



A member of LIVE Consulting Group
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Date of Issue

IGNIS ADVISORY NOTE

Evaluation No. IGNS-6459 Issue 02 Revision 00 [2018]

ResCom Shaftliner System

Ignis Solutions has been engaged to provide guidance on the attached wall systems. The BCA through Specification A2.3 Clause 2 (b) requires the building element to be identical with a prototype that has been submitted to the standard fire test or an equivalent or more severe test.

Ignis Solutions has previously evaluated the ResCom wall systems in Ignis report 4241 I02R02 dated 26 September 2017. This engineering certificate should be read in conjunction with the above referenced Ignis report. This engineering certificate serves as a certificate from professional engineer in accordance with Clause A2.2 (a)(iii) of the National Construction Code Volume One Building Code of Australia.

The following large scale tests were undertaken on a 3m x 3m wall system. The subject pilot test has been undertaken to determine a variation to the large scale tests wall elements where a zero lot boundary wall system achieving an FRL from the exterior is established as well as substitution of the insulation from rockwool to an earthwool.

SGS is an international testing service. Their Shanghai test facility completed testing on the ResCom Board within a wall installation.

The test was undertaken on 03 June 2015 in report SHCCM150401181 with the wall set up being 10mm thick ResCom Board on either side of a 75mm lightgauge steel joist and 50kg/m³ mineral wool insulation. The following results were produced:

Regulatory Indices:	
Structural adequacy	-
Integrity	90 minutes
Insulation	67 minutes

The result for compliance under the BCA are limited to -/90/60.

Testing undertaken by Intertek Shanghai testing facility to ASTM E119-16a where the equivalent standard fire curve was used in the boards evaluation.

The test was undertaken on 19 December 2016 in report 160929005SHF-BP-1 with the wall set up being 12mm thick ResCom Board on either side of a 75mm steel studs at nominally 600mm centres and 180kg/m³ Rockwool insulation. The following results were produced:

Regulatory Indices:	
Structural adequacy	-
Integrity	180 minutes
Insulation	90 minutes

The result for compliance under the BCA are limited to -/180/90.

Additional pilot testing of the ResCom MgO system was undertaken by Ignis Solutions. The pilot wall system included a 900mm x 900mm wall specimen with a vertical centre joint. The system included from the non fire side:

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- 10mm plasterboard
- 90mm steel stud wall with 0.75 BMT
- R2.0 Knauf Earthwool insulation
- Bradford vapour permeable wall wrap
- 25mm 0.75BMT Batten fixed with 12-14 x 20mm Hex Head Tek screws
- 16mm ResCom HMR Board fixed to batten with Non-corrosive min Class 3 to 5 Countersunk Min 10 Gauge screws with Fire rated adhesive over the batten and fire rated sealant over the screw. The fixings were at 450mm centres based on the size of the board and the test sample.

The above subject test specimen reflects an external wall system where the FRL is established from the exterior side only and the Rockwool insulation is substituted for Earthwool. Furthermore, a 16mm thick ResCom MgO board is used on the single side in lieu of the 10mm and 12mm on both sides of the studs.

Regulatory Indices:	
Structural adequacy	-
Integrity	90 minutes
Insulation	90 minutes

With respect to the ResCom tested wall systems the following relates to the selected systems.

The results of the fire test contained in the test report are directly applicable to similar constructions of the subject wall. Variations in building elements that are not minor will require re-testing. The pilot test demonstrates that the proposed variation from the original tested system maintains an appropriate FRL of at least -/90/90 and are suitable to be applied to a wall where the framing system complies with Section B of the BCA and does not exceed more than 12m in a continuous height.

