

Corrosion Class	Substrate	External	Internal
C1 Very low	Environment Aluminium Steel	Dry and cold. Low pollution and little rain Chrome-free surface conversion. 40µ Degrease or shot blast to SA 2 1/2. 60µ	Heated buildings, low humidity with clean atmosphere Chrome-free surface conversion. 40µ Degrease or shot blast to SA 2 1/2. 60µ
C2 Low	Environment Aluminium Steel	Low pollution. Rural areas and small towns Chrome-free surface conversion. 40µ Degrease and shot blast to SA 2 1/2. & primer. 130µ	Unheated building, ventilated with little chance of condensation Chrome-free surface conversion. 40µ Degrease or shot blast to SA 2 1/2. 60µ
C3 Medium	Environment Aluminium Steel	Urban Areas low pollution. Coastal with low salt. >2000m from shore Chrome-free surface conversion. 60µ Degrease AND Shot blast to SA 2 1/2 & zinc primer. 130µ OR galvanize 60µ	Areas with moderate humidity and some air pollution Chrome-free surface conversion. 60µ Degrease AND Shot blast to SA 2 1/2 & zinc primer. 130µ OR galvanize 60µ
C4 High	Environment Aluminium Steel	Chemical plants, swimming pools, coastal ship and boatyards. <2000m from shore. Chrome-free surface conversion. 80µ Galvanize, Chrome free surface conversion, zinc primer. 140µ	Chemical plants, swimming pools, coastal ship and boatyards Chrome-free surface conversion. 80µ Galvanize, Chrome free surface conversion, zinc primer. 140µ
C5 I Highly Corrosive	Environment Aluminium Steel	Industrial, high pollution with fuel, gasses exhaust fume Chrome free surface conversion. Waterproof primer. 150µ Galvanize, Chrome free surface conversion waterproof primer. 150µ	Industrial, almost permanent condensation and high pollution Chrome free surface conversion. Waterproof primer. 150µ Galvanize, Chrome free surface conversion waterproof primer. 150µ
C5 M Highly Corrosive	Environment Aluminium Steel	Temperate climate. High SO2 and High salts. Coastal Chrome free surface conversion. Waterproof primer. 140µ Galvanize, Chrome free surface conversion, waterproof primer. 160µ	Extreme condensation without ventilation. Chrome free surface conversion. Waterproof primer. 140µ Galvanize, Chrome free surface conversion, waterproof primer. 160µ

Based on BS EN ISO 9223 and EN ISO 12944. Thickness measurements are total film thickness. Process is for guidance only. If in doubt – ask.

Notes

- All film thicknesses (microns - µ) are final powder coat cured film.
- This chart does NOT assign life expectancies or guarantees to any of the processes.
- It is assumed that all design and fabrication are in accordance with the relevant standard.
- All coatings must be maintained according to the manufacturer recommendations.
- Galvanizing zinc thicknesses are detailed in BS EN ISO1461.
- Coastal is defined as within 2000m of the shoreline.
- Etch rate at pre-treatment stage 1 is >2.0 gsm for C4 environment and above.
- Chrome free aluminium is Titanium Zirconium technology.
- Chrome free galvanized steel is Silane technology.
- Information based on Table1. BS EN ISO 9223:2012
- Corrosion of metals and alloys : Corrosivity of atmospheres
- Durability of coatings – life to first maintenance category L, M, H and VH as defined in BS EN ISO 12944 – 1 are not specified in this document.

Powdertech Pre-Treatment Process Stages

Aluminium

- Acid etch cleaner
- Cold mains water rinse
- De-ionised water rinse
- Chrome free conversion coating. TiZr
- De-ionised water rinse
- De-ionised water rinse

Galvanized Steel

- Acid etch
- Cold mains water rinse
- Activator
- Cold mains water rinse
- De-ionised water rinse
- Chrome free conversion coating. Silane
- De-ionised water rinse
- De-ionised water rinse