

PRODUCT TECHNICAL STATEMENT & BUILDING PRODUCT INFORMATION SHEET

CLASS I
OCTOBER 2023

Product Name: Shadowclad®



Application: Cladding for Cavity Construction

Product Description and Intended Use:

Shadowclad® structural plywood panels are manufactured from New Zealand pine wood veneers. The Shadowclad range includes machined plywood panels treated to either a H3.1 or H3.2 level. It also includes a range of flashing solutions. The Shadowclad system, excluding the mixed cladding T-flashing, has been tested to the requirements of E2/VMI for use as a cladding solution installed on a cavity system complying with the New Zealand Building Code (NZBC).

Shadowclad panels are available in either grooved or textured profiles and in either Natural or Ultra (Pre-Primed) finishes.

Shadowclad panels are suitable for use as a cladding material for cavity construction when used as an external wall cladding for buildings within the following scope:

- The scope limitations of Acceptable Solution A1 of E2, External Moisture
- With a risk score less than or equal to 20 when calculated in accordance with Table 2, E2/A1
- Specific design for ultimate limit states (ULS) wind pressures not exceeding 2.5 kPa

The durability of Shadowclad used in residential applications is subject to the requirements of NZS 3602 Timber and Wood Based Products for use in building (NZS 3602), in accordance with NZBC Clause B2 Durability.

Product Identifier:

All Shadowclad structural plywood sheets are marked in accordance with the requirements of AS/NZS 2269, and include the brand name Shadowclad®. An example of H3.1 treated plywood is given below, for further information refer to the Shadowclad Specification and Installation Guide for Cavity Construction.

SHADOWCLAD STRUCTURAL A BOND EO AS/NZS 2269.0:2012
AS/NZS 1604.1:2021 AS/NZS 1604.3:2012 I31 64 H3 E H3.1 LOSP RETREAT CUTS
PAT 12/12/2023 12:23:45 CHH.COM



Place of manufacture: Tokoroa, New Zealand

Legal and trading name of the manufacturer: Carter Holt Harvey Plywood Limited

Address for Service:

173 Captain Springs Road, Onehunga
Auckland 1061, New Zealand

Website: www.chhply.co.nz

Email Address: info@chhply.co.nz

Phone Number: 0800 326 759

NZBN: 9429046427366

Relevant New Zealand Building Code Clauses:

- Clause B1 Structure: Performance B1.3.1, B1.3.2, B1.3.3 (a, c, h, j, q), B1.3.4(d)
- Clause B2 Durability: Performance B2.3.1(b) when used and treated to the requirements of NZS 3602
- Clause E2 External Moisture: E2.3.2, E2.3.3, E2.3.5
- Clause F2 Hazardous Building Materials: F2.3.1
- Clause H1 Energy Efficiency: H1.3.1

Statement on how the building product is expected to contribute to compliance:

Shadowclad, if employed in accordance with the Shadowclad Specification and Installation Guide for cavity construction, will assist in the building meeting the following provisions of the NZBC, provided it is correctly installed as part of an otherwise compliant exterior wall assembly.

Clause B1 Structure: Performance B1.3.1, B1.3.2, B1.3.3 (a, c, h, j, q), B1.3.4(d)

Shadowclad is Product Certified by the Engineered Wood Products Association of Australasia (EWPAA) as being manufactured in accordance with the joint New Zealand / Australian Standard AS/NZS 2269, Structural Plywood, and then bandsawn and grooved as required. The EWPAA is accredited for product certification by the Joint Accreditation System of Australia and New Zealand (JAS -ANZ).

Clause B2 Durability: Performance B2.3.1(b), when used and treated to the requirements of NZS 3602

Shadowclad is manufactured to meet the requirements of the NZBC Clause B2 Durability. When treated to the required treatment levels prescribed in NZS 3602, it will form part of an Acceptable Solution complying with the requirements of the NZBC (Acceptable Solution B2/AS1, 3.2.1).

NZBC Clause B2 requires claddings which do not form part of bracing to achieve a minimum structural durability level of 15 years.

The Shadowclad Exterior Flashing Range is manufactured from extruded aluminium or folded from stainless steel (as applicable). The Shadowclad flashings range is purpose designed to complement Shadowclad panels used in exterior applications.

