

Australian salt marine classifications

INTRODUCTION

When building in a marine environment, various factors must be considered in assessing the impact of the environment on service life of building components.

In a country the size of Australia with its extensive coastline, a wide range of marine environments exist. Such environments range from heavy breaking surf and open bays, to calm harbours, lakes and river estuaries. This Technical Bulletin is intended to provide guidance with respect to classification of various salt marine environments.

AUSTRALIAN MARINE CLASSIFICATIONS

BlueScope Steel has developed a simplified classification system for marine environments which classify these environments as “surf”, “exposed” or “calm”. These classifications are based on guidelines in Australian Standard AS 4312 *Atmospheric corrosivity zones in Australia*. The intention of this classification system is to simplify the process of assessing likely marine influence on BlueScope Steel product and thereby aiding selection of appropriate BlueScope Steel product.

Outlined below are the resulting definitions for surf marine, exposed marine and calm marine environments as well as *Table 1* which provides some example locations (metropolitan and regional) for each of these defined influences. It is important to note that these classifications and examples are a **GUIDE ONLY** and are not a complete or exhaustive list of all possible marine environments and locations. For example, prevailing winds, shelter, elevation above the marine influence and unwashed areas are a few of the factors that may impact on the corrosive nature of salt marine environments.

It is **IMPORTANT** that you consult with your material supplier or BlueScope Steel Direct for specific advice on the most appropriate choice of COLORBOND® steel, ZINCALUME® steel or TRUECORE® steel product for your project.

Definitions

Surf: Areas exposed to breaking surf and ocean spray

Exposed: Open expanses of salt or brackish water exposed to onshore winds, but not typically prone to breaking surf

Calm: Protected areas of salt or brackish water, including ports, harbours, bays and river estuaries

Table 1: Example locations of marine classifications.

CLASSIFICATION		EXAMPLE LOCATION	
NSW	Metro	Surf	Manly Beach or Bondi Beach
		Exposed	Botany Bay, Sydney Harbour (East of Harbour Bridge), Kurnell
		Calm	Darling Harbour, Parramatta River
	Regional	Surf	Open Pacific Beaches (Coffs Harbour, Newcastle, Bulli)
		Exposed	Protected coastal waters (Jervis Bay, Port Stephens)
		Calm	Ports/Harbours (Port Hunter at Newcastle, Inner Harbour at Port Kembla), Saltwater Lakes (Lake Macquarie, Lake Illawarra)
QLD	Metro	Surf	Bribie Island, Miami and Southport Beaches
		Exposed	Redcliffe, Cleveland, Fisherman’s Island – Moreton Bay, The Broadwater (Gold Coast)
		Calm	Gold Coast Canal Estates
	Regional	Surf	Bargara, Mackay
		Exposed	Hervey Bay – protected by Fraser Island, Cairns and Townsville Strand areas
		Calm	Twin Waters Canal Estates
VIC	Metro	Surf	Bass Strait (Mornington Peninsula)
		Exposed	Port Phillip Bay (Altona to Portsea Beaches)
		Calm	Port Phillip Bay (Williamstown), Yarra River (Docklands and Melbourne CBD), Maribyrnong River
	Regional	Surf	Open Bass Strait Surf Beaches (Warrnambool, Lorne, South coastline Phillip Island, Venus Bay, Seaspray)
		Exposed	Bellarine Peninsula, Eastern Shoreline of Westernport Bay, North Coastline Phillip Island, Anderson Inlet at Inverloch
		Calm	Geelong Coastline, Anderson Inlet East of Inverloch, Corner Inlet to Port Albert, Gippsland Lakes (Paynesville, Metung), Lakes Entrance
WA	Metro	Surf	Scarborough Beach, Leighton / Port Beach, Cottesloe Beach
		Exposed	Cockburn Sound, Safety Bay
		Calm	Swan River (west of Narrows)
	Regional	Surf	Cable Beach (Broome), Smith’s Beach (Yallingup), Singleton Beach
		Exposed	Geographe Bay, Roebuck Bay (Broome)
		Calm	Leschenault Inlet (Bunbury), Hardy Inlet (Augusta), Peel Inlet

CLASSIFICATION		EXAMPLE LOCATION	
SA	Metro	Surf	Cape Jervis, Kingston SE
		Exposed	Adelaide coastline (West Beach, Glenelg, Semaphore)
		Calm	Port River (Port Adelaide), West Lakes waterways
	Regional	Surf	Middleton / Port Elliot surf beaches, Robe
		Exposed	Upper coastline of Spencers Gulf (Port Augusta, Port Pirie)
	Calm	Hindmarsh Island Marina	
TAS	Metro	Surf	N/A
		Exposed	Derwent River south of Tasman Bridge
		Calm	Constitution Dock (Hobart), Tamar River (Launceston)
	Regional	Surf	Devonport, Somerset, Bicheno, Clifton Beach, Flinders and King Islands
		Exposed	Tamar Estuary (Georgetown), Coles Bay, Stanley Wharf
	Calm	Strachan, St. Helens, Triabunna	
NT	Metro	Surf	N/A
		Exposed	Darwin Harbour
		Calm	Cullen Bay marina, Bayview waterways
	Regional	Surf	N/A
		Exposed	Gove, Nhulunbuy, Tiwi Islands, Dundee Beach
	Calm	N/A	

NOTE:

The Australian Capital Territory has not been included in the above table because the influence of Lake Burley Griffin is not considered salt marine in nature.

REFERENCED AUSTRALIAN STANDARDS

- **AS 4312** *Atmospheric corrosivity zones in Australia.*

NOTE:

All Australian and Australian/New Zealand Standards should be read to incorporate any and all amendments to the most recently published version.

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