Prime Consulting Engineers Pty. Ltd.

Weatherproofing Assessment Report to NCC 2022

For

Type: X-PLUS Ritek Wall System

Ref: 24-810-2

Date: 07/06/2024

Revision: A

Document Control

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Document Authorisation

RECIPIENT(S):	Mark Hillyer Jamie Somerville-Kimlin
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Rev.	Date	Issue for	Prepared by	Checked by
0	7/06/2024	Client's Review	KZ	BG

Summary of Amendments

Rev.	Section(s)	Description
A	Various	-

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Table of Contents

1 Introduction

Prime Consulting Engineers was engaged by Ritek Technology PTY LTD to provide consultancy advice regarding the compliance of the X-PLUS Ritek Wall System with the weatherproofing performance requirements of the NCC 2022, specifically clauses F3P1 (Weatherproofing) and F8P1 (Condensation and Water Vapour Management).

This report will primarily focus on the compliance paths for clause F3P1 and the verification methods that can be used to demonstrate this compliance. For the assessment of compliance with F8P1, please refer to document R-24-810-1, "Condensation and Mould Growth Risk Analysis," prepared by Prime Consulting Engineers.

It should be noted that the outcome of this report is limited to the selected items as outlined in this report. This report shall be read in conjunction with the documents listed in the references (Cl. 7).

2 Disclaimer

This report provides a professional opinion on the weatherproofing capabilities of the X-PLUS Ritek Wall System based on the performance of the previously tested weatherproof render systems used in conjunction with this wall system. This report outlines the compliance paths available to demonstrate adherence of this wall system with clause F3P1 of the National Construction Code, NCC 2022 (refer to Cl. 10.1.2 for details). It is important to note that, while this document provides valuable guidance, it does not constitute a Performance Solution Report or a Weatherproofing Compliance Certificate as defined under the NCC 2022.

Performance Solutions are project-specific and must be designed to the unique requirements of each building project. This report does **NOT** serve as a substitute for a Performance Solution Report or Compliance Certification for the weatherproofing of X-PLUS Ritek wall system.

For a comprehensive Performance Solution Reports and or Design Compliance Declaration (DCD) certificates, which include detailed assessments and compliance documentation, a qualified experienced Façade Engineer must be engaged who specialises in developing Performance Solution Reports that meet the necessary requirements of the NCC for the specific project requirements. Additionally, Prime Consulting Engineers are equipped to offer these specialised services.

This report has been prepared for Ritek Technology PTY LTD and is not intended for reliance by any third party. No responsibility is accepted for any use of this report by third parties.

3 Objectives

The objective of this report is to:

1. Offer a professional opinion/ judgment in accordance with the relevant Assessment Methods for weatherproofing of external walls stipulated in the NCC 2022 for X-PLUS Ritek Wall System.
2. Provide an expert opinion on the standard details of the X-PLUS Ritek Wall System from a weatherproofing perspective.
3. Conduct a thorough evaluation of the test results of previously tested weatherproof renders (conducted by others) for use with the X-PLUS Ritek Wall System as a "face sealed" cladding, to establish a foundation for the professional opinion on the weatherproofing assessment of the X-PLUS Ritek Wall System.
4. Discuss suitable paths as acceptable approaches to demonstrate compliance with the F3P1 performance requirements of the NCC 2022.

4 Executive Summary

This report examines the compliance paths of the X-PLUS Ritek wall system with the weatherproofing performance requirements outlined in F3P1 of the National Construction Code (NCC) 2022. Through detailed analysis and evaluating available laboratory test results, it is in our professional opinion that achieving compliance with F3P1 is achievable for the X-PLUS Ritek wall system when it is used as a "face-sealed" system in conjunction with a suitable and compliant weatherproof render, as described in section 10.1.2.1.

5 Definitions

- **NCC:** National Construction Code.
- **ABCB:** Australian Building Codes Board
- **Performance Requirement:** A requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.
- **Performance Solution:** A method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.
- **Verification Method:** A test, inspection, calculation or other method that determines whether a Performance Solution complies with the relevant Performance Requirements.
- **Assessment Method:** A method that can be used for determining that a Performance Solution or Deemed-to-Satisfy Solution complies with the Performance Requirements.

- **Membrane:** A barrier impervious to moisture.
- **Water control layer:** A pliable building membrane or the exterior cladding when no pliable building membrane is present.
- **External wall:**
    - NCC Volume One: an outer wall of a building which is not a common wall.
    - NCC Volume Two: an outer wall of a building which is not a separating wall.
- **Windows:** Includes a roof light, glass panel, glass block or brick, glass louvre, glazed sash, glazed door, or other device which transmits natural light directly from outside a building to the room concerned when in the closed position.
- **Amenity:** An attribute which contributes to the health, physical independence, comfort and well-being of people.
- **Direct fix cladding wall:** For the purposes of F3V1 and H2V1, means a wall with cladding attached directly to the wall framing without the use of a drained cavity.
- **Cavity wall:** For the purposes of F3V1 and H2V1, a wall that incorporates a drained cavity.
- **Sole-occupancy unit:** A room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier and includes—
    - a dwelling; or
    - a room or suite of rooms in a Class 3 building which includes sleeping facilities; or
    - a room or suite of associated rooms in a Class 5, 6, 7, 8 or 9 building; or
    - a room or suite of associated rooms in a Class 9c building, which includes sleeping facilities and any area for the exclusive use of a resident.
- **Condensation:** Condensation refers to the formation of moisture on the surface of a building element or material as a result of moist air coming into contact with a surface which is at a lower temperature.
- **Mould:** A fungal growth that can be produced from conditions such as dampness, darkness, or poor ventilation.

