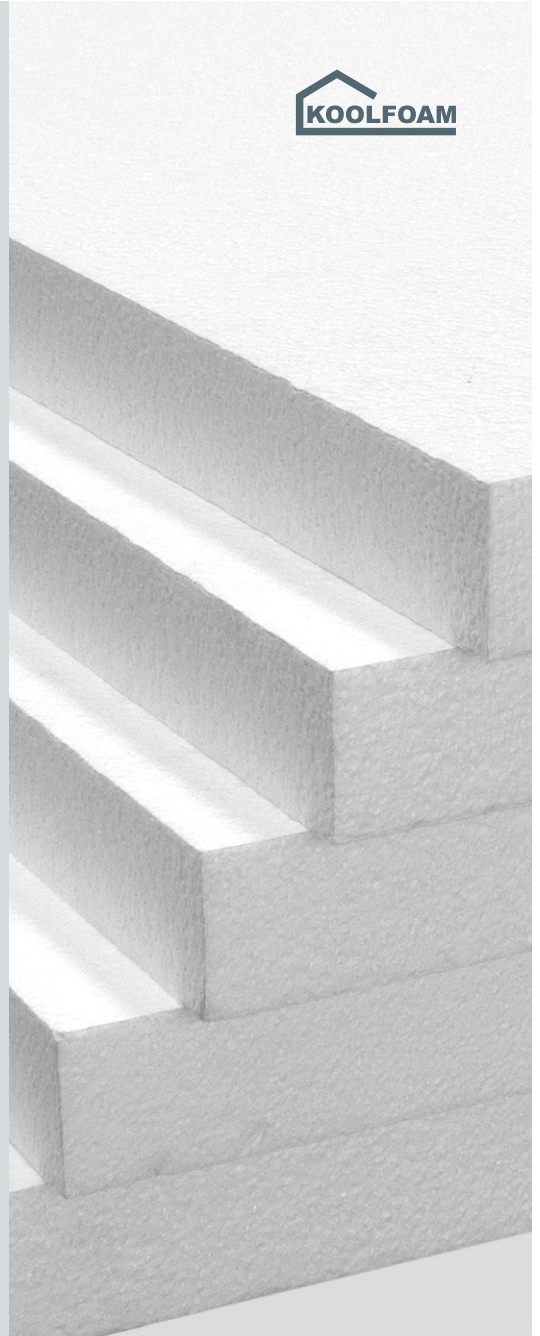
## Warmer floors. Smarter Performance.

Koolfoam UnderSlab is a high-performance insulation designed to work beneath every build.

When your project calls for thermal efficiency, structural integrity and long-term reliability, Koolfoam UnderSlab Insulation delivers. Built for New Zealand conditions and engineered to perform, it creates a warmer, drier and more energy-efficient building from the ground up.

Koolfoam UnderSlab Insulation offers excellent compressive strength, is moisture resistant, and delivers outstanding thermal performance. With a 50-year warranty when installed and used correctly, it is available in multiple size, strength, and thermal performance options.

**Contact us today on (09) 279 9611**



## Where can it be used?

Koolfoam Under Slab Insulation is ideal for residential concrete floor slabs, commercial and industrial buildings, architectural homes requiring higher thermal performance, underfloor heating systems, and foundations where thermal efficiency and strength are equally important.

Koolfoam EPS and XPS sheets can also be used for masonry wall insulation, cladding, lightweight fill, and skillion roof insulation, making them a versatile solution across a wide range of building applications.

## S Grade EPS

Designed for residential slabs and general building applications needing reliable insulation and support.

With a minimum compressive strength of 85kPa, it reduces heat loss while providing strong, durable performance for everyday concrete floor systems.

