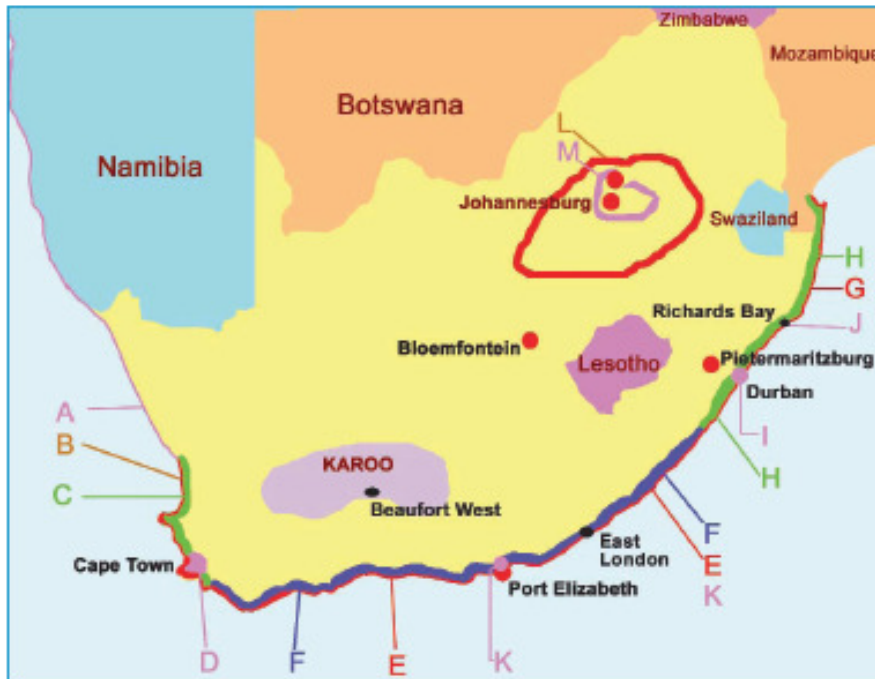


Atmospheric Corrosion



NOTE:

- Metal corrosion depends on time of exposure to moisture and relative humidity and temperature.
- Rate of corrosion reduces rapidly the greater the distance from the sea.
- For aluminium, aggravating conditions can be a strong sulphurous atmosphere, the occurrence of chloride salts and stagnant water - but the right aluminium alloy still outperforms copper, zinc and carbon steel! Regular cleaning and surface coatings reduce the affect on aluminium.
- Pitting corrosion in aluminium may be unsightly, but it is not structurally significant.

TABLE 4: Corrosivity areas derived for Southern Africa with associated ISO corrosivity ratings

Code	Geographic Area	Distance from Ocean	Description	ISO Category	Comments
A	Namibia and NW Cape shore-line	To 5 km	Desert shore-line and coastal fog zone	Above C5	N. of Olifants River
B	W. Cape Atlantic shore-line	To 3 km	Arid shore-line with fog or strong winds	Above C5	False Bay to Olifants River
C	W. Cape coastal	To 5-15 km	Coastal area	C4	To range of fall-out of salt aerosols
D	W. Cape urban	To 25 km	Coastal urban/industrial	C5	Cape Town and surrounds
E	S. and E. Cape shore-line	To 1 km	Temperate shore-line	C5	Distance from ocean varies with terrain
F	S. and E. Cape and Natal south coastal	To 5-10 km	Temperate coastal	C4	Distance from ocean varies with terrain
G	KZN shore-line	To 4 km	Subtropical shore-line	Above C5	KZN to Maputo
H	KZN coastal	To 15-25 km	Sub-tropical coastal	C4	
I	Durban urban	To 10 km	Urban and industrial, inland of shore-line	Upper C5	Amanzimtoti to Durban North
J	Richards Bay	To 15 km	Urban and industrial, inland of shore-line	Lower C5	
K	Coastal cities	To 10-15 km	Industrial and heavy traffic areas	Lower C5	Areas of Port Elizabeth, East London, Pinetown
L	Highveld general area	-	Rural and suburban areas	C3	
M	Highveld urban and industrial	-	High-traffic urban, or close to heavy industry	C4	East Rand, areas of Pretoria, Witbank

Remainder of the region: C2 to lower C3 depending on climate.

TABLE 2: The Corrosivity Categories

Category	Description
C1	very low
C2	low
C3	medium
C4	high
C5	very high