Independently tested for weather tightness and compliant with Table 20 of E2/AS1, Shadowclad flashings achieve a minimum of 15 years durability in all NZS 3604 exposure zones including Zone D.

Clause E2 External Moisture: E2.3.2, E2.3.3, E2.3.5

Shadowclad, together with the Shadowclad Flashing range, have been tested in accordance with Verification Method E2/VM1 and AS/NZS 4284 "Testing of Building Facades" for compliance with NZBC requirements.

Clause F2 Hazardous Building Materials: F2.3.1

Shadowclad meets this requirement and will not present a health hazard to people.

Clause H1 Energy Efficiency: H1.3.1

External walls clad with Shadowclad, which has an R-value of 0.104 m².C/W, and together with internal linings and bulk insulation meet the requirements of Acceptable Solution H1/AS1.

Limitations on the use of the building product:

- Shadowclad for cavity construction must not be used in:
 - Direct fix applications
 - With a risk score exceeding 20 when calculated in accordance with Table 2, E2/AS1
 - Specific design for ultimate limit states (ULS) wind pressures exceeding 2.5 kPa
- The site on which the building is situated must comply with the Acceptable Solution E1/AS1 of the Approved Document for the NZBC Clause E1 "Surface Water".
- Please refer to the current Shadowclad literature for information, limitations, and cautions regarding the storage, handling, installation, usage, and maintenance of Shadowclad.
- H3.2 CCA treated Shadowclad must not be installed in direct contact to steel frames.

Design requirements that would support the appropriate use of the building product:

Shadowclad can be used for those structures which fall within the scope of Acceptable Solution E2/AS1 - External Moisture. Shadowclad is recommended for a drained and ventilated cavity, where the cladding is fixed onto timber battens fixed over the timber frame and building underlay. Shadowclad is not recommended where a risk score >20 in accordance with E2/AS1 is established.

Design responsibility lies with the building owner and the professionals that they engage. The specifier for the project must ensure that the details in the specification for their individual projects are appropriate for the intended application. The specifier must also ensure that additional detailing is provided for specific design or any areas that fall outside the scope and specifications of this literature. It is the specifier's responsibility to ensure that non-CHH Ply products are fit for purpose, and compatible with Shadowclad products.

Good detailing which avoids moisture or dust accumulation on the sheet surface can help increase durability and aesthetics. Roof overhangs contribute to performance as they offer shade and will protect walls from rain and dust. Trims should be bevelled to shed moisture and flashings should be detailed with gaps that do not trap water at the panel edges.

Installation requirements:

Shadowclad must be installed in accordance with good building practice, sound design principles, and the requirements of the Shadowclad Specification and Installation Guide for cavity construction. The specifications and details are available at www.chhply.co.nz/librarytools or ask CHH Plywood by calling 0800 326 759 for information.

Maintenance Requirements:

All cladding materials, including Shadowclad, require careful and regular product maintenance by the building owner throughout the cladding's normal service life to ensure durability and to maintain visual aesthetics. It is important that you refer to, and follow, the requirements of the Shadowclad Specification and Installation Guide for Cavity Construction and the Shadowclad Maintenance Information Bulletin.

Is the building product/building product line subject to warning or ban under section 26 of the Building Act 2004?

Yes No

Date: 5th October 2023

Additional Information:

Further to the minimum regulatory requirements for Building Product information Sheets, CHH Plywood also provides the following additional information in relation to Quality Assurance, Sustainability, Service Life and Product Support.

Quality Assurance:

CHH Plywood has strict quality assurance processes in place to monitor that Ecoply is manufactured in a manner that meets both the structural and visual requirements of the specific product.

Ecoply is independently third party audited by the EWPAA. The EWPAA certifies Ecoply manufactured by CHH Plywood at its Tokoroa mill.

Participation and compliance with the requirements of the EWPAA's process based quality control scheme includes product testing and monitoring of properties. It provides the basis for the EWPAA's Product Certification of Ecoply as conforming to the requirements of AS/NZS 2269.

The EWPAA's product certification scheme is accredited under JAS-ANZ.

Sustainability:

Carter Holt Harvey's commitment to the environment is fundamental to its business. From the use of plantation forests to promoting policies minimizing waste and emissions, CHH is proud of the sustainable base for its products.