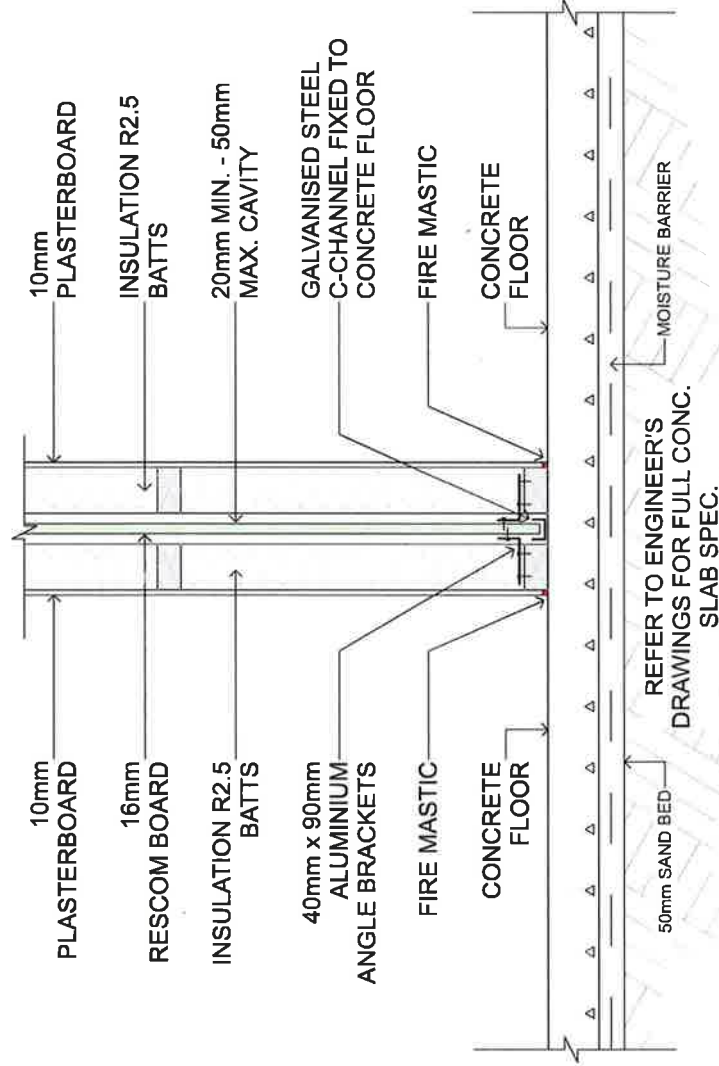
A technical report by Atech in their report 201909 dated 26.11.18 has been undertaken to consider the structural adequacy component of the proposed wall system. Atech has determined that based on the pilot test results and the wall frame design that a structural adequacy of the wall of 90 minutes can be achieved and therefore the collective FRL for the wall system is 90/90/90.

Regulatory Indices:	
Structural adequacy	90 minutes
Integrity	90 minutes
Insulation	90 minutes

The attached shaftliner plans are considered to maintain the required FRL with protection being achieved from either side of the wall. These plans include RSLA-1, RSLB-1, RSLC-1, RSLD-1 and RSLE-1.

