



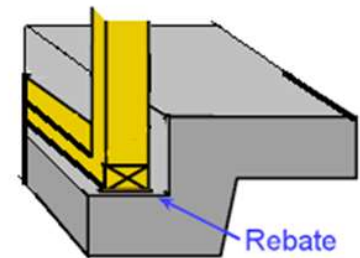
Facade Rebates

Date of Issue: 08th August 2023

Issued By: James Nelson

Detailed Description of Incident/Issue:

Any facade system supported on the slab edge (window opening or external wall) must be designed to include rebates (stepdown) for the façade system. The depth of this rebate (referred to as “upward termination”) defaults to AS 4654.2 “Waterproofing Membranes For External Above-Ground Use – Part 2: Design and Installation”, Appendix A (extracted below), starting with a minimum of 40mm. BESIX Watpac generally support at least 50mm rebate, to factor in some tolerance. The rebate set by 4654.2 can be adjusted by NCC performance solution, but $\geq 50\text{mm}$ rebates are strongly recommended.



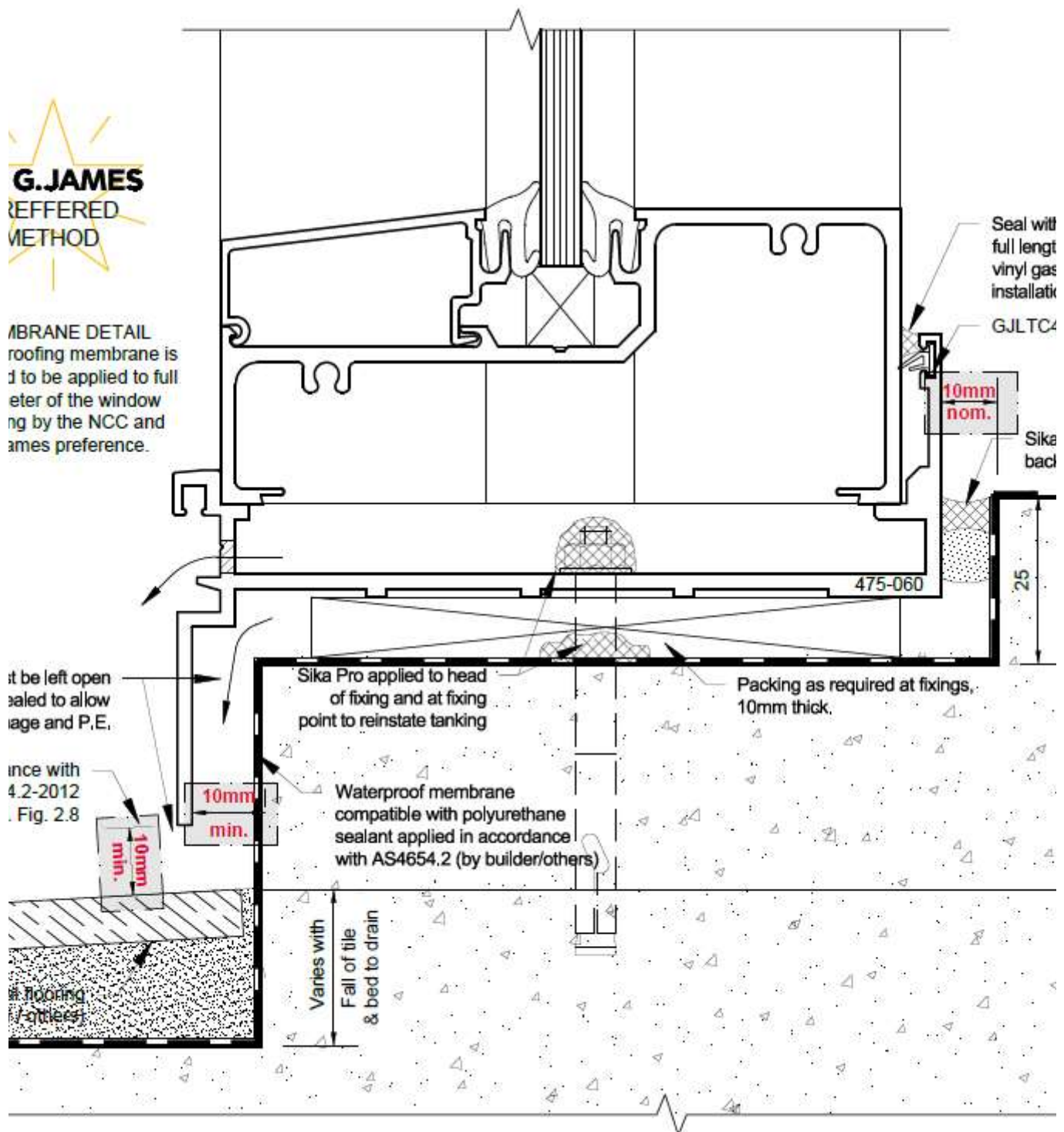
Referring to the structural rebate created for facade systems

Rebates are ideally achieved by a “double rebate” totalling the height of the upward termination per AS 4654.2; there are different arrangements to accomplish this, e.g. combinations of structural rebates, waterstop angles, top-hats to create the double rebate. Some examples sections of rebate construction are provided below.

