Primary Pro Insulation Technical Data Sheet

JULY 2026

Total Solution

Our focus was, and will always be, on helping provide professional installers with the products and tools that provide the **Total Solution**.
With every watt being so important for efficiency (C.O.P / S.C.O.P), sealing the insulation is as important as the insulation.
We spent 3 years looking at all the issues, finding the solutions, and designing and making all of the products and tools to provide a **total solution** that protects the heat pump, system, customers, pro installers, heat pump manufacturers and the industry.

Water vapor diffusion resistance (permeability) is as critical as the thermal conductivity in insulation performance. This is because even a 1% increase in moisture content can raise thermal conductivity by 7.5%, significantly reducing insulation efficiency.
The µ-value (pronounced "mu-value") measures resistance to water vapor. Higher values indicate better resistance. A µ-value below 10,000 suggests low water resistance and compromises insulation efficiency, whereas values above 20,000 offer excellent protection.
To address this, we provide a unique, flexible, waterproof coating designed to prevent moisture penetration. This coating safeguards insulation efficiency while being easy to maintain. It also offers UV protection, ensuring long-lasting performance using our maintenance coating.
Additionally, sealing all joints, gaps, external fittings, and connections to the heat pump is crucial. Our specialised Bond & Seal product ensures a perfect seal, maintaining the insulation's effectiveness and maximising overall efficiency.

Technical Data

Material	Closed cell polyethylene insulation material made to our specifications, then etched and hand coated with our unique patented flexible coating
Application	External insulation/protection of domestic heating system pipework (under 11m height)
Thermal Conductivity	0.035 W/mk @ 40°C (BS EN 12667:2001, BS 5422:2023 & Part L)
Water Vapour Permeability	Water Vapour Diffusion Resistance µ>39,000
Water Absorption	Waterproof (when correctly sealed with our bond & seal and maintained as advised.)
Temperature Range	-40°C to +105°C
Reaction to Fire	D s1 d0 (EN 13501-1, EN ISO 11925 - 2:2020)
UV Protection	Maximum protection out of the box with unique coating
Maintaining UV and Water protection	Recoat as and when needed – inspect during annual services, and if any discolouration is visible, apply a fresh coat using our Primary Pro Maintenance Coat (see notes).
Sealing all joints	Only use our unique Bond and Seal to seal and cap all joints and seal to the heat pump
Sealing through the wall on the outside of the property	Our unique Bond and Seal provides a durable, flexible seal to help maximise system efficiency and prevent moisture and water ingress. Supports compliance with Manufacturer's Instructions, MCS requirements and Part L when installed correctly.
Sealing on the inside wall of the property	You can use any product required to suit standards, aesthetics and decoration. Tip: Use a talon pipe cover.

Notes: We have updated our recoating guidance to “as and when needed” based on results from ongoing life testing carried out over the past 8 years. We found that some installations, particularly those not south-facing, did not require recoating within the first 5 years. As a result, we now recommend checking the condition of the insulation during the annual service and applying a maintenance coat only if signs of wear or discolouration are visible.

Products & Tools

We have all sizes of insulation to insulate all the external pipework and fittings. With our unique Bond & Seal, we make sure that not only does the heat not get out, but water/moisture does not get in.
We have all the tools to make the perfect seal on all external walls, whether they are standard bricks or uneven walls such as stone or rendered walls.

Insulation Sizing

Primary Pro 22mm Insulation (23 mm x 25mm ± 2mm Tolerance)
Primary Pro 28mm Insulation (29mm x 21mm ± 2mm Tolerance)
Primary Pro 35mm Insulation (36mm x 22mm ± 2mm Tolerance)
Primary Pro 42mm Insulation (43mm x 23mm ± 2mm Tolerance)
Condensate Pro 35mm Insulation (36mm x 14mm ± 1mm Tolerance)

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The information contained in this Technical Data Sheet is accurate to the best of our knowledge at the time of publication. However, Smartovations Ltd reserves the right to update or modify this information without prior notice as part of our commitment to continuous improvement and product development.