CHH Plywood uses waste handling procedures to optimise recovery and manage the creation of arisings. This starts with the use of only radiata pine sourced from sustainably managed renewable plantations and includes the application of optimisation algorithms for veneer peeling to enhance finished goods recovery.

CHH Plywood has been actively involved in the development of markets for the use of downgraded arising product for use in industrial applications including packaging whilst peeler cores are often reprocessed for use as bearers. All waste product derived is assessed for downstream applications including bark for landscaping, boiler fuel and/or sold for use in wood fibre products.

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

The CHH Plywood EPD is a demonstration of the continual focus and commitment to sustainability, through a science driven, independently verifiable process with standard methodology across all products.

[View and Download the EPD for Plywood - https://chhply.co.nz/assets/CHHPlyEPDCurrent.pdf](https://chhply.co.nz/assets/CHHPlyEPDCurrent.pdf)

ENVIRONMENT, SOCIAL AND GOVERNANCE (ESG)

Carter Holt Harvey has developed a new ESG reporting programme. The company has focused on setting out what its stakeholders have identified as material ESG issues, how it manages, or plans to manage those issues, and key environmental indicators. In the future, Carter Holt Harvey will celebrate its ESG achievements and acknowledge those areas where it needs to improve, keeping on a path of steady improvement that will further strengthen Carter Holt Harvey in the years to come.

[View and Download ESG Report - https://chhply.co.nz/assets/CarterHoltHarveyESGReportCurrent.pdf](https://chhply.co.nz/assets/CarterHoltHarveyESGReportCurrent.pdf)

FSC® AND SUSTAINABILITY ACCREDITATIONS

CHH Plywood sources logs from sustainably managed plantation forests, and has the Forest Stewardship Council® (FSC®) Chain of Custody certification (FSC® C012019). This measure provides a formal assurance that gives CHH Plywood's customers confidence about its sustainability credentials. CHH Plywood's products can be supplied with a FSC certificate on request.

[View and Download Certificate - https://chhply.co.nz/assets/CHHPlyFSCCertificateTokoroaCurrent.pdf](https://chhply.co.nz/assets/CHHPlyFSCCertificateTokoroaCurrent.pdf)

EWPA FORMALDEHYDE EMISSION CLASSIFICATIONS CERTIFICATE

Formaldehyde Emissions for CHH Plywood products are measured as being less than 0.5 mg/L, classed as E0

[View and Download Certificate -](https://chhply.co.nz/assets/Tokoroa-Formaldehyde-Certificate_Nov-2016.pdf)

https://chhply.co.nz/assets/Tokoroa-Formaldehyde-Certificate_Nov-2016.pdf

CARTER HOLT HARVEY ENVIRONMENTALLY RESPONSIBLE WOOD & WOOD FIBRE PROCUREMENT POLICY

[View and Download Policy - https://chhply.co.nz/assets/Uploads/CHH-Environmentally-Responsible-Wood-Wood-Fibre-Policy-Current.pdf](https://chhply.co.nz/assets/Uploads/CHH-Environmentally-Responsible-Wood-Wood-Fibre-Policy-Current.pdf)

Service Life:

Shadowclad will continue to satisfy the performance requirements of the NZBC for 15 years, provided that all of the requirements set out in this Product Technical Statement and the current Shadowclad Specification and Installation Guide for Cavity Construction are followed.

Product Support:

CHH Plywood provides extensive product support for our full range of wood-based building products. By visiting www.chhply.co.nz you can access all the latest information regarding our products including Product Guides, Specification and Installation Guides, Technical Notes, Information Bulletins, CAD Drawings, Design Software and other useful information.

In addition to this CHH Plywood have a team of Technical Experts available to assist with any product enquiries. You can contact the team by calling 0800 326 759 or by emailing info@chhply.co.nz.

Legal Disclaimer: The information contained in this document is current as at published date and is based on data available to CHH Plywood at the time of going to print. CHH Plywood reserves the right to change the information contained in this document without prior notice. It is your responsibility to ensure that you have the most up to date information available. You can call toll free on 0800 326 759 or visit www.chhply.co.nz to obtain current information. CHH Plywood has used all reasonable endeavours to ensure the accuracy and reliability of the information contained in this document. However, to the maximum extent permitted by law, CHH Plywood assumes no responsibility or liability for any inaccuracies, omissions or errors in this information nor for any actions taken in reliance on this information.