

## Material Selection

### EXTERNAL MOISTURE

### Acceptable Solution E2/AS1

**Table 20: Material selection**

This table shall be read in conjunction with Table 21 and Table 22 and Paragraph 4.0. Refer relevant *cladding* and *flashings* paragraphs for material and coating specifications. Paragraphs 2.2, 4.2.1, 4.3.3, 4.3.4, 4.3.8, 4.3.10, 8.2.3, 8.2.4, 8.3.4.2, 8.4.3.1, 8.4.3.2, 9.1.10.2, 9.6.3.1, 9.6.3.2, 9.6.6 and 9.8.5

Material	Exposure(1)(2)(4)(6)		Acceptable Exposure Zones as per NZS 3604 – Section 4 (3)(4)(6)	
	NOTE: Consider all walls as 'Sheltered' for steel based claddings(8)	Type	15 years	50 years for hidden elements(2)(9)
<b>CLADDINGS AND FLASHINGS</b>				
Aluminium, zinc	Hidden(2)		B,C,D,E	B,C,D,E
	Exposed		B,C,D,E	
	Sheltered		B,C,D,E	
Copper, lead, or stainless steel	Hidden(2)		B,C,D,E	B,C,D, E
	Exposed		B,C,D,E	
	Sheltered		B,C,D,E	
<b>Factory painted</b>				
Aluminium-zinc-magnesium (combinations) coated or galvanised steel, to AS 1397 and AS/NZS 2728 with AM100, ZM274, and AZ150 minimum coatings	Hidden(9)	Type 4	B,C,D,E	B,C,D
	Hidden(9)	Type 6	B,C,D,E	B,C,D,E
	Exposed(8)	Type 4	B,C,D	
	Exposed(8)	Type 6	B,C,D,E	
	Sheltered	Type 4	B,C	
Pressed metal tiles coated to minimum AZ150 or AM100 to AS 1397, AS/NZS 2728 or with post-form factory painting to cl 8.3.4.2.	Exposed	Type 6	B,C,D,E	
	Sheltered	Type 6	B,C,D	
<b>Non-factory painted</b>				
Aluminium-zinc-magnesium (combinations) coated steel, to AS 1397 with AZ150 or AM125 minimum coatings	Hidden(9)		B,C,D,E	B,C,D
	Exposed(8)		B,C	
	Sheltered		B	
Galvanised steel Z450 to AS 1397	Hidden(9)		B,C,D	B,C
	Exposed(8)		B,C	
	Sheltered		B	
<b>Non-metallic</b>				
Bituminous material, or uPVC	Hidden		B,C,D,E	B,C,D,E
	Exposed (uPVC only)		B,C,D,E	
	Sheltered (uPVC only)		B,C,D,E	
Butyl rubber	Hidden		B,C,D,E	B,C,D,E
	Exposed		B,C,D,E	
	Sheltered		B,C,D,E	
<b>FIXINGS(7)</b>				
Aluminium, bronze, and stainless steel (Types 304 and 316)(10)	Hidden		B,C,D,E	B,C,D,E
	Exposed		B,C,D,E	
	Sheltered		B,C,D,E	
Nails – Hot-dip galvanised steel to AS/NZS 4680	Hidden(5)(9)		B,C,D	B,C
	Exposed		B,C,	
	Sheltered		B	
Screws – galvanised steel, painted or unpainted, to AS 3566: Part 2	Hidden(5)(9)	Class 3	B,C,D,E(3)(4)	B,C,D,E
	Exposed	Class 4	B,C,D	
	Sheltered	Class 4	B,C	

Errata 2  
Dec 2011

Amend 6  
Feb 2014

Amend 6  
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Amend 5  
Aug 2011

Acceptable Solution E2/AS1

EXTERNAL MOISTURE

**Table 20:** Material selection – continued

**Note:**

- 1) Refer to manufacturer's information for maintenance requirements in Exposed and Sheltered locations.
- 2) The term "hidden" means concealed behind another element such that no part is visible. Hidden elements require a 50 year *durability* under the NZBC. The term "exposed" means having surfaces exposed to rain washing. The term 'sheltered' means being visible, but not rain washed. For diagrammatic outline, refer NZS 3604 Figure 4.3(a). Exposed and sheltered elements require a 15 year *durability*. Where an element can be categorised as both 'sheltered' and 'exposed', the 'sheltered' condition will apply.
- 3) AS/NZS 2728 lists atmospheric classes derived from ISO 9223 for Australia and New Zealand, determined by exposure to wind-driven sea-spray. NZS 3604 references atmospheric classes B (Low), C (Medium) and D (High). E2/AS1 references atmospheric zones B,C,D,E. For the purposes of *cladding* selection, Zone E (Severe marine classified as breaking surf beach fronts) has been included. Designers must consult metal supplier's information for specific *durability* requirements of sites in Zone E.
- 4) The geographic limits of atmospheric classes in NZS 3604 and AS/NZS 2728 may vary. Table 20 uses the limits outlined in NZS 3604.
- 5) Includes fixings protected by putty and an exterior paint system of primer, undercoat and two top coats of paint.
- 6) Microclimates based on evidence from adjacent structures of corrosion caused by industrial or geothermal atmospheres are outside the scope of this Acceptable Solution.
- 7) Refer to Tables 21 and 22 for compatibility of fixings with metal *claddings*.
- 8) *Roof only*. Coated steel *wall claddings* must be considered as 'sheltered'.
- 9) Hidden steel coated elements in ventilated cavities in zones D and E (exposure to salt air) must be considered as 'sheltered'
- 10) The use of stainless steel fixings is not recommended by steel manufacturers for use with coated steel in severe marine and industrial environments, as they are considered to cause deterioration.

Amend 5  
Aug 2011