

BLACK PEARL®

PURPOSE

Black Pearl® can be used for:

- under-slab and slab-edge insulation
- framed cavity insulation for roof, wall and floor
- masonry wall insulation
- EIFS and EIFS masonry overlay
- pre-cast panel insulation
- thermal break
- warm roof membrane underlay.

EXPLANATION

Black Pearl® is a rigid foam insulating material manufactured from BASF Neopor® graphite-infused expanded polystyrene (EPS). The EPS is comprised of small pockets of air within a polymer matrix. Black Pearl incorporates Polymeric FR, a polymeric, plastic-like flame retardant.

Black Pearl® has density of 22 kg/m³ and is available in a range of sizes:

- thickness (mm): 10 to 815
- lengths (m): 1.2, 2.4, 2.7 and 3.6
- widths up to 1.2 m.

Black Pearl® achieves the following R-values:

- | | | |
|-----------------|------------------|-------------------|
| ➤ 10 mm - R0.32 | ➤ 60 mm - R1.93 | ➤ 150 mm - R4.83 |
| ➤ 20 mm - R0.62 | ➤ 70 mm - R2.26 | ➤ 200 mm - R6.45 |
| ➤ 30 mm - R0.96 | ➤ 80 mm - R2.58 | ➤ 210 mm - R6.77. |
| ➤ 40 mm - R1.30 | ➤ 90 mm - R2.90 | |
| ➤ 50 mm - R1.61 | ➤ 100 mm - R3.22 | |



For further assistance please contact:

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SCOPE AND LIMITATIONS OF USE

Scope	Limitations
Location In all exposure zones as defined in NZS 3604:2011. In all climate zones as defined in H1/AS1 (6th edition).	➤ Where microclimatic conditions apply (refer to paragraph 4.2.4 of NZS 3604:2011), contact Koolfoam for technical advice.
Building In conjunction with buildings where the primary structure complies with the NZ Building Code or for an existing structure when the designer and installer are satisfied that the existing building is suitable for the intended building work. As an under-slab or slab-edge insulation. As a cavity insulation in walls, roofs and floors. As a masonry, pre-cast panel or EIFS wall insulation or overlay. As a thermal break. As a warm roof membrane underlay.	

CONDITIONS OF USE

- Design must be in accordance with NZS 4218:2018 or NZS 4214:2006 modified by H1/VM1.
- Installation must be in accordance with NZS 4218:2018 or NZS 4246:2016.
- Installation should be done after ensuring the building is waterproof and the materials have no more than 20 % moisture content.
- The installer must ensure that Black Pearl® does not come into direct contact with electrical wiring. Install cables in a PVC or PE conduit, or use polyethylene or polypropylene tape between PVC and polystyrene. Alternatively, use cables with a non-migratory PVC sheath.
- The installer must ensure a minimum of 200 mm clearance between Black Pearl® and recessed lights.

USEFUL INFORMATION

For design, installation and maintenance information, refer to koolfoam.co.nz.

PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all Koolfoam Industries Ltd requirements, Black Pearl® will comply with or contribute to compliance with the following performance claims:

NZ Building Code clauses	BASIS OF COMPLIANCE	
	Compliance statement	Demonstrated by
B1 STRUCTURE B1.3.1, B1.3.2, B1.3.3 (a, j), B1.3.4 (b)	ALTERNATIVE SOLUTION	Compressive strength tested in accordance with AS 2498.3-1993 [WSP, 17/11/2022].
B2 DURABILITY B2.3.1 (a), B2.3.2	ALTERNATIVE SOLUTION	EPS is an inert, organic material that does not rot, is dimensionally stable, does not readily absorb moisture and is highly resistant to mildew [Plastics NZ, n.d.].
C3 FIRE AFFECTING AREAS BEYOND THE FIRE SOURCE C3.4 (a)	VERIFICATION METHOD C/VM2 ACCEPTABLE SOLUTION C/AS1 and C/AS2	- Manufactured in accordance with AS 1366.3:1992, referenced in C/VM2, C/AS1 and C/AS1. - Tested in accordance with AS 2122.1:1993 as referenced in AS 1366.3:1992 [AWTA Ltd, 26/02/2016]. - Tested for flame propagation in accordance with AS 2122.1:1993 [Koolfoam, n.d.].
E3 INTERNAL MOISTURE E3.3.1	ALTERNATIVE SOLUTION	- R-value is greater than R0.25. - Water vapour transmission tested in accordance with AS 2498.1.5:1993 Methods of testing rigid cellular plastics [BRANZ, 25/09/2024]. - Tested in accordance with AS/NZS 4859.1:2018, cited the Building Product Specifications, cited in H1/AS1 and H1/VM1 [BRANZ, 8/11/2022].
F2 HAZARDOUS BUILDING MATERIALS F2.3.1	ALTERNATIVE SOLUTION	- Use in accordance with the supplier's safety instructions. - EPS does not contain CFCs or HCFCs [Plastics NZ, n.d.].
H1 ENERGY EFFICIENCY H1.3.1 (a), H1.3.2E	ACCEPTABLE SOLUTION H1/AS1, VERIFICATION METHOD H1/VM1	Tested in accordance with AS/NZS 4859.1:2018, cited in the Building Product Specifications, cited in H1/AS1 and H1/VM1 [BRANZ, 8/11/2022].

SOURCES OF INFORMATION

- BRANZ. [08/11/2022] *Test Report DI16593-01 Thermal Testing of Koolfoam Expanded Polystyrene Black Pearl 50 mm.*
- AWTA Ltd. [26/02/2016] *Test Number: 16-000430.*
- WSP. [17/11/2022] *Rigid Cellular Plastics Test Report.* Project No: 1-LA040.00
- Koolfoam. [n.d.] Black Pearl® Specification sheet.
- Plastics NZ. [n.d.] EPS Technical information. Retrieved from <https://www.plastics.org.nz/about-us/sector-groups-main/eps-sector-group/eps-technical-information#durability>. [Accessed on 19/06/2024].
- BRANZ. [25/09/2024] *Test Report DC20129-01 Water Vapour transmission rate of KoolFoam Expanded Polystyrene Black Pearl.*

Koolfoam Industries Ltd confirms that if Black Pearl® is used in accordance with the requirements of this pass™ the product will comply with the NZ Building Code and other performance claims set out in this pass™ and the company has met all of its obligations under s14G(2) of the Building Act.

Date of first issue: 25/06/2024

Date of current issue: 08/06/2026

NZBN: 9429032133172

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1. Where a standard is referenced it is to be read as amended by the acceptable solution or verification method as applicable. 2. Sources of information also include the Building Act 2004 and its regulations, including the Building Code (Schedule 1 of the Building Regulations 1992), Acceptable Solutions and Verification Methods, and relevant cited standards. 3. The product is not subject to a warning or ban under section 26 of the Building Act. 4. For overseas manufacturer details, where applicable, refer to the company that is the holder of this pass™. 5. The quality and assurance that the supplied products meet the performance claims stated in this pass™ are the responsibility of the company that is the holder of this pass™. 6. The availability of the information about the supplied products required to be disclosed under s14G(3) is the responsibility of the company that is the holder of this pass™.

Kevin Brunton

Kevin Brunton, Technical Director, TBB confirms that the process used to prepare this pass™ on behalf of Koolfoam Industries Ltd has been undertaken in accordance with MBIE PTS guidelines and in accordance with the TBB pass™ process which is within the scope of TBB's ISO 9001 certification.

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