Environment & Durability

Corrosion protection

Corrosion protection of steel structures is defined per ISO 12944 standard. The standard allows applicators, engineers, specifiers and architects to define environment classification, protective paint systems, laboratory test methods and systems for structures.

The ISO 12944 standard defines 6 corrosion categories going from not aggressive interior environments (C1) to exterior offshore environments (CX) as well as 4 immersion categories (Im1 to Im4).

Category	Interior	Exterior	Humidity level	Chemical/ Pollution/ Salinity level	Expected Corrosivity
C1	Heated buildings with clean atmospheres e.g offices, shops, schools, hotels				
C2	Unheated buildings e.g storage facilities, sports halls	Rural areas			
C3	Production hall with high humidity and air pollution e.g laundries, dairies, food processing plants	Industrial and inshore areas with low salinity			
C4	Chemicals plants, swimming pools, coastal ship and boatyards	Industrial and inshore areas with medium salinity			
C5	Areas with almost permanent condensation and high pollution	Coastal areas with high salinity / Industrial areas with high humidity and aggressive atmosphere			
CX	Areas with extreme humidity and aggressive atmosphere	Offshore Areas with high salinity / Industrial areas with extreme humidity and aggressive atmosphere			

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In addition of the corrosion categories, durability is defined from up to 7 years (Low) to more than 25 years (Very High) in four levels.

Anticorrosion systems have to comply with multiple tests, described as cyclic testing which are well defined depending of the category and durability which is targeted.