6 Assumptions and Limitation

- The works are limited to the scope described above and to the weatherproofing verification methods outlined in the NCC 2022.
- The findings of the test results of previously tested weatherproof renders (conducted by others) are referenced herein to be used as direct fix cladding on X-PLUS Ritek Wall System.
- No structural assessment of the X-PLUS Ritek Wall System, including framing members, fixings, wall panels, building movements, or the location of joints within this wall system, was conducted as part of this evaluation.
- This opinion is based on relevant details provided by Ritek Technology PTY LTD and excludes the following:
    - The performance requirements of the NCC 2022 other than weatherproofing requirement F3P1 and the Verification Methods F3V1 & H2V1.
    - Structural, Durability, Corrosion, Fire, Acoustic etc requirements of the NCC 2022.
    - Wall type systems other than 115mm – 265mm Ritek X-PLUS Wall System.
    - Thermal movements, expansion and contraction.
    - Penetrations.
    - Installation and workmanship.
    - Interface of X-PLUS Ritek Wall System with other systems including but not limited to windows, doors, other wall systems, structural framings, slabs and other cladding systems etc.
- It is assumed that all design and installation works will be carried out in strict accordance with the recommendations from Ritek Technology PTY LTD.
- The external finishing of the X-PLUS Ritek Wall System is assumed to be a weatherproof render compliant to AS 4284 and the NCC. Rfer to clause 10.1.2.1 for details.

Note:

- This report serves as a foundation for the professional opinion/ judgment on the weatherproofing assessment of the X-PLUS Ritek Wall System and shall **NOT** be mistaken for a Performance Solution Report or F3P1 Compliance Certification for the weatherproofing of the X-PLUS Ritek Wall System, nor shall it be used as evidence of suitability to demonstrate such compliance. The compliance paths available to

demonstrate compliance of this wall system with clause F3P1 of the NCC 2022 are thoroughly discussed in Cl. 10.1.2.

7 References

- The documents referred to in this report are as follows:
  - The following drawing numbers of provided detail drawings prepared by by Ritek Technology PTY LTD:
    - RS 1526-65 Issue A
    - RS 1526-14 Issue A
    - RS 1068 Issue J
  - Part F3 & H2 of National Construction Code (NCC) 2022, Vol. 1 & 2
  - Laboratory Test results report of Dulux Acra-Tex render system as per AS/NZS 4284:2008, Test Report No. 2020-001-S1 prepared by Ian Bennie & Associates Pty. Ltd. dated April 2020.
  - Laboratory Test results of Rockcote Armoured Tuscany render system as per AS/NZS 4284:2008, Test Report No. 2021-104-S1 prepared by Ian Bennie & Associates Pty. Ltd. dated July 2022.
- Standards and guidelines used:
  - AS/NZS 4284:2008
  - AS/NZS 4654:2012

8 Background

8.1 Ritek X-PLUS Wall System

Ritek Wall Systems are prefabricated permanent formwork systems for concrete walls used for all types of external and internal walls. The Ritek X-PLUS Wall System panels consist of 6mm fibre-cement, recessed-edge facing sheets, bonded to vertical studs. Refer to the table below for X-PLUS Wall panel thicknesses.

Ritek® X-PLUS Wall System Specification			
X-PLUS Wall Panel Thickness	**Concrete Core**	**Surface Density**	**Typical Panel Weight**
115mm	103mm	> 220 kg/m^2	20 kg/m^2
135mm	123mm	> 220 kg/m^2	21 kg/m^2
150mm	138mm	> 220 kg/m^2	23 kg/m^2
165mm	153mm	> 220 kg/m^2	24 kg/m^2
200mm	188mm	> 220 kg/m^2	26 kg/m^2
265mm	253mm	> 220 kg/m^2	26 kg/m^2

9 NCC Requirements and Compliance Paths

9.1 Performance Requirements

NCC 2022 Volume one provides the Deemed-to-Satisfy Provision for the Weatherproofing requirements of the External Walls as outlined in clause F3D5. However, “face-sealed systems” in general, including X-PLUS Ritek Wall System, are not included in this DtS provision. Therefore, a Performance Solution must be developed to demonstrate that the proposed external wall system meets the weatherproofing performance requirements as outlined in clause F3P1.

As outlined in clause A2G2 of the NCC 2022, “*Performance Solutions are achieved by demonstrating compliance with all Performance Requirements or the solution that is:*

- *at least equivalent to the Deemed-to-Satisfy Provisions or;*
- *compliant with the relevant Performance Requirements*”

This can be done through one or a combination of the Assessment Methods (refer to Cl. 10) such as Evidence of Suitability, Verification Method, Expert Judgment and Comparison with DtS provisions.

It should be noted that any Performance Solutions is subject to the approval of the Principal Certifying Authority.

9.1.1 Part F3 Roof and wall cladding (Performance Requirements)

F3P1 Weatherproofing

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

a) unhealthy or dangerous conditions, or loss of amenity for occupants; and

b) undue dampness or deterioration of building elements.

9.2 Deemed-to-Satisfy Provisions

9.2.1 Part F3 Roof and wall cladding (DtS)

F3D1 Deemed-to-Satisfy Provisions

1. *Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement F3P1 is satisfied by complying with F3D2 to F3D5.*
2. *Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2G2(3) and A2G4(3) as applicable.*

F3D2 Roof coverings

A roof must be covered with—

a) roof tiles complying with AS 2049, fixed in accordance with AS 2050; or

b) metal sheet roofing complying with AS 1562.1; or

c) plastic sheet roofing designed and installed in accordance with AS 1562.3; or

d) terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS 4597, except in cyclonic areas; or

e) an external waterproofing membrane complying with F1D5.

