

# NCC COMPLIANCE - WEATHERPROOFING EXTERNAL CLADDINGS - NCC 2022 UPDATE

## INTRODUCTION

As a leading supplier of metal claddings in Australia, Lysaght maintains a strong commitment to compliance of its products to relevant Australian Standards, building and design codes and other statutory requirements.

This bulletin summarises the position of LYSAGHT® roof and wall claddings with respect to the weatherproofing requirements of the 2022 National Construction Code.

## CONTEXT FOR THIS BULLETIN

The 2022 National Construction Code (NCC) outlines both "Performance Requirements" and "Deemed to Comply" provisions for weatherproofing of metal wall claddings in:

- Volume 1 (Multi-Res, Commercial, Industrial, and public assembly buildings) and;
- Volume 2 (Residential buildings) of the NCC

This bulletin seeks to clarify the requirements for metal claddings for each building type.

## COMPLIANCE IMPLICATIONS FOR LYSAGHT® STEEL CLADDING PRODUCTS

This document summarises the compliance implications for LYSAGHT® steel cladding products in three applications:

1. Walling – non-residential
2. Walling – residential
3. Roofing – non-residential and residential

### 1. Roofing and Walling – Non-residential applications NCC Vol 1

NCC Volume 1 (For Classes 2-9 Buildings) specifies the weatherproofing Performance Requirements that must be met by the wall system in non-residential applications.

#### Performance Requirements Section – F3P1 Weatherproofing

A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause;

- unhealthy or dangerous conditions, or loss of amenity for occupants; and
- undue dampness or deterioration of building elements

Verification Methods for Performance based solutions are set out at F3V1.

NCC2022 outlines Deemed-to-Satisfy Provisions (DTS) for F3P1 at F3D1 as "Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement F3P1 is satisfied by complying with F3D2 to F3D5."

For metal claddings the relevant clauses are;

**F3D2 Roof Coverings** - A roof must be covered with- (b) metal sheet roofing complying with AS 1562.1;

**F3D3 Sarking** - Sarking-type material used for weatherproofing of roofs and walls must comply with AS 4200.1 and AS 4200.2.

**F3D4 Glazed assemblies** - The following glazed assemblies in an external wall, must comply with AS 2047 requirements for resistance to water penetration:

- (a) Windows
- (b) Sliding and swinging glazed doors with a frame, including French and bi-fold doors with a frame
- (c) Adjustable louvres
- (d) Shopfronts
- (e) Window walls with one piece framing

**F3D5 Wall Cladding** - (1) External wall cladding must comply with: (c) Metal Wall Cladding: AS1562.1

In summary, for non-residential applications, if the LYSAGHT® wall or roof cladding is designed and constructed in accordance with Lysaght's relevant published Design and Installation Guidelines, (which have been prepared to comply to AS 1562.1), and AS 1562.1, then it meets the Performance Requirements of the NCC.

DTS Provisions for weatherproofing of metal wall cladding were not available in NCC2019.

### 2. Roofing and Walling – Residential applications NCC Vol 2

For residential walling applications the use of LYSAGHT® cladding products is covered by the "deemed-to-satisfy solution" (Acceptable Construction solutions) in NCC Volume 2 Part H2.

#### Performance Requirements Section – H2P2 Weatherproofing

- A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause;

- unhealthy or dangerous conditions, or loss of amenity for occupants; and
- undue dampness or deterioration of building elements

Verification Methods for Performance based solutions are set out at H2V1.

