



## Atmospheric Corrosion ratings

September 2024

Requests have been received, asking for any comparison of NZ corrosion zones with those used in Europe. Following is BRANZ advice from Zhengwei Li (senior scientist)

Please see below a table showing how the corrosivity zones in NZS 3604 *Timber-framed buildings* are correlated to those in ISO 9223.

NZS 3604 exposure zone	ISO 9223 corrosivity category	First-year steel corrosion rate (g/m <sup>2</sup> /year)
	C1 Very low	<10
B	C2 Low	10 – 200
C	C3 Medium	200 – 400
D	C4 High	400 – 650
E	C5 Very high	650 – 1500
	CX Extreme	1500 – 5500

Please note that NZS 3604 does not define zones corresponding to C1 and CX.

According to BRANZ monitoring, C1 could be identified in some areas in Central Otago where it is dry with clean air.

CX could be easily identified in some areas in the Taupo volcanic zone, particularly in Rotorua. It can also be found in areas on the offshore islands, say Chatham Islands.

You may notice that there are discussions around atmospheric corrosivity classifications in some AS/NZS standards, such as AS/NZS 2312 and AS/NZS 2728, and their correlations with ISO 9223. However, there is no info around how NZS 3604 classifications correlate to these standards. This does, as you found, cause some inconvenience to the industry. BRANZ has made recommendations to NZS 3604 revision committee to include this correlation. However, this has been rejected. When the updated NZS 3604 goes for public consultation, maybe we (particularly the industry) should give it another try.