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

1. *Subject to (2) and (3), 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.*

2. *The following buildings need not comply with (1):*

a. *A Class 7 or 8 building where in the particular case there is no necessity for compliance.*

b. *A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of the other part of the building.*

c. *An open spectator stand or open-deck carpark.*

3. *The following glazed assemblies need not comply with (1):*

a. *All glazed assemblies not in an external wall.*

b. *Revolving doors.*

c. *Fixed louvres.*

d. *Skylights, roof lights and windows in other than the vertical plane.*

e. *Sliding and swinging glazed doors without a frame.*

f. *Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047.*

g. *Second-hand windows, re-used windows and recycled windows.*

h. *Heritage windows.*

F3D5 Wall cladding

1) *External wall cladding must comply with one or a combination of the following:*

a. *Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700.*

b. *Autoclaved aerated concrete: AS 5146.3.*

c. *Metal wall cladding: AS 1562.1.*

2) *The following buildings need not comply with (1):*

   a. *A Class 7 or 8 building where in the particular case there is no necessity for compliance.*

   b. *A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of another part of the building that is required to be weatherproofed.*

   c. *An open spectator stand or open deck carpark.*

9.3 Verification Methods

9.3.1 Part F3 Roof and wall cladding (Verification Methods)

F3V1 Weatherproofing

1. *Compliance with F3P1 for weatherproofing of an external wall is verified when—*

   a. *a prototype passes the procedure described in (2); and*

   b. *the external wall—*

      i. *has a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with Table F3V1a; and*

      ii. *is not subjected to an ultimate limit state wind pressure of more than 2.5 kPa; and*

      iii. *includes only windows that comply with AS 2047.*

2. *The test procedure referred to in (1)(a) must be as follows:*

   a. *The test specimen is in accordance with the requirements of (3).*

   b. *The test procedure is in accordance with the requirements of (4) or (5) as applicable.*

   c. *The test specimen does not fail the criteria in (6).*

   d. *The test is recorded in accordance with the requirements of (7).*

3. *Test specimen: The test specimen must incorporate—*

   a. *representative samples of openings and joints, including—*

      i. *vertical and horizontal control joints; and*

ii. wall junctions; and

iii. windows or doors; and

iv. electrical boxes; and

v. balcony drainage and parapet flashings; and

vi. footer and header termination systems; and

b. for a cavity wall—

i. a transparent material for a proportion of the internal wall lining (to provide an unobstructed view of the external wall cladding) with sufficient structural capability and similar air tightness to resist the applied wind pressures; and

ii. a 15 mm diameter hole in the internal wall lining below a window.

4. The test procedure for a direct fix cladding wall or unique wall must be as follows:

a. Apply 100% positive and negative serviceability wind pressures to the external face of the test specimen for a period of not less than 1 minute each.

b. Apply static pressure of either 300 Pa or 30% serviceability wind pressure, whichever is higher, in accordance with the water penetration test procedure at clause 8.5.2 of AS/NZS 4284.

c. Apply cyclic pressure in accordance with—

i. the three stages of Table F3V1b; and

ii. the water penetration test procedure at clause 8.6.2 of AS/NZS 4284.

5. The test procedure for a cavity wall must be as follows:

a. Apply 100% positive and negative serviceability wind pressures to the external face of the test specimen for a period of not less than 1 minute each.

b. Apply static pressure of either 300 Pa or 30% serviceability wind pressure, whichever is higher, in accordance with the water penetration test procedure at clause 8.5.2 of AS/NZS 4284.

c. Apply cyclic pressure in accordance with—

i. stage 3 of Table F3V1b; and

ii. the water penetration test procedure at clause 8.6.2 of AS/NZS 4284.

d. *To simulate the failure of the primary weather-defence or sealing, the following procedure must be applied to the test specimen:*

i. *Insert 6 mm diameter holes through the external face of the cavity wall in all places specified below:*

A. *Wall/window or wall/door junctions at ¾ height.*

B. *Immediately above the head flashing.*

C. *Through external sealing of the horizontal and vertical joints.*

D. *Above any other penetration detail not covered by (A) to (C).*

ii. *Repeat the static and cyclic pressure tests of (b) and (c).*

iii. *Within 30 minutes of the completion of (ii), remove the internal lining of the cavity wall and check for compliance with (6).*

iv. *With the internal lining removed, apply a final static pressure test at 50 Pa for a period of 15 minutes.*

6. *Compliance is determined as follows:*

a. *A direct fix cladding wall and unique wall are verified for compliance with F3P1 if there is no presence of water on the inside surface of the facade.*

b. *A cavity wall is verified for compliance with F3P1 if there is no presence of water on the removed surface of the cavity, except that during the simulation of the failure of the primary weather-defence or sealing, water may—*

i. *transfer to the removed surface of the cavity due to the introduced defects (6 mm holes); and*

ii. *contact, but not pool on, battens and other cavity surfaces.*

7. *The test report must include the following information:*

a. *Name and address of the person supervising the test.*

b. *Test report number.*

c. *Date of the test.*

d. *Cladding manufacturer's name and address.*

e. *Construction details of the test specimen, including a description, and drawings and details of the components, showing modifications, if any.*

f. Test sequence with the pressures used in all tests.

g. For each of the static and cyclic pressure tests, full details of all leakages, including position, extent and timing.