## H Grade EPS

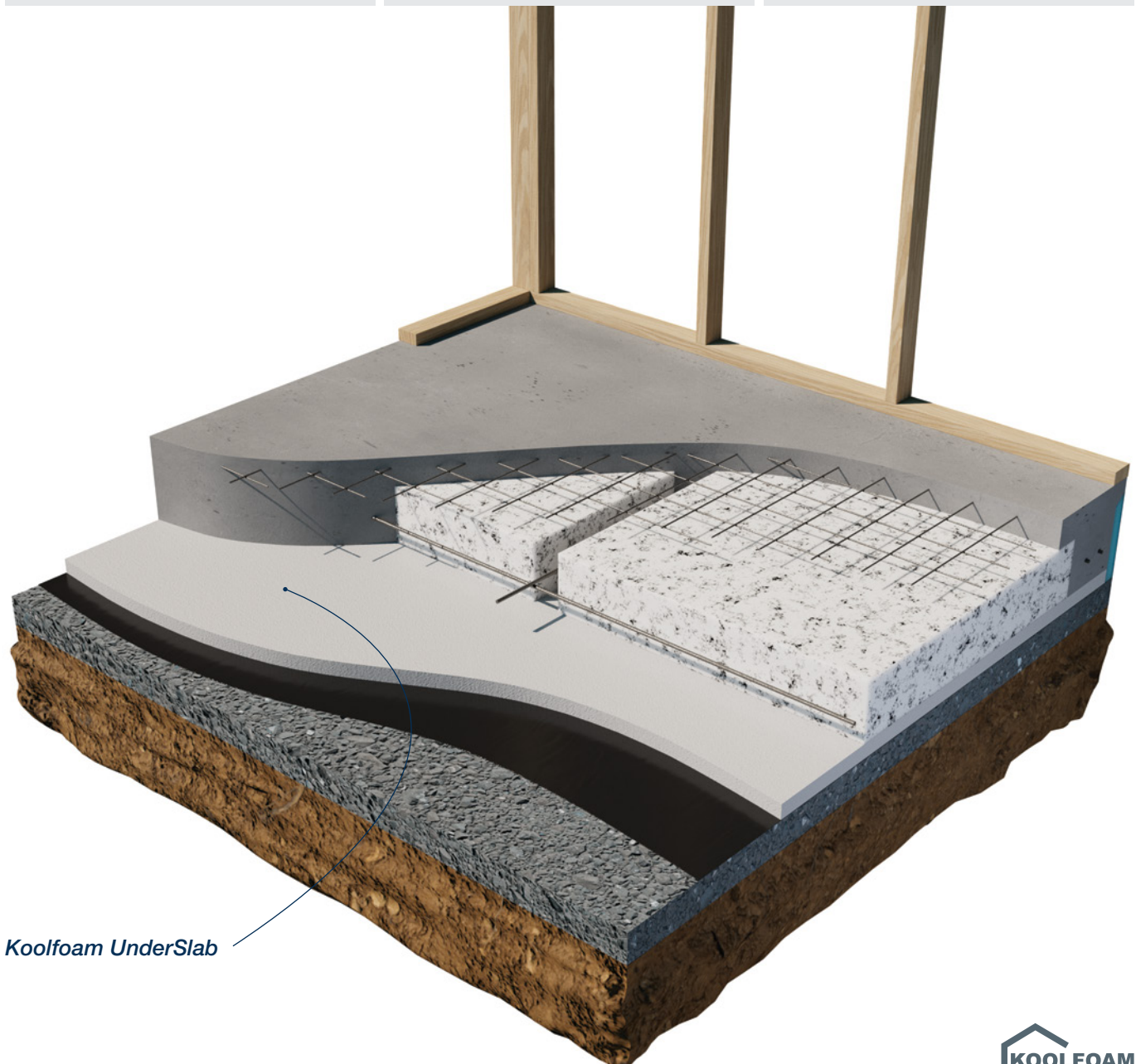
Built for projects requiring greater strength and thermal performance.

With a minimum compressive strength of 135kPa, it suits heavier residential builds, light commercial projects and architectural homes needing stronger support and lasting insulation.

## VH Grade EPS

The premium high-strength option for demanding applications.

With a minimum compressive strength of 165kPa, it is ideal for heavier loads and commercial buildings where maximum durability, thermal efficiency and long-term performance are essential.



