

STATEMENT OF EXTERIOR ANTI-CORROSION PROBABLE DURABILITY OF POLYESTER POWDER COATINGS

Powder coatings applied to the Customers free issue galvanised steel products meet the general requirements of **BS EN 13438 : 2005** & **BS 1722-16 : 2009**.

Powder coatings applied provide protection against corrosion determined in part by Environmental Aggressiveness.

For a steel item, whether it is exposed inside or outside, the corrosion speed varies according to the aggressiveness of the environment. The more aggressive the environment, the more corrosion takes hold. **ISO 12944-2** specifies atmospheric corrosion categories:

ISO 12944-2 Tab. 1 – Categories of Corrosion	
Category of Corrosion	
C1 Very Low	Very little or no pollution Heated buildings, offices, shops, schools, hotels...
C2 Low	Low levels of pollution Mostly rural areas
C3 Medium	Urban and industrial areas, moderate sulphur dioxide pollution Coastal areas with low salinity [not under direct influence of salty air/wind]
C4 High	Industrial areas and coastal areas with moderate salinity Sea front areas
C5 – I Very High	Industrial areas with high levels of humidity Middle East
C5 – M Very High	Coastal and offshore areas with high salinity Sea front protection barriers, oil rigs

Good Design:

The corrosion speed varies according to the design of the item as well as mechanical processes such as cutting, boring, folding, jointing, welding...

- The presence of chinks such as air gaps constitute a confined environment favourable to accelerated local corrosion
- Jointing of two materials creates galvanic couples starting up an accelerated corrosion – nuts or rivets often surrounded by rust marks
- Welds, in particular when oxidised and irregular

Some parts are subject to working stresses such as:

- Mechanical stress
- Rapid or cyclic temperature changes
- Permanent or repeated contact with fluids

These stresses increase the corrosion speed.



Maintenance:

Corrosion can also be accelerated, when parts are encrusted with dirt and salts. Therefore periodic cleaning, with a frequency determined by the environment slows down the speed of corrosion. Quick and good repairs of the powder coating is vital to ensure the long-term protection provided by the powder coating.

Assuming good design and on-going appropriate care and maintenance Northpoint Ltd suggest the following as an indication of the powder coating life expectancy:

C1 – in excess of 15 years

C2 – in excess of 15 years

C3 – 5 – 15 years [dependant on location*]

C4 – Non-standard processes required to offer any level of protection for these areas

C5 – Non-standard processes required to offer any level of protection for these areas

Cleaning Frequency:

For C1 & C2 environments items should be checked and if necessary cleaned annually

For C3, C4 & C5 environments items should be checked and if necessary cleaned twice annually

In all cases areas not exposed to rainfall should be checked more frequently

Repairing:

Clean the damaged area [grease and rust elimination]

Sand to expose the steel surface

Dust removal

Final clean with non-aggressive solvent

Apply zinc rich epoxy primer

Overcoat with 1K or 2K PU paint

In the unlikely event of a coating failure beyond 5% of the overall coated surface Northpoint Ltd will offer up to the value of the initial contract where no alternative means of settlement can be agreed upon subject to the time frames outlined above.

*Site survey by powder manufacturer required before definitive statement can be provided