9.4 Performance Solutions

9.4.1 Part A2 Compliance with NCC

A2G2 Performance Solution

1. *A Performance Solution is achieved by demonstrating—*
   a. *compliance with all relevant Performance Requirements; or*
   b. *the solution is at least equivalent to the Deemed-to-Satisfy Provisions.*
2. *A Performance Solution must be shown to comply with the relevant Performance Requirements through one or a combination of the following Assessment Methods:*
   a. *Evidence of suitability in accordance with Part A5 that shows the use of a material, product, plumbing and drainage product, form of construction or design meets the relevant Performance Requirements.*
   b. *A Verification Method including the following:*
      i. *The Verification Methods provided in the NCC.*
      ii. *Other Verification Methods, accepted by the appropriate authority that show compliance with the relevant Performance Requirements.*
   c. *Expert Judgement.*
   d. *Comparison with the Deemed-to-Satisfy Provisions.*
3. *Where a Performance Requirement is satisfied entirely by a Performance Solution, in order to comply with (1) the following method must be used to determine the Performance Requirement or Performance Requirements relevant to the Performance Solution:*
   a. *Identify the relevant Performance Requirements from the Section or Part to which the Performance Solution applies.*

b. Identify Performance Requirements from other Sections or Parts that are relevant to any aspects of the Performance Solution proposed or that are affected by the application of the Performance Solution.

4. Where a Performance Requirement is proposed to be satisfied by a Performance Solution, the following steps must be undertaken:

a. Prepare a performance-based design brief in consultation with relevant stakeholders.

b. Carry out analysis, as proposed by the performance-based design brief.

c. Evaluate results from (4)(b) against the acceptance criteria in the performance-based design brief.

d. Prepare a final report that includes—

i. all Performance Requirements and/or Deemed-to-Satisfy Provisions identified through A2G2(3) or A2G4(3) as applicable; and

ii. identification of all Assessment Methods used; and

iii. details of steps (4)(a) to (4)(c); and

iv. confirmation that the Performance Requirement has been met; and

v. details of conditions or limitations, if any exist, regarding the Performance Solution.

10 Assessment Methods

10.1 Performance Solution (A2G2)

The Performance Solution approach offers a flexible and comprehensive pathway to demonstrate compliance with the F3P1 requirements of the NCC 2022. Unlike prescriptive methods, Performance Solutions allow for the use of innovative materials and construction techniques that may not be explicitly covered by the Deemed-to-Satisfy provisions. By utilising Performance Solutions, designers and builders can address the unique challenges and conditions of specific projects, ensuring that the building's weatherproofing performance meets or exceeds the regulatory standards set by the NCC.

10.1.1 Verification Method (F3V1)

Due to the absence of prototype test results for the X-PLUS Ritek Wall System, the verification method cannot be employed as a suitable assessment method to demonstrate compliance with the F3P1 requirements in the NCC 2022. Without these specific test results, the

verification pathway is not viable. Consequently, other performance solution approaches, as permitted under clause A2G2 of the NCC 2022, must be utilised to establish compliance of the face-sealed X-PLUS Ritek Wall System with compliant weatherproof render systems. This approach allows for a detailed assessment that can meet the necessary regulatory standards by considering alternative methods or materials that achieve the required performance outcomes.

10.1.2 Suitable Path to Demonstrate Compliance with F3P1

To ensure compliance with F3P1 of the NCC 2022, the X-PLUS Ritek wall system must be used as a "face-sealed" system in conjunction with a suitable and compliant weatherproof render, as described in section 10.1.2.1. This combination can achieve the necessary weatherproofing performance, effectively preventing water penetration and safeguarding the amenity for occupants.

Demonstrating this compliance requires the application of a Performance Solution approach. This approach involves the expertise of a qualified and experienced façade engineer, who will conduct comprehensive assessments and provide the necessary documentation to validate that the wall system meets the required weatherproofing standards. According to clauses A2G2(2)(a) and A2G2(2)(c) of the NCC 2022, the façade engineer will utilise methods listed below:

1. **A2G2(2)(a):** Evidence of suitability in accordance with Part A5 that shows the use of a material, product, plumbing and drainage product, form of construction or design meets the relevant Performance Requirements.
2. **A2G2(2)(c):** Expert Judgement.

The evidence of suitability described in A2G2(2)(a) is the compliance certificate of a weatherproof render described below.

10.1.2.1 Compliant Weatherproof Render Systems

Based on laboratory tests carried out by Ian Bennie & Associates Pty. Ltd., it is evident that Dulux Acra-Tex as well as Rockcote Armoured Tuscany render systems demonstrated performance satisfying the compliance requirement when tested to Verification Methods FV1 & V2.2.1 of NCC2019 with a serviceability limit state pressure of +0.82 kPa and -1.23 kPa. (refer to the original test reports for details). This meets the requirements of the NCC and can be used as evidence of suitability as permitted in clause A2G2(2)(a) of the NCC 2022.

Additionally, other weatherproof render systems can be used in conjunction with the X-PLUS Ritek wall system to achieve the same level of performance, provided the test results for these render systems are available and demonstrate performance equivalent to that of the

Dulux Acra-Tex and Rockcote Armoured Tuscany systems. These alternative render systems must meet the same serviceability limit state pressures and comply with the Verification Methods FV1 & V2.2.1 of NCC 2019 or the equivalent Verification Methods as outlined in the NCC 2022 to be used as evidence of suitability to demonstrate F3P1 compliance.

11 Conclusion

This report examined the compliance paths of the X-PLUS Ritek wall system to demonstrate its compliance with weatherproofing performance requirements as outlined in F3P1 of the National Construction Code (NCC) 2022. Through detailed analysis and professional evaluation, it is in our opinion that achieving compliance with F3P1 requirements is achievable for the "face-sealed" X-PLUS Ritek wall system with compliant weatherproof render systems.

The verification method, typically used to demonstrate compliance, cannot be applied to the X-PLUS Ritek wall system due to the absence of prototype test results. Consequently, the Performance Solution approach, as permitted under clause A2G2 of the NCC 2022, must be utilised. This approach allows for a detailed assessment that meets or exceeds the necessary performance requirements.