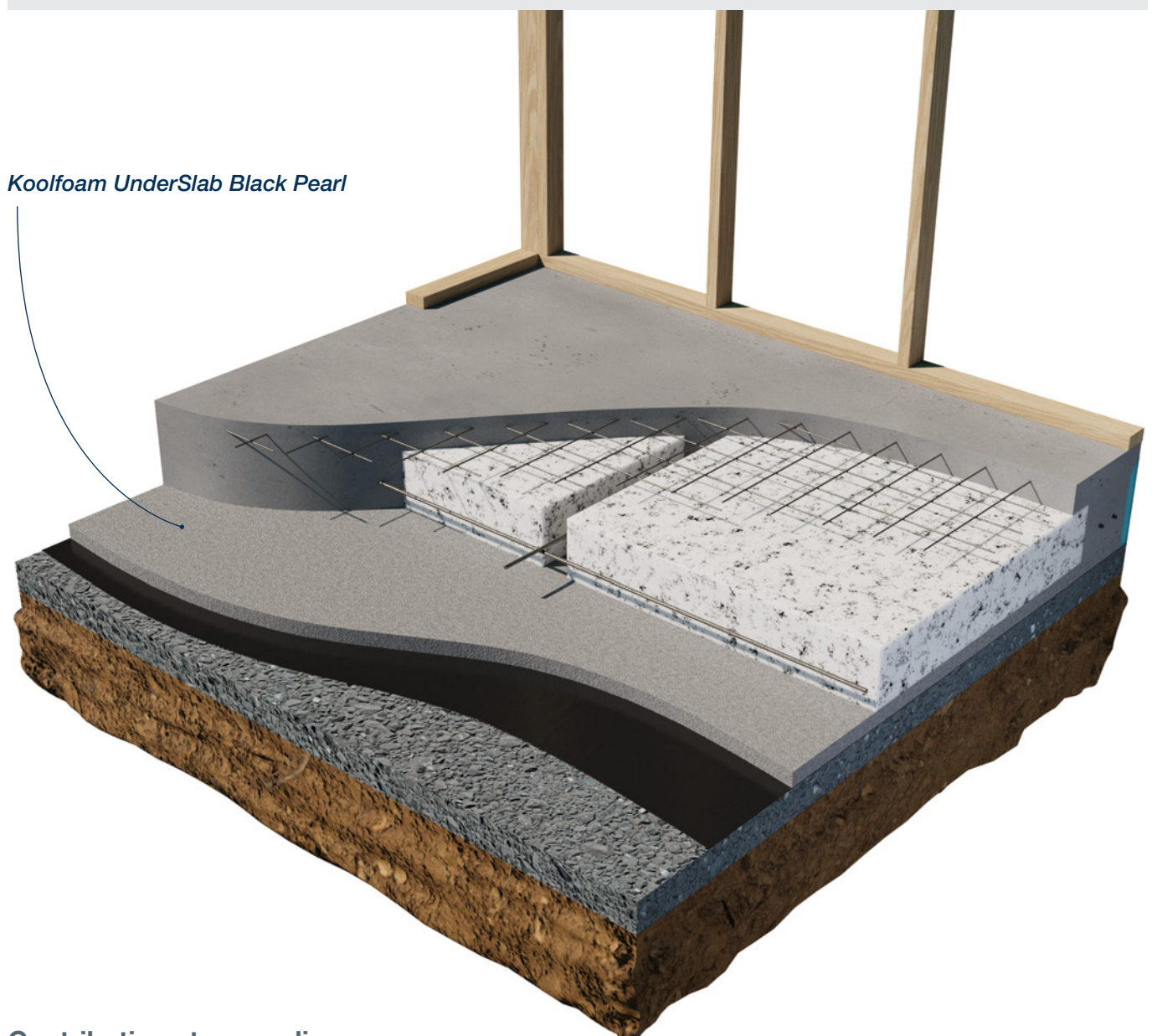
*Koolfoam UnderSlab*

## Black Pearl (Graphite Infused)

Koolfoam Black Pearl is a graphite-infused EPS insulation that offers up to 30% greater thermal efficiency than standard EPS.

Designed for projects requiring higher R-values with thinner insulation panels, it combines strong compressive strength with improved thermal performance, making it a preferred choice for premium residential and commercial builds.

It is ideal for under slab insulation, masonry walls, warm roofs and framed cavity insulation where space and performance both matter.



