

Viking WarmSpan²

Version: WS2-PTS-V1

Product Description

Viking WarmSpan2 is a structural, engineered warm roof system, tested, and accredited by certified engineers; Holmes Solutions NZ, to comply with H1, B1, B2 and E2 requirements of the Building Code. WarmSpan2 is a complete roof assembly with joist spacings, and substrate-type prescribed in its specification. The Viking WarmSpan2 System is suitable for all residential, commercial, and industrial projects. WarmSpan2 is classified as a low-slope roof, Recommended for low slop roofs with access roofs subject to limited foot traffic.

The WarmSpan2 system consists of several components that work together to create a high-performance roof assembly:

- **Membrane System:** The system utilizes one of Viking's CodeMark Membrane Systems, such as Enviroclad or Viking Torch-On. These membranes provide excellent waterproofing and are compatible with the other components of the WarmSpan2 system.
- **Cover Board:** A cover board is adhered to the PIR (Polyisocyanurate) insulation. It enhances the system's point-load resistance and provides a smooth and even surface for membrane installation.
- **Insulated Plugs:** Viking Insulated Plugs are mechanical fixings used to secure the PIR insulation panels to the substrate. They ensure a strong and secure attachment of the insulation to the roof structure.
- **PIR Rigid Insulation Panels:** The core component of the WarmSpan2 system is the PIR rigid insulation panels. These panels feature a foil-faced PIR board that provides excellent thermal insulation properties and enhances energy efficiency.
- **Self-adhered Vapour Barrier:** In some cases, a self-adhered vapour barrier made of self-sealing SBS (Styrene Butadiene Styrene) bitumen is used to prevent moisture transfer from the substrate or interior to the insulation layer. This barrier ensures the long-term performance and durability of the system.
- **Substrate:** The substrate can either be T & G (Tongue and Groove) Plywood treated with H1.2 minimum treatment or a Steel tray substrate (such as ST7, ST900, or Metcom 7, BB900). The substrate provides structural support and serves as the base for the entire WarmSpan2 system.
- **Structural Supports:** The WarmSpan2 system requires appropriate structural supports, such as joists or purlins, depending on the substrate type. The spacing of these supports varies based on the substrate material and design requirements, with up to 900mm centers for ply substrate and 1800mm centers for steel tray substrate.

Purpose and Use:

The Viking WarmSpan2 system is specifically designed to serve the following purposes:

1. **Waterproofing:** The system ensures the effective and long-lasting protection of the building from water ingress, preventing damage to the interior and preserving the structural integrity of the roof.
2. **Thermal Efficiency:** The system significantly improves the thermal performance of the building by providing excellent insulation properties, reducing heat transfer, and enhancing energy efficiency.
3. **Structural Integrity:** The WarmSpan2 system enhances the overall structural integrity of the building, providing stability and resistance to external forces such as wind uplift.

The Viking WarmSpan2 System has also been appraised for durability and thermal performance as an insulated roofing system on buildings that are classified as specific design with no building height restriction and situated in wind pressures up to a maximum design differential ultimate limit state (ULS) of 6.5kPa.

Building designers are responsible for the building design and for the incorporation of the Viking WarmSpan2 System into their design in accordance with the declared properties and instructions of Viking Roofspec. The Viking WarmSpan2 System must be installed by a licensed installer from Viking's Approved Applicator Network.

Conditions:

To ensure optimal performance and compliance with building code requirements, the following conditions should be considered:

- **Suitable Substrates:** The WarmSpan2 system is designed for use on T & G Structural Plywood substrates treated with H1.2 minimum treatment or Steel tray substrates (ST7, ST900, or Metcom 7). The appropriate substrate should be selected based on the specific project requirements. See Engineering Report
- **Installation by Licensed Installers:** The installation of the WarmSpan2 system should be carried out by Viking Roofspec trained and licensed installers who are approved by Viking Roofspec. These licensed installers have the necessary expertise and knowledge to ensure proper installation and compliance with the system's requirements.
- **Substrate Installation:** The installation of the substrate should be completed by tradespersons who have an understanding of roof and deck construction techniques. The specific installation guidelines provided by Viking Roofspec should be followed to ensure proper substrate preparation and attachment.