Compliance Paths

The recommended pathway involves using the X-PLUS Ritek wall system as a "face-sealed" solution in conjunction with a compliant weatherproof render, as specified in section 10.1.2.1 of this report. This combination has been concluded to be capable of providing effective weatherproofing characteristics, preventing water penetration and ensuring the amenity of the occupants of the building.

This compliance can be demonstrated by utilising clauses **A2G2(2)(a)** and **A2G2(2)(c)** of the NCC 2022, through a combination of using evidence of suitability and expert judgment. Refer to Cl. 10.2.1 for details.

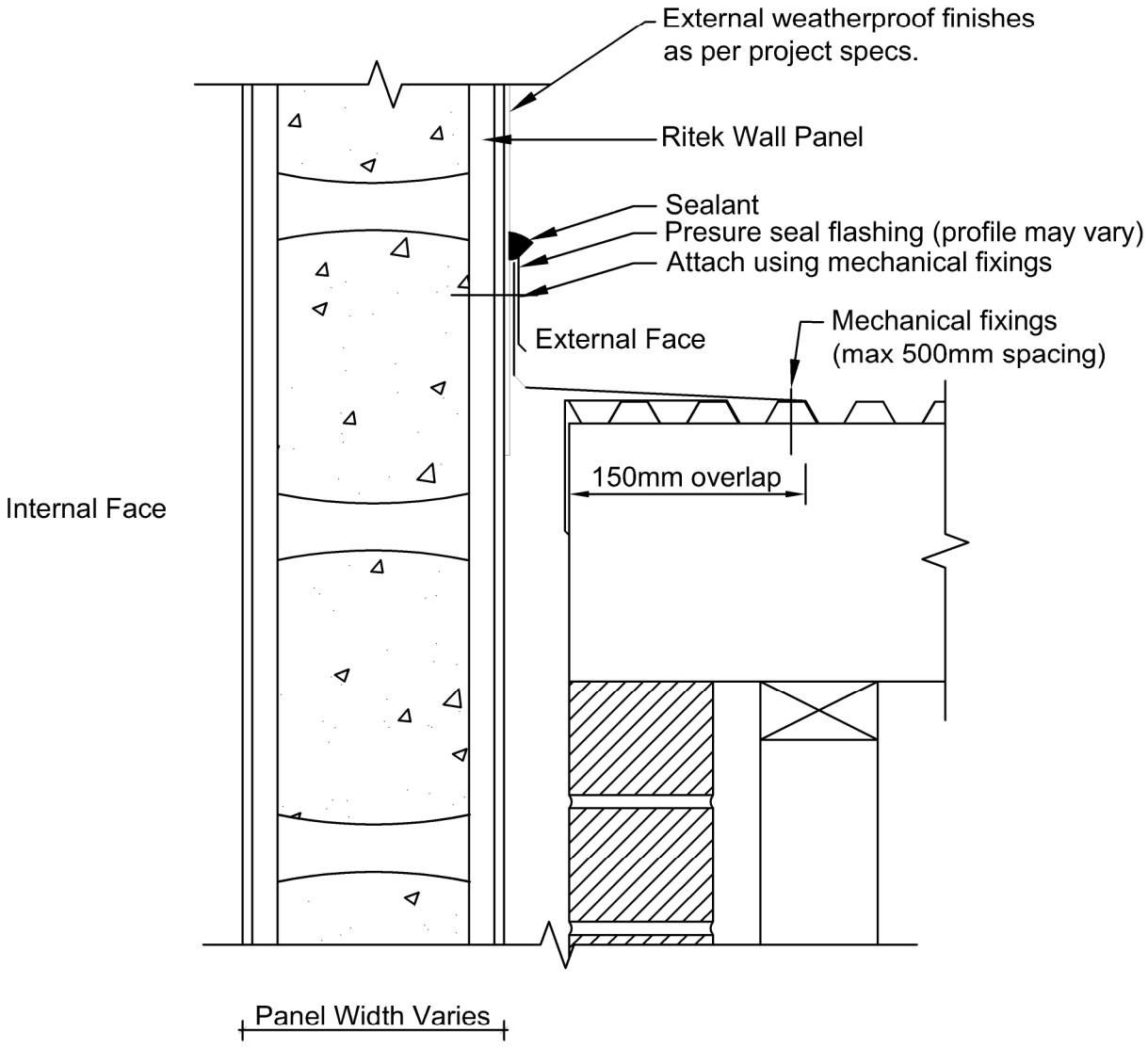
As covered throughout this report, Performance Solutions are project-specific and must be developed to the unique requirements of each building project.

In conclusion, the Performance Solution approach, supported by professional expertise **(Expert Judgment)** and laboratory test results of compliant render systems **(Evidence of suitability)** can offers a viable and robust path to achieving the required weatherproofing performance for the "face-sealed" X-PLUS Ritek wall system, ensuring compliance with the F3P1 requirements of the NCC 2022.