### Contributions to compliance

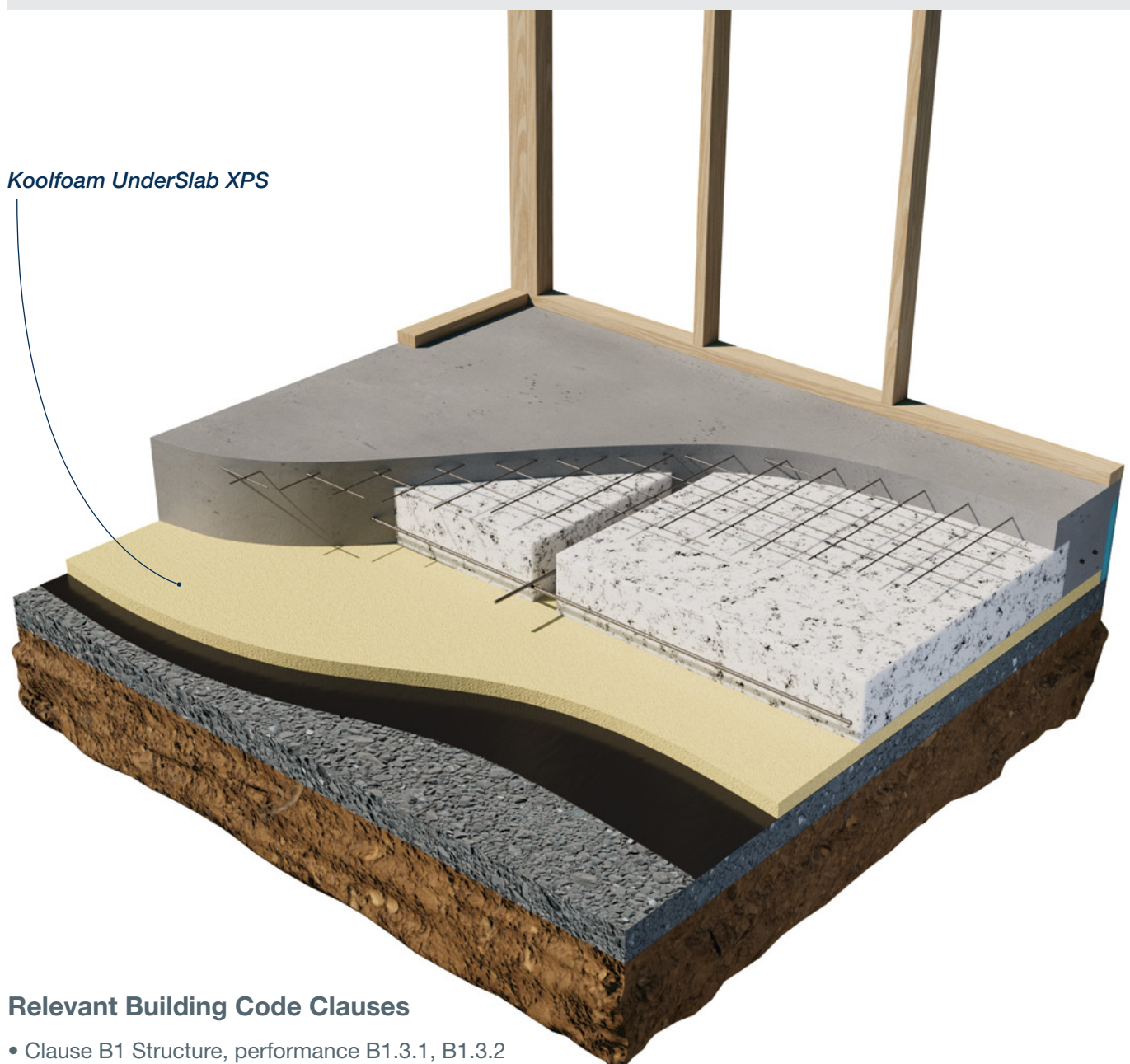
- Excellent thermal performance <https://koolfoam.co.nz/wp-content/uploads/2023/01/Koolfoam-Thermal-Chart.pdf>
- Excellent compressive strength <https://koolfoam.co.nz/resources/>
- Koolfoam eps Sheet complies with manufacturing standard AS 1366 Part 3 1992
- Koolfoam eps 50 year warranty when installed and used correctly

# XPS

Koolfoam XPS (Extruded Polystyrene) is designed for maximum moisture resistance and durability in demanding environments.