NCC2022 outlines Deemed-to-Satisfy Provisions (DTS) for metal claddings at H2D1 - *“Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement H2P2 is satisfied for metal claddings by complying with H2D2 to H2D8.”*

For metal claddings the relevant clause is H2D6 - *“Performance Requirements H2P1 and H2P2 are satisfied for damp and weatherproofing for roof and wall cladding if it is in accordance with H1D7(1), (2), (3), (5), (6) or (7) as appropriate.”*

**H1D7** Clauses relevant to Metal claddings are:

- (2) Performance Requirement H1P1 is satisfied for sheet roofing if it complies with one or a combination of the following:
  - (a) Metal roofing:
    - (i) AS 1562.1; and
    - (ii) in wind regions C and D in accordance with Figure 2.2.3 in Section 2 of the ABCB Housing Provisions (cyclonic areas), metal roof assemblies, their connections and immediate supporting members must be capable of remaining in position notwithstanding any permanent distortion, fracture or damage that might occur in the sheet or fastenings under the pressure sequences A to G defined in Table H1D7.
  - (c) Metal sheet roofing: Part 7.2 of the ABCB Housing Provisions, provided the building is located in an area with a wind class of not more than N3.
- (8) Performance Requirement H1P1 is satisfied for a metal wall cladding if it is designed and constructed in accordance with AS 1562.1.

In summary, for residential applications, if the LYSAGHT® wall or roof cladding is designed and constructed in accordance with Lysaght’s relevant published Design and Installation Guidelines, (which have been prepared to comply to AS 1562.1), and AS 1562.1, then it meets the Performance Requirements of the NCC.

## BACKGROUND

The National Construction Code (NCC) is Australia’s primary set of technical design and construction provisions for buildings. As a performance-based Code, it sets the minimum required level for the safety, health, amenity, accessibility and sustain ability of certain buildings.

It primarily applies to the design and construction of new buildings, and plumbing and drainage systems in new and existing buildings. In some cases it may also apply to structures associated with buildings and new building work or new plumbing and drainage work in existing buildings.

The Australian Building Codes Board (ABCB), produces and maintains the NCC. When determining the content of the NCC, the ABCB seeks to:

- ensure requirements have a rigorously tested rationale; and
- effectively and proportionally address applicable issues; and

- create benefits to society that outweigh costs; and
- consider non-regulatory alternatives; and
- consider the competitive effects of regulation; and
- not be unnecessarily restrictive

### The three volume NCC 2019 comprises

- the Building code of Australia, BCA (Volumes 1 & 2)
  - Volume 1 – Class 2 to 9 buildings i.e. Multi-Res, Commercial, Industrial, and public assembly buildings
  - Volume 2 – Class 1 and Class 10a, certain 10b and Class 10c private bushfire shelter, buildings
- the Plumbing Code of Australia, PCA (Volume 3)

Compliance with the NCC is achieved by complying with:

1. The governing requirements of the NCC; and
2. The Performance Requirements

### Compliance with NCC - Performance Requirements

Performance Requirements are satisfied by one of the following

1. A Performance Solution
2. A Deemed-to-Satisfy Solution
3. A combination of 1 & 2

A **Performance Solution** is achieved by demonstration of;

1. Compliance with all relevant Performance Requirements or demonstrable and documented equivalency to the Deemed-to-Satisfy Provisions
2. The Performance Solution must be shown to comply through a combination of the nominated assessment methods
  - a. Evidence of material suitability as outlined in section A5 of NCC
  - b. Verification methods accepted by relevant authorities that document compliance with the Performance Standards
  - c. Expert judgement
  - d. Comparison with Deemed-to-Satisfy Provisions
3. The Performance Solution must clearly
  - a. Identify and document the relevant Performance Requirements
  - b. Identify and document the Performance Requirements for all interacting elements that maybe affected by the Performance Solution

A **Deemed-to-Satisfy Solution** is deemed to meet the Performance Requirements of the NCC when the solution can show compliance with the Deemed-to-Satisfy provisions via;

- a. Documentation / evidence of the products compliance to the Deemed-to-Satisfy provisions
- b. Expert Judgement
- c. Demonstrated compliance to appropriate acceptable construction methods or manuals contained in BCA Vol 2

## Australian Standards referenced in this bulletin

AS 1562.1:2018 Design and installation of metal roof and wall cladding, Part 1: Metal

## PRODUCT DESCRIPTIONS

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