Yours faithfully,

Kevin Zia,
Prime Consulting Engineers
MEng, MIEAust, CPEng, NER, APEC, IntPE (Aus), RPEQ

Appendix A – Drawings



Wall Flashing Detail

Flashing from Ritek Wall to lower building

ISSUE	DATE	SUBJECT	INIT
A	14 09 20	ISSUED FOR INFORMATION	JSK

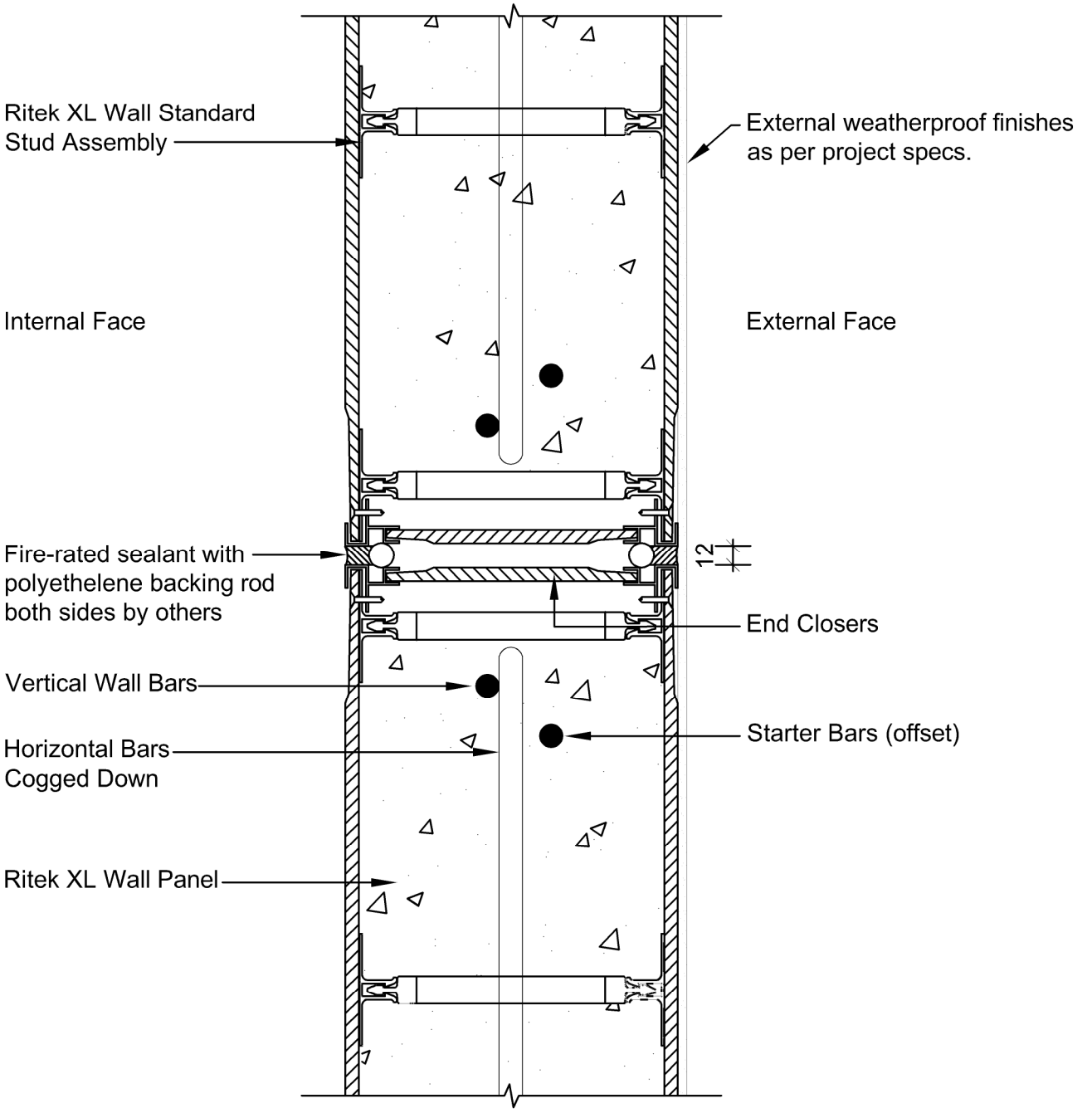
Ritek Systems Pty Ltd
ABN 18 642 239 585
3 Lowermill Rd, Cooroy QLD. 4563
PHONE: 1300 152 857
Email: info@ritek.com.au
Web: www.ritekaustralia.com

WALL/ROOF JUNCTION

SHEET 65

DRAWING NO. RS 1526-65

ISSUE A



TYPICAL WALL CONTROL JOINT DETAIL

ISSUE	DATE	SUBJECT	INIT
A	14 09 20	ISSUED FOR INFORMATION	JSK

Ritek SYSTEMS

Ritek Systems Pty Ltd
ABN 18 642 239 585
3 Lowermill Rd, Cooroy QLD. 4563
PHONE: 1300 152 857
Email: info@ritek.com.au
Web: www.ritekaustralia.com