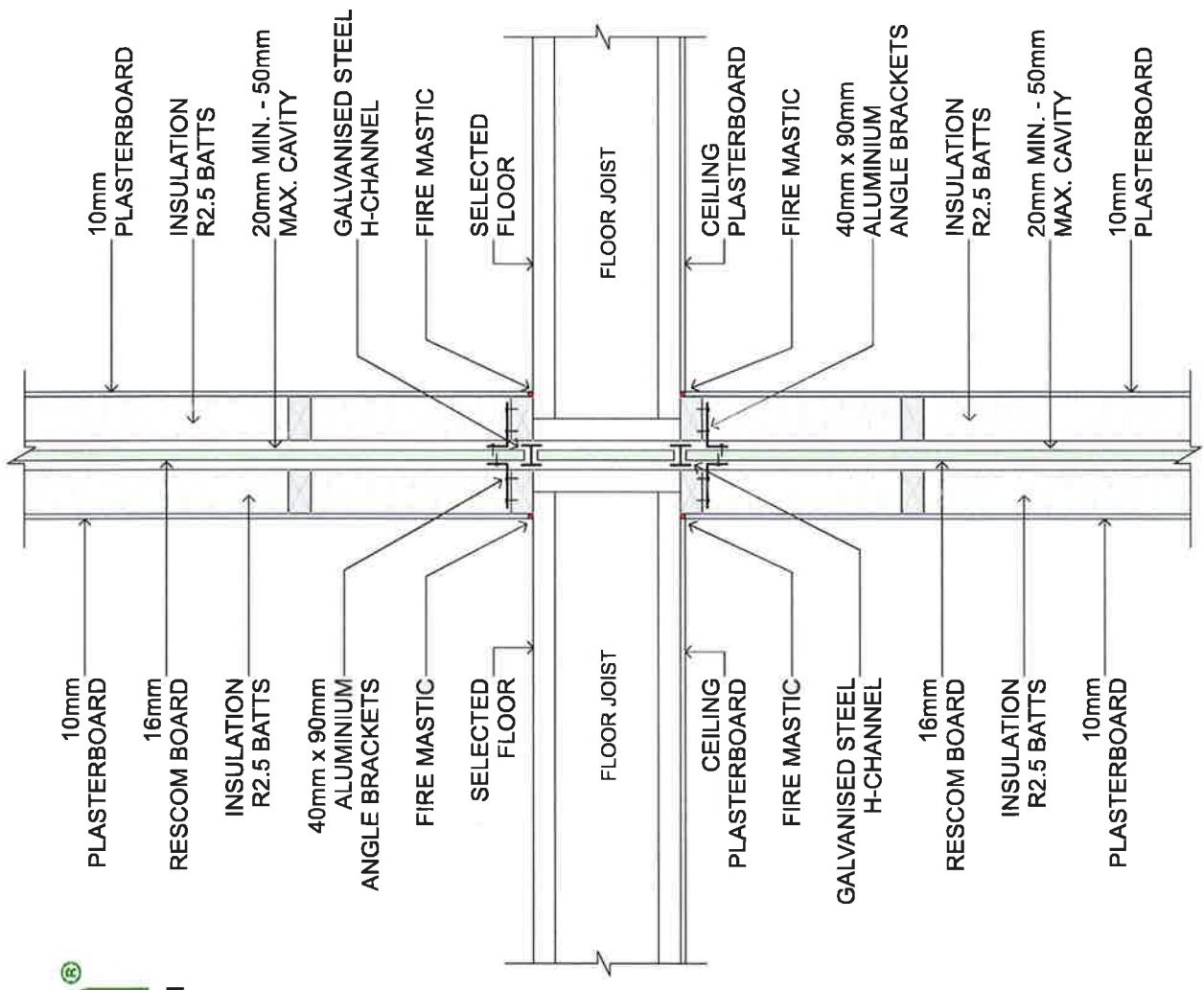


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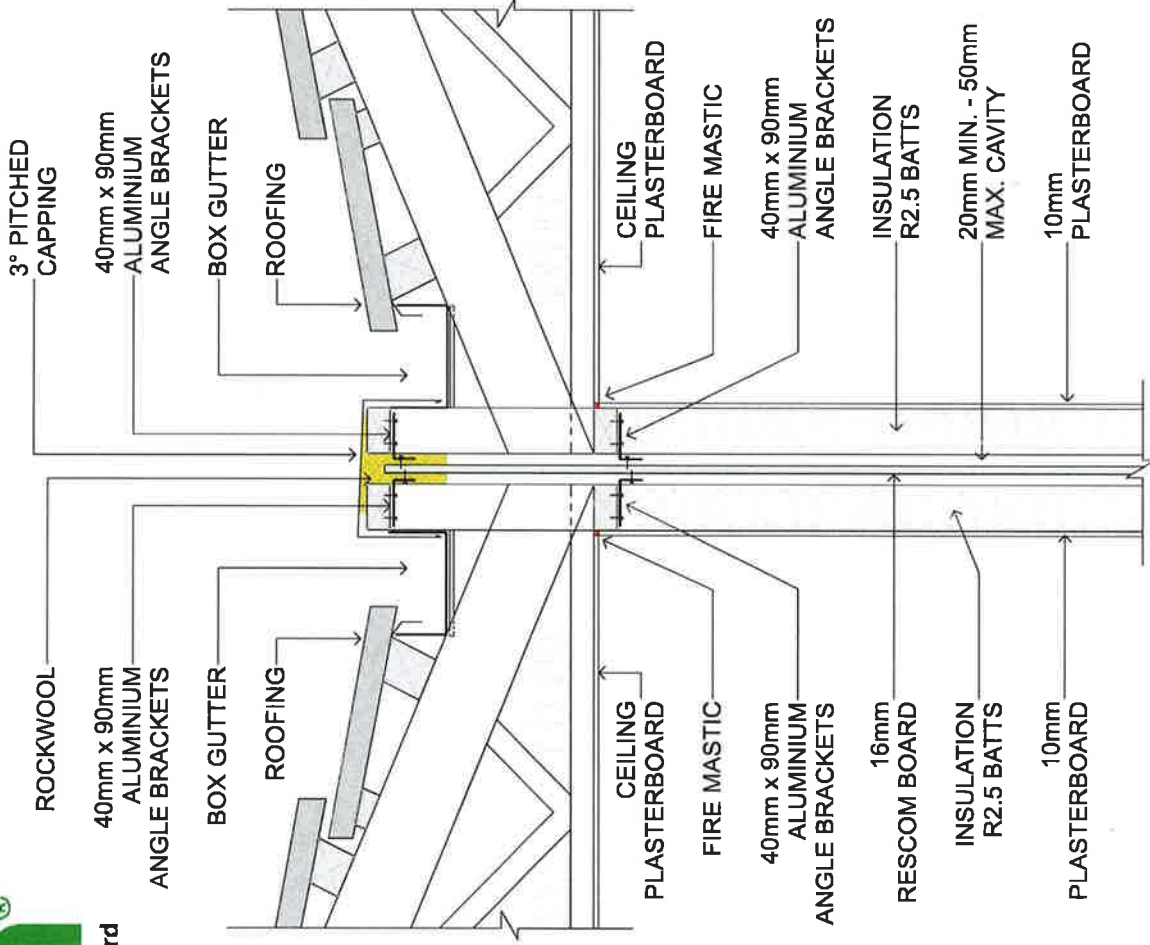
