NEW ZEALAND INSTITUTE OF ARCHITECTS INCORPORATED

# SUBMISSION NOTES FOR E2 (External Moisture)

Document Consultation Request by the DBH

Prepared 2nd February 2011

**CONSULTATION FEEDBACK/COMMENTS**

## 1. PREAMBLE

The following notes are made from an architectural perspective based on a review of the alterations, additions and deletions of the proposed "Draft only" amendment 5 document as compared with the current amendment 4 document.

They embody the writer's 40 years experience in architectural practice, the last 20 of which have involved specialising in Exterior Building Envelope design resolution, detailing and peer reviewing.

## 2. OVERVIEW

Generally the changes proposed are supported including the questionnaire items 1, 2, 3, 4, 5, 6 with qualification as noted in the specific comments.

Some items are not supported and these include:

- spacing of capping expansion joints
- discharge of internal gutters only to a rainwater head
- increasing acceptable falls to roof/deck membranes
- inclusion of flexible wall underlay over rigid underlay
- attachment of windows/doors via jamb liners
- removal of expressed joint detailing for fibre cement and plywood sheeting plus the lapped/grooved plywood joint.

Also suggest the scope of E2/AS3 be increased to include Importance Level 3 Buildings below 10 metres high.

## 3. SPECIFIC COMMENTS

References are to the "draft only" amendment 5 document.

Contents:

| | |
|---|---|
| page 5 | 2.5.1 should read Regular Maintenance.<br>4.2.1 appears to have been incorrectly deleted. |
| page 8 | 9.9.10 1 and 2 missing but in text on page 167 |
| page 168 | Missing from index |
| page 169 | Missing from index |

page 170 Missing from index

Definitions:

page 19 "Monolithic Cladding" requires to be defined.

page 20 Extra high wind zone addition – agree.

Verification Method E2/VM1

pages 20-23 Agree with changes to upgrade testing standards.

Acceptable solutions E2/AS1

page 27 Regular maintenance – agree

page 31 Table 3/notes 5 and 6 – agree

page page 36 4.3.3 – disagree with the inclusion of alum-zinc flashing under "galvanised" – they are not equivalent.
4.3.5 – use 304 stainless steel where concealed, 316 where exposed.

page 37 4.5/4.5.1 flashings – agree.

page 39 4.6 – agree

page 40/41 Table 7 Extra high wind zone – agree

page 43 Figure 8A (a) Direct fix detail – soffit should butt the cladding to stop water tracking behind it.

page 44 5.3 soffits – need to allow for sarked eaves with exposed rafters, clause appears to preclude this option.

page 47 Figure 10 – fixing centres (slotted holes) need to be clarified with regard to expansion allowances.

page 48 h) expansion joints i) to iii) allowable lengths are double what seems good practice.

page 54 7.3.2.1. c) Exterior paving – 1:60 fall away from channel is adequate and more achievable in practice; also a lot of pavers are on deck jacks/laid flat.

page 55 Figure 11A – agree with sill support bar requirements.

pages 59/60 Underlays/gutters – agree with changes except requirement to discharge to a rainwater head. A sump is also a satisfactory means of providing an outlet.

page 89 8.5.1. Limitations – strongly disagree with the increase in minimum falls. 1:50 for roofs and 1:60 for decks is entirely adequate and causes less complications in detailing longer spans/falls on commercial projects.

page 90 8.5.6 Roof and deck drainage – see above.

page 91 Figure 56 – see above.

page 99 9.1.7.2 c) Flexible wall underlay over rigid underlay. Disagree strongly. This is not required if joints are taped/sealed – what is the building science justification for this proposal?

page 105 9.1.10.7 Attachment of windows and doors – disagree strongly with fixing via jamb liners. These are attached to the window/door frame via lightly (galvanised) staples which are generally exposed to atmosphere as is the untreated sill liners. Fixing should be via a continuous rear air seal angle or integral frame flange. The Window Industry is creating another long system problem with this practice.

pages 108-116 Transfer from 3604 – generally OK.
9.2.11 – same clause repeated twice.

page 140 9.6.8.2 Barges – Roof underlay should lap down over the wall underlay, not upstand as shown/will not happen in practice.

page 148 9.7.4.2 Non Flush-finished joints – Figure 103/expressed joints deleted – strongly disagree. This form of joint is widely used and standard practice for both James Hardie and PBS Manual. What is the building science justification for this proposal?

page 155 Figure 114 – soffit lining should butt wall cladding so water does not track behind the cladding if the sealant joint fails.

page 160 Figure 118 deleted but 9.8.1 a) "Vertical lapped and grooved sheet" remains – strongly recommend this jointing method be retained as Carter Holt Harvey have it as standard in their manual and have tested it to over 4 kPa.
Figure 120 deleted – strongly recommend the expressed joint detailing remains as an acceptable solution. Only allowing a cover batten vertical joint limits the design/ jointing appearance unacceptably.

page 176 Table 23 – disagree flexible wall underlay required over rigid underlay provided joints are taped/sealed.

Acceptable Solution E2/AS2 (existing)
No comments.

Acceptable Solution E2/AS3 (new)
Agree required.

However limiting its application to Importance Levels 1 and 2 excludes many types of buildings (refer Level 3) that may be less than 10 metres high and built from block/insitu/precast concrete.

The notion of linking the requirement/detailing to an Industry Standard/Code of Practice/Manual has merit in ensuring the latest practice forms part of the acceptable solutions.

This would eliminate some of the need for technical upgrades (like the present one) to stay aligned with the industry and building science developments.

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