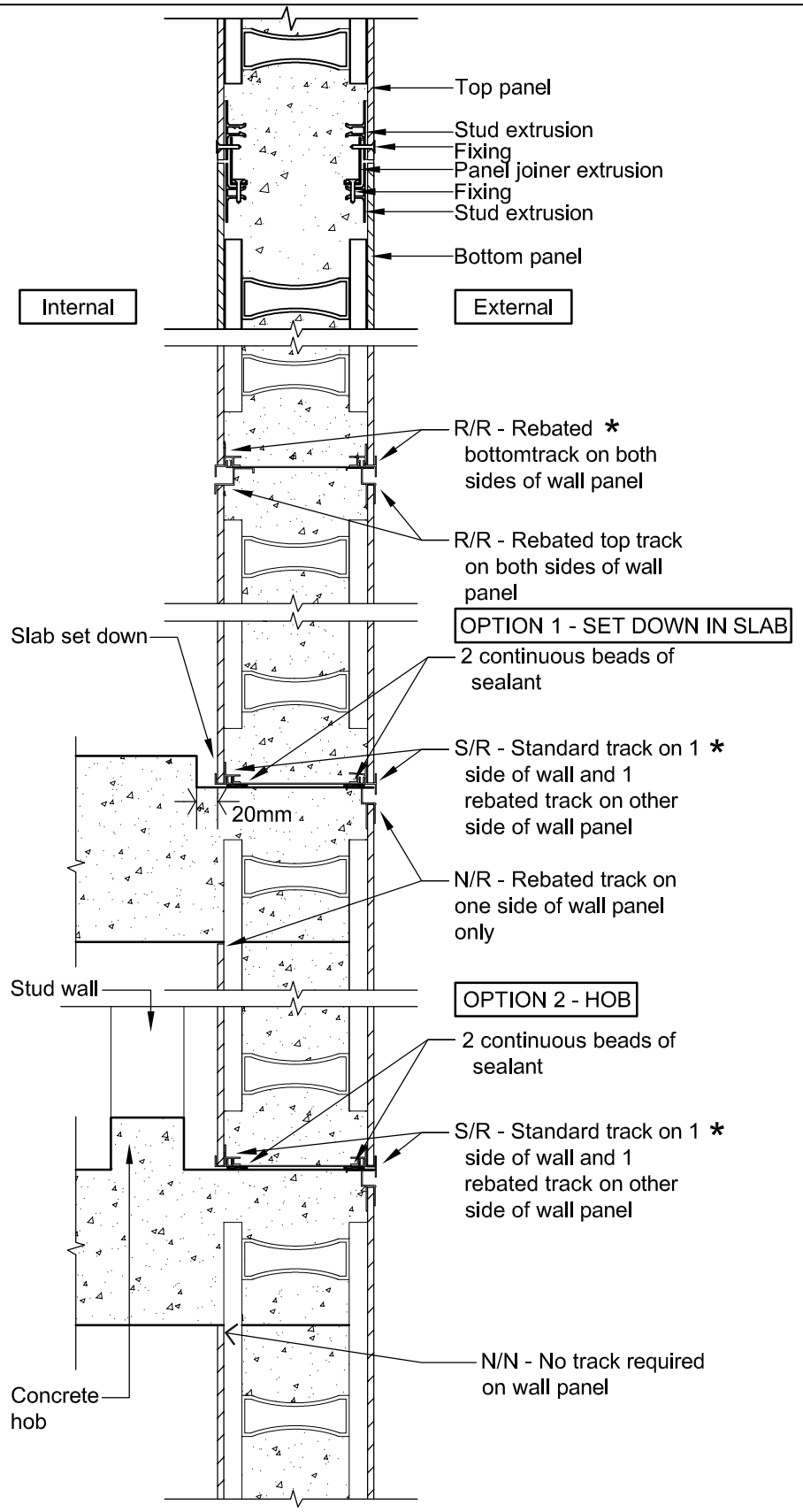
DRAWN	JSK
CHECKED	JSK
SCALE	NTS
DATE	14.09.20