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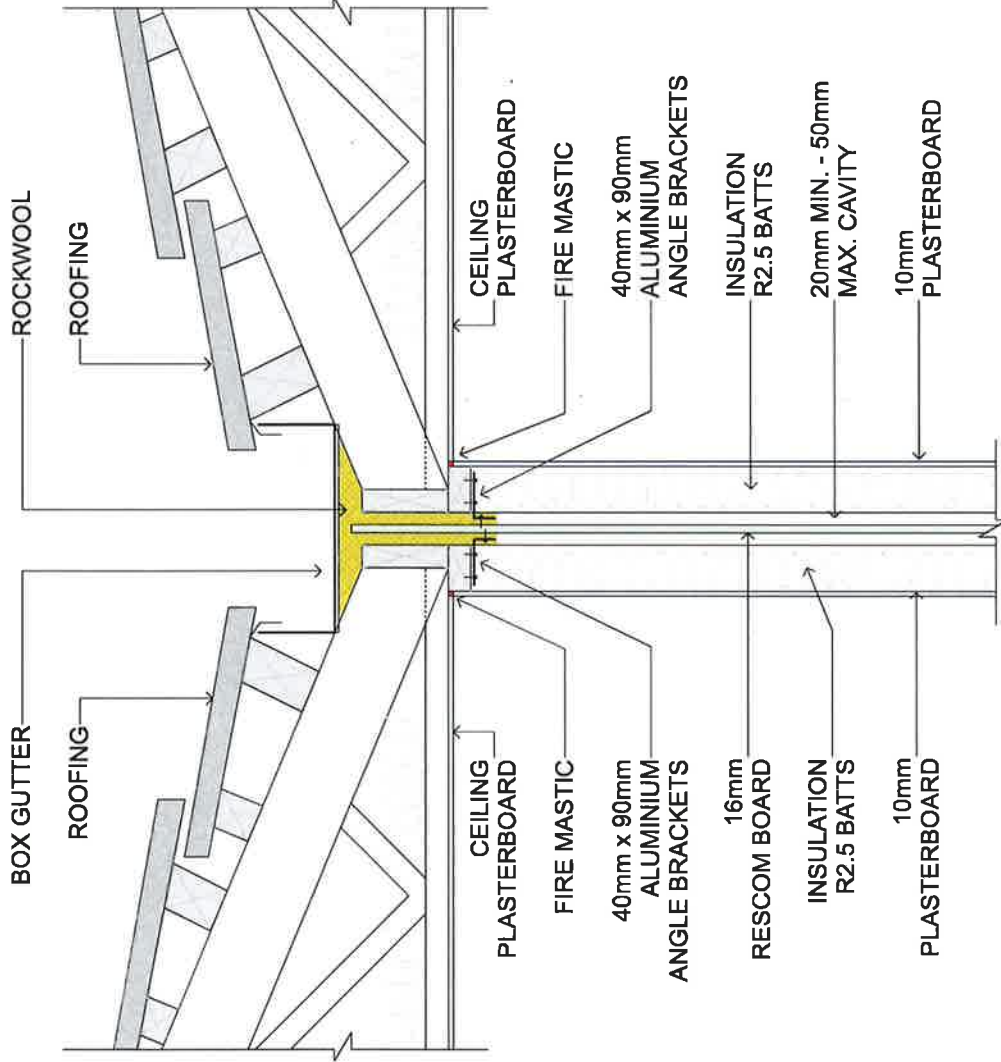
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