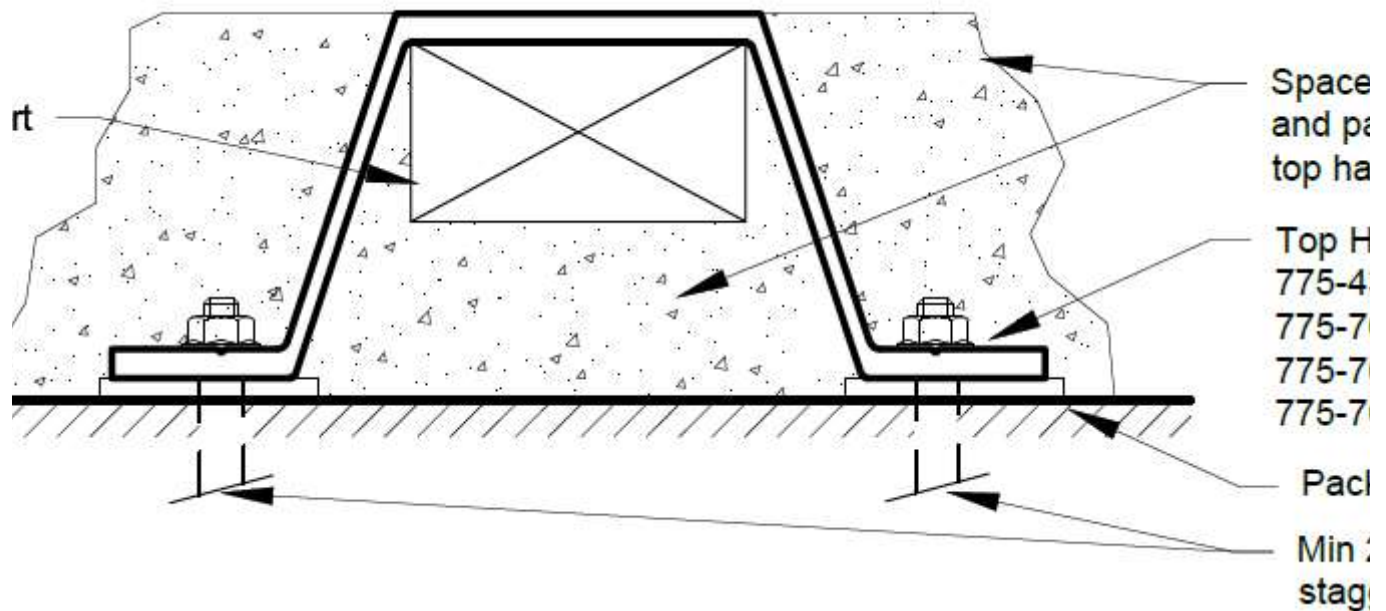
RETE DOUBLE REBATE



MEMBRANE DETAIL
roofing membrane is
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Add a caption



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What is Wind Class? "Wind Class" referenced in AS 4654.2 *Appendix A* table may be found in the BCA Compliance Report, Wind Reports, Façade Performance Specifications or Structural Specifications; if not documented it may have to be requested from a design engineer.

AS 4055 -2012 sets out 10 wind classes N1-N6 & C1-C4. The classification is a combination of wind region, terrain category, shielding and topography. By determining the appropriate wind class, the user can use AS4055 and other design aids to design dwelling or parts of dwelling for wind load accordingly.

Lysaught [have published a useful guide for anyone working this out](#), but this is better to come from a Façade Engineer or experienced contractor.

While the façade/glazing contractor can have input into their required sizing, the minimum is per AS 4654.2, and may be larger than the requirements of the façade system.

Care should be taken to construct structural rebates to have a slight fall away from the building. Façade contractors should have input into rebate sizing, but not exclusively; their requirements may be smaller than waterproofing requirements (leading to rebates being too small). Another caution is that rebates are not always documented on architectural drawings and concrete setouts, making them easy to miss during forming and construction.

Rebates must be completely membraned—for this reason, conduits should be avoided in the rebate where possible as membrane will be applied over the rebate prior to installation of the façade/glazing panels.



View from a suspended slab, inside the building looking out; the rebate (stepdown) visible in the bottom of the photo is too small

The above example is from a fully-documented project that showed a 20-25mm rebate, that we don't endorse as a design. The structural rebate can be supported using a waterstop angle to achieve upwards termination height (noting too that the overhang above is quite large).

APPENDIX A
VERTICAL UPWARD TERMINATION HEIGHTS
(Informative)

This Appendix applies to the determination of vertical upward termination of height as given in Table A1.

TABLE A1
VERTICAL UPWARD TERMINATION HEIGHTS

Wind class Regions A and B (non-cyclonic) AS 4055	Wind class Regions C and D (cyclonic) AS 4055	Ultimate limit state wind speed ($V_{s,u}$) AS/NZS 1170.2	Termination height mm
N1	—	34	40
N2	—	40	50
N3	C1	50	70
N4	C2	61	100
N5	C3	74	150
N6	C4	86	180

Add a caption

Key Learnings:

- Ensure suspended slabs that accommodate slab-to-slab facade systems include a rebate of at least 50mm
- Structural rebates to have a slight fall away from the building
- Rebates must be completely membraned, and membrane must be compatible with sealant and other fluid-products that contact it

Applicable Procedure/s and Codes: AS 4654.2; AS 4055;

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