

Environmental classes

Environmental classes and examples of typical operating environments (ISO 9223)

Corrosivity category	Corrosion rates (R _{corr}) for the first year of exposure for the different corrosivity categories.				Examples of typical operating environments in different environmental categories (only for information).
	Carbon steel		Zink		
	Mass loss g/m ²	Thickness reduction in µm	Mass loss g/m ²	Thickness reduction in µm	
					Outside
C1 Impact: very low	≤ 10	≤ 1,3	≤ 0,7	≤ 0,1	
C2 Impact: low	> 10 – 200	> 1,3 – 25	> 0,7 – 5	> 0,1 – 0,7	Atmosphere with low pollution, for example in the country.
C3 Impact: middle	> 200 – 400	> 25 – 50	> 5 – 15	> 0,7 – 2,1	Urban and industrial areas, moderate sulphur dioxide pollution. Coastal areas with low salt content.
C4 Impact: High (Industrial)	> 400 – 650	> 50 – 80	> 15 – 30	> 2,1 – 4,2	Industrial areas with high humidity and aggressive atmosphere.
C5 Impact: Very high C5 (Industrial)	> 650 – 1500	> 80 – 200	> 30 – 60	> 4,2 – 8,4	Industrial areas with relatively high humidity and aggressive atmosphere.
C5-M Impact: (humid conditions)	> 650 – 1500	> 80 – 200	> 30 – 60	> 4,2 – 8,4	Coast and offshore areas with high salt content.

Example: Lifetime of steel structures treated with High5-Coat® in Environmental category C4, assuming that the structure is only coated with hot dip galvanizing, which has a lifetime of 20 years, and only powder coated structure which has a lifetime of 10 years: $1,5 \times (20 + 10) = 45$ years. Therefore, the lifetime is more than double, compared to the Hot Dip Galvanization alone.

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