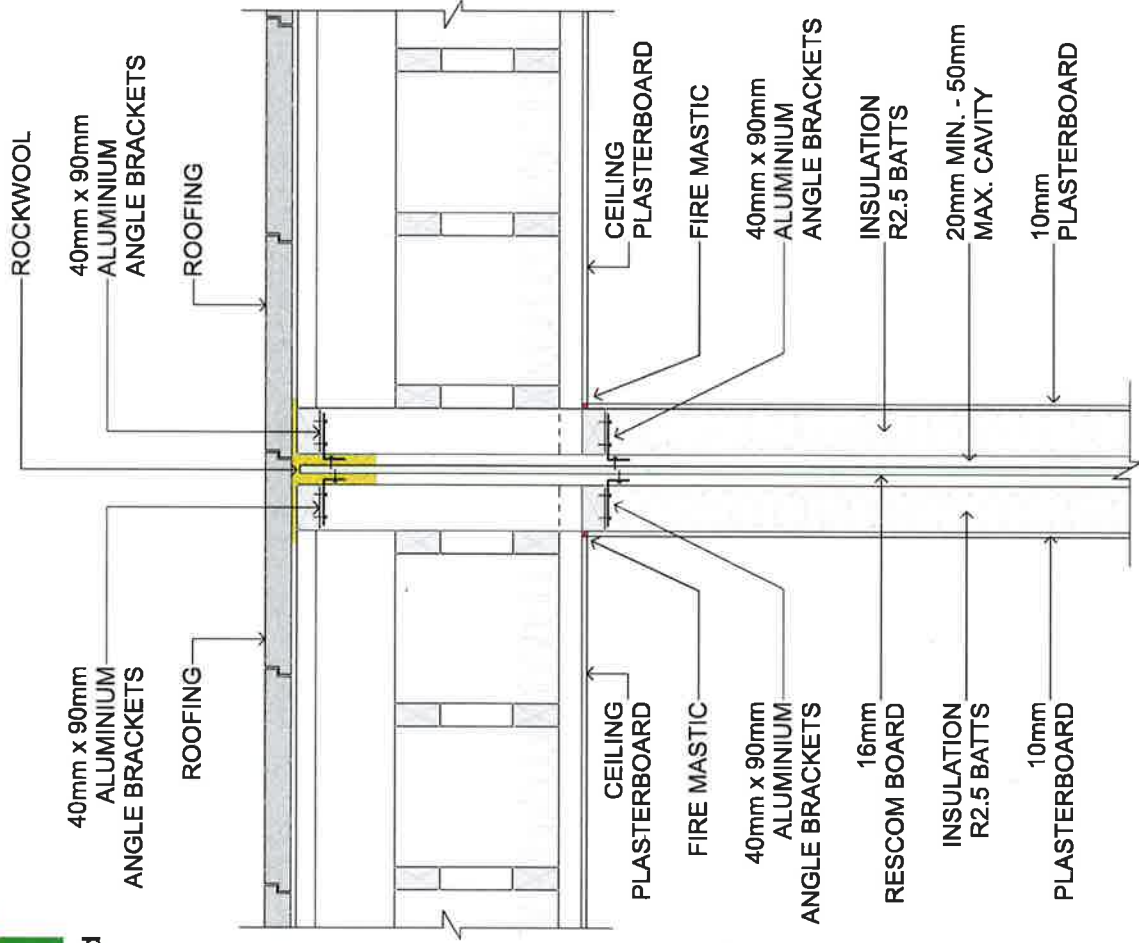
PARTI-WALL TO ROOF DETAIL
SCALE 1:10

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