Its closed-cell structure helps prevent water penetration while delivering high compressive strength and long-term thermal stability.

XPS is ideal for under slab systems, retaining walls, slab edge insulation and masonry applications where moisture exposure and heavy structural loads require extra protection and performance.



## Relevant Building Code Clauses

- Clause B1 Structure, performance B1.3.1, B1.3.2
- Clause B2 Durability, performance B2.3.1 (a), B2.3.1(b),
- Clause E3 Internal moisture performance E3.3.1,
- Clause F2 Hazardous building materials performance F2.3.1,
- Clause H1 Energy Efficiency, Performance H1.3.1 (a) and H1.3.2 E.

# Koolfoam Thermal Chart

| Thickness | Black Pearl | S Grade EPS | H Grade EPS | VH Grade EPS | XPS   |
|-----------|-------------|-------------|-------------|--------------|-------|
| 20mm      | R0.64       | R0.52       | R0.55       | R0.57        | R0.74 |
| 25mm      | R0.80       | R0.65       | R0.69       | R0.71        | R0.93 |
| 30mm      | R0.96       | R0.78       | R0.83       | R0.86        | R1.11 |
| 35mm      | R1.13       | R0.92       | R0.97       | R1.00        | R1.30 |
| 40mm      | R1.30       | R1.05       | R1.11       | R1.14        | R1.48 |
| 45mm      | R1.45       | R1.18       | R1.25       | R1.29        | R1.67 |
| 50mm      | R1.61       | R1.31       | R1.38       | R1.43        | R1.85 |
| 55mm      | R1.77       | R1.44       | R1.52       | R1.57        | R2.04 |
| 60mm      | R1.93       | R1.57       | R1.66       | R1.71        | R2.22 |
| 65mm      | R2.09       | R1.71       | R1.80       | R1.86        | R2.41 |
| 70mm      | R2.26       | R1.84       | R1.94       | R2.00        | R2.59 |
| 75mm      | R2.41       | R1.97       | R2.08       | R2.14        | R2.78 |
| 80mm      | R2.58       | R2.10       | R2.22       | R2.29        | R2.96 |
| 85mm      | R2.74       | R2.23       | R2.36       | R2.43        | R3.15 |
| 90mm      | R2.90       | R2.36       | R2.50       | R2.57        | R3.33 |
| 95mm      | R3.06       | R2.50       | R2.63       | R2.71        | R3.52 |
| 100mm     | R3.22       | R2.63       | R2.77       | R2.85        | R3.70 |

## Sheet sizes

UnderSlab sheets are 2.4m x 1.2m and are manufactured in a range of thicknesses, from 10mm to 820mm.