XL WALL DETAILS

SHEET 14

DRAWING NO. RS 1526-14

ISSUE A

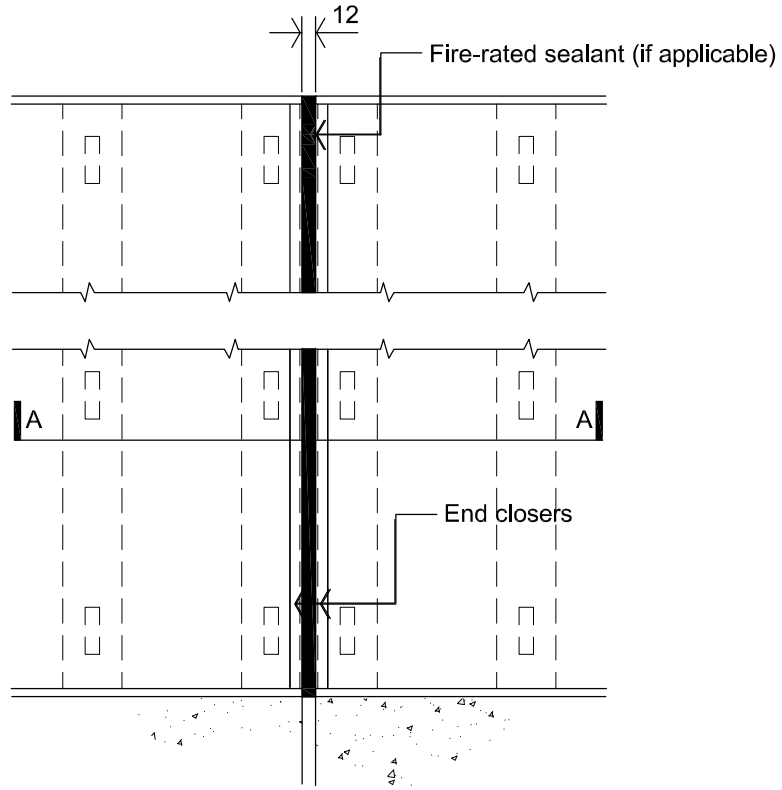


WALL SECTION

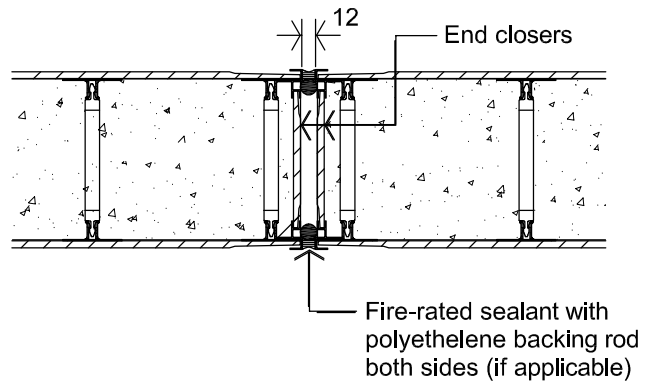
TYPICAL TOP & BOTTOM TRACK DETAIL

* Sealant required between track and slab

THIS SHEET IS ISSUED FOR INFORMATION



ELEVATION AT JOINT



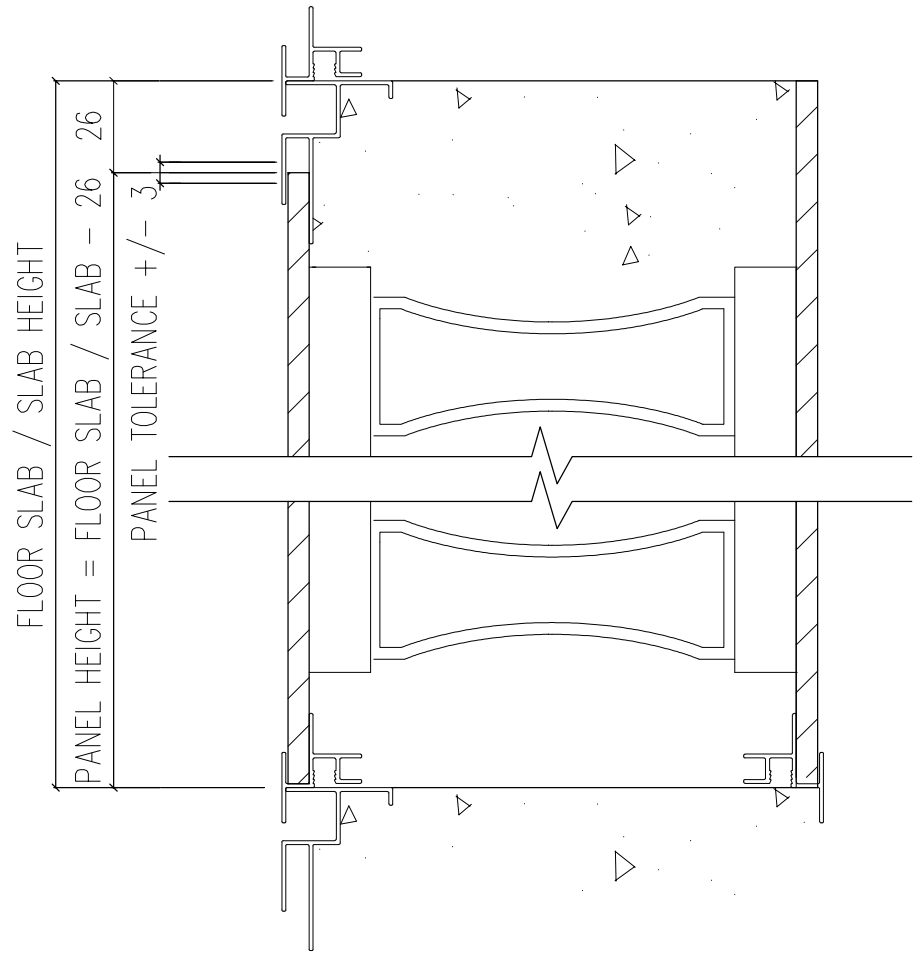
SECTION A–A

The ***frequency of movement joints*** follows the industry accepted "rule of thumb", which is based on spacing related to wall heights: Spacing =

3 x Wall Height for Walls ≤ 2.4 m
2 x Wall Height for Walls ≤ 3.6 m
1 x Wall Height for Walls > 3.6 m

FIGURE 3.19 *TYPICAL WALL MOVEMENT JOINT DETAIL*

Additionally, movement joints are required where wall height or thickness changes.



REBATED TOP TRACK
26mm CLEARANCE DETAIL

NOTES

1. REINFORCING - FOR FULL DETAILS REFER TO PROJECT STRUCTURAL ENGINEER DRAWINGS.
2. CORE FILLED CONCRETE AS PER PROJECT STRUCTURAL ENGINEER DETAILS.
3. WALLS MUST BE SET IN CONJUNCTION WITH FIBRE CEMENT MANUFACTURER RECOMMENDATIONS.
4. PLEASE REFER TO THE RITEK WALL SYSTEMS - DETAILING & DESIGN MANUALS FOR FURTHER INFORMATION.

DETAILS - WALL LAYOUT
RITEK 265, 200, 165, 150, 135 & 115

Ritek SYSTEMS

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NOTES
M = MOVEMENT JOINT
C = CORNER
T = MAIN TEE
S = STEM TEE
X = 4 WAY TEE
N = NIB
W = WINDOW
D = DOOR
J = JOINER STUD
RL = STRUCTURAL LEVEL

AMENDMENTS

ISSUE	DATE	SUBJECT	INITIAL
K	04.07.24	DETAILS ADDED	JSK
J	24.06.24	DETAILS ADDED	JSK
H	15.03.21	DESCRIPTIONS UPDATED	JSK
G	22.09.20	LOGO UPDATED	JSK
F	30.05.18	LOGO UPDATED	JSK
E	20.02.18	JOINT CONFIGURATION UPDATED	JSK
D	01.03.17	JAMES HARDIE SYSTEM	KB
C	16.02.16	JOINT INFORMATION UPDATED	JSK
B	09.09.13	TOP TRACK EXTRUSION UPDATED	DJH
A	29.06.06	ISSUED FOR INFORMATION	JSK

DRAWN	DJH
CHECKED	JSK
SCALE	NTS
DATE	04.07.24

PROJECT NAME: TO BE USED FOR ALL PROJECTS
PROJECT ADDRESS: N/A
DRAWING TITLE: DETAILS
DRAWING NO.: RS 1068
ISSUE: K