New Zealand Metal Roofing Manufacturers Association

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BV01 Cavity Batten Protection

25 February 2025 Version 2

Acceptable Solution E2/AS1 9.6.9.2 says that profiled metal wall cladding must be separated from copper treated cavity battens by a layer or strips of underlay, or by pre-priming the batten. A DBH publication (overleaf) says that prepainted metal serves as sufficient separation from copper treated timber in Sea Spray Zones and Zone 1. (What Zone 1 means is not explained, but one could assume it is Severe Marine.)

The Code of Practice says that metal cladding should be separated from wet timber, treated or otherwise. That is because both treated and untreated wet timber is corrosive, as wet radiata is acidic. While wet copper-treated timber is more corrosive that wet untreated timber, the difference is not great.

The greater variable is time of wetness of the timber. A cavity batten would be assessed as being in a damp environment and not exposed to salt spray. An open front building may be damp and exposed to salt spray, depending on its location. The wetness of the timber at time of installation does not have a great effect on cladding durabilty, provided the timber is allowed to naturally dry. Experiments underway at our exposure sites show that compared to metallic coated sheets, pre-painted metal provides significant protection against treated and untreated wet timber. These tests are still under way.

Yet another variable is the type of copper treatment. CCA treated timber has relatively low levels of copper compared to some other treatments. AQC and Copper Azole treatments both have much greater copper levels, and this copper is more migratory, rising to the surface as levels drop. LOSP and Boron treatments have no copper elenment or other known corrosive ingredients.

Historically we are not aware of problems with metal cladding being laid directly onto CCA treated battens in farm buildings. However, coil manufacturer's warranties do not cover corrosion casued by contact with corrosive materials such as copper, and it is up to the designer to take appropriate steps to

The following COP recommendations are a general guide only, and design decisions should be based on the expected micro climate, incuding exposure to salt spray and other contaminants, time of wetness, client expectations and accessability for maintenace or replacement.

Separation and Isolation recommendations for metal cladding on timber						
	Metallic Coated			Pre Painted		
Treatment	Dry	Damp	Wet/Salty	Dry	Damp	Wet/Salty
None						
LOSP/Boron						
CCA						
AQC Cu/Azole						

	Can be directly fixed
	Separate - Underlay or painted battens
	Isolate – Builders tape, DPC or Closed Cell Foam

Extract from:

https://www.building.govt.nz/assets/Uploads/building-code-compliance/e-moisture/e2-external-moisture/constructing-cavities.pdf

6.0 CAVITY BATTENS(Refer to E2/AS1 Paragraph 9.1.8.4.)

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Timber cavity battens

Use radiata cavity battens of merchantable grade that are treated to a minimum of H3.1. Do not rip battens from larger members, as untreated timber may be exposed.

Most cavity battens are treated using LOSP treatment. However, if copper-based timber treatment is used, the batten must not be in contact with profiled metal wall claddings as this may lead to corrosion of the cladding (refer to E2/AS1 Paragraph 9.6.9.2). In these situations, place a separating layer between the batten and the cladding, such as:

- wall underlay (as per E2/AS1 Table 23)
- pre-priming of the cavity batten
- factory painting of the metal cladding (except in 'seaspray' and 'zone 1' corrosion zones – refer to E2/AS1 Table 21)

Rod Newbold
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