Compliance with NZBC:

The Viking WarmSpan2 system, when installed in accordance with the supplier's installation and maintenance requirements, assists in meeting the following provisions of the New Zealand Building Code:

- Clause B1 Structure: Performance B1.3.1
- Clause B2 Durability: Performance B2.3.1, B2.3.1(b)
- Clause E2 External Moisture: Performance E2.3.1, E2.3.2
- Clause F2 Hazardous Building Materials: Performance F2.3.1
- Clause H1 Energy Efficiency: Performance

Supporting Evidence:

To support the performance and reliability of the Viking WarmSpan2 system, additional evidence and resources are available, including:

- **WarmSpan2 Engineering Report from Holmes Solutions:** This report provides detailed technical information, test results, and performance data of the WarmSpan2 system as assessed by certified engineers.
- **MASTERSPEC WarmSpan2:** The MASTERSPEC specification for WarmSpan2 provides comprehensive guidelines and requirements for incorporating the system into the building design.
- **Viking Product Data Sheets (PDS):** The PDS documents provide detailed information on each component of the WarmSpan2 system, including technical specifications, installation instructions, and maintenance recommendations.

Design Requirements

Product specification and incorporation of Viking WarmSpan2 into the building design shall be carried out by a designer/ architect/ engineer or a building professional who:

- Is qualified to design the building under the "Scope of use" of this product.
- Has ready access to the technical specifications including installation details and standards referenced in the current Holmes Solutions Report where the design limitations are outlined for the scope of this PTS.

July 2023

PRODUCT TECHNICAL STATEMENT



Installation Requirements

Installation of the structural Roof elements must always be carried out in accordance with the Viking WarmSpan2 System Technical Literature and under the supervision of a Licensed Building Practitioner (LBP) with the relevant License Class.

Installation of the Viking supplied system shall be carried out by a Viking Roofspec trained and licensed installer. Installation shall be undertaken in accordance with all relevant technical information related to the selected installation method, including information contained within the current Viking PDS and Engineering reports.

Maintenance Requirements:

Regular maintenance is crucial to ensure the long-term performance and durability of the Viking WarmSpan2 system. The system should be inspected for damage, debris, and rubbish around drainage points at least twice annually. Any punctures, tears, or damage should be promptly repaired following the recommendations provided by Viking Roofspec Ltd. Clearing and maintaining the drainage outlets is essential to ensure effective water drainage.

For specific maintenance guidelines related to the chosen membrane (Enviroclad or Torch-On), please refer to the respective maintenance care guide provided by Viking Roofspec.

Quality Assurance:

Viking Roofspec provides quality assurance documents that should be followed and signed off by the installer and builders at the conclusion of the project. These documents ensure that the installation and workmanship meet the required standards and specifications.

Product support

The product has and can make available, the following additional evidence to support the above statements:

- WarmSpan2 Engineering report
- MASTERSPEC WarmSpan2
- Viking WarmSpan2 Product Data Sheet – PDS
- Viking Warmspan2 Details – PDF, DWG, JPG
- Viking Enviroclad PDS
- Viking Torch-on PDS

Warranties

- Viking WarmSpan2 installed with one of Viking's Membrane systems is supported by a 20-year product warranty.
- Projects that represent 'absolute risk minimization' in design, may also be eligible for Viking's comprehensive Full System Warranty*, that covers both the materials and the approved applicator's installation in one document for the building owner.

Conditions Apply – for more information on Viking's Full System Warranty, visit: www.vikingroofspec.co.nz

Specification

MASTERSPEC WarmSpan2

- Visit Masterspec for the online version of our specification.
- Viking Enviroclad or Viking Torch-on can be selected with WarmSpan2 Masterspec specification.

Viking Roofspec compatible waterproofing membranes for Viking WarmSpan2

- Viking Enviroclad – download Enviroclad PTS and details.
- Viking Torch-On – download Torch-on PTS and details.

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