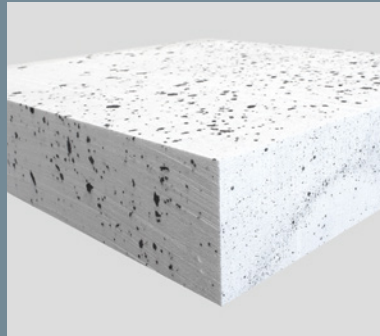
# Koolfoam UnderSlab Properties

| Property (test)   |                   | S<br>Grade<br>EPS       | H<br>Grade<br>EPS       | VH<br>Grade<br>EPS      | Black<br>Pearl             | XPS                     |
|---|-------------------|-------------------------|-------------------------|-------------------------|----------------------------|-------------------------|
| Density   |                   | 16<br>kg/m <sup>3</sup> | 24<br>kg/m <sup>3</sup> | 28<br>kg/m <sup>3</sup> | 20-22<br>kg/m <sup>3</sup> | 40<br>kg/m <sup>3</sup> |
| Thermal<br>conductivity   | AS/NZ<br>4859     | K Value<br>0.038        | K Value<br>0.036        | K Value<br>0.035        | K Value<br>0.031           | K Value<br>0.027        |
| Compressive<br>strength   | AS<br>2498.3      |                         |                         |                         |                            |                         |
| 1%  |                   | 46kPa                   | 62kPa                   | 90kPa                   | 52kPa                      | 67kPa                   |
| 2%  |                   | 73kPa                   | 119kPa                  | 177kPa                  | 102kPa                     | 205kPa                  |
| 5%  |                   | 89kPa                   | 149kPa                  | 214kPa                  | 127kPa                     | 410kPa                  |
| 10%   |                   | 98kPa                   | 162kPa                  | 237kPa                  | 141kPa                     | 459kPa                  |
| Young modulus   |                   | 3.8                     | 6.2                     | 8                       |                            |                         |
| Cross<br>breaking   | AS2498.4-<br>1993 | 165kPa                  | 260kPa                  | 320kPa                  | 239kPa                     |                         |
| Dimensional<br>stability<br>of length, width and<br>thickness (max) at<br>70 deg C for 7 days | AS2498.4-<br>1993 | 1%                      | 1%                      | 1%                      | 1%                         |                         |
| Determination<br>of flame propagation<br>surface ignition                                     | AS2122.1-<br>1993 |                         |                         |                         | 2 Sec                      |                         |
| Medium flame<br>duration (max)<br>Eighth value  | AS2122.1-<br>1993 | 2                       | 2                       | 2                       | 2 Sec                      |                         |
| Fire behavior<br>Spread of flame<br>Index (0 – 10)  | AS/NZ<br>1530     | 0                       | 0                       | 0                       | 0                          |                         |
| Smoke<br>developed<br>Index (0 – 10)  | AS/NZ<br>1530     | 5                       | 5                       | 5                       | 5                          |                         |

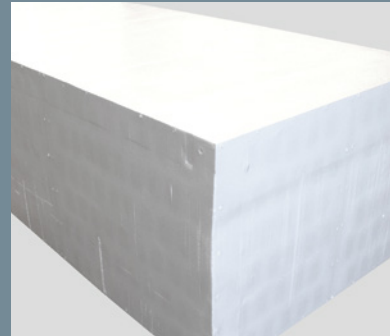
# The leading manufacturer of polystyrene products



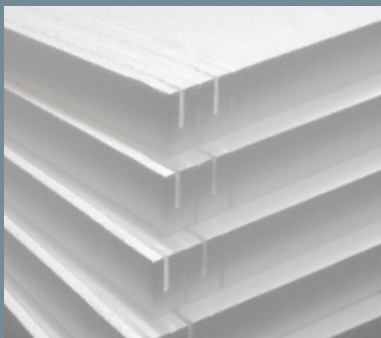
Under Slab Insulation



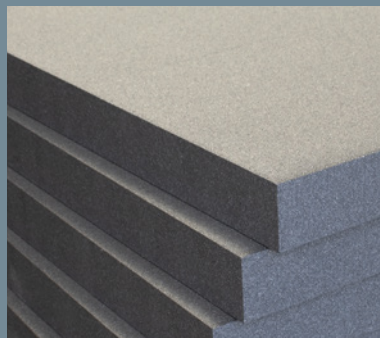
Solid Eco Pods



Geofoam / Polyrock Block



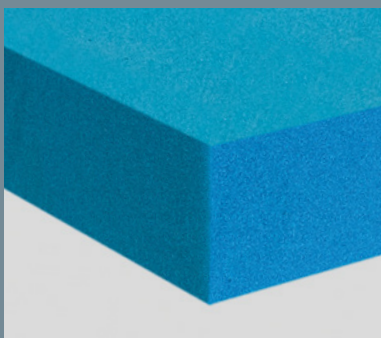
Under Floor Insulation



Black Pearl



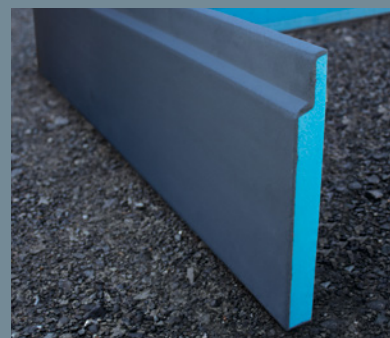
Waffle Pod



Koolfoam XPS



SlabEdge



SlabEdge Postpour/Retrofit

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