



Corrosion protection: General information

Table 5: Yearly erosion values for zinc
(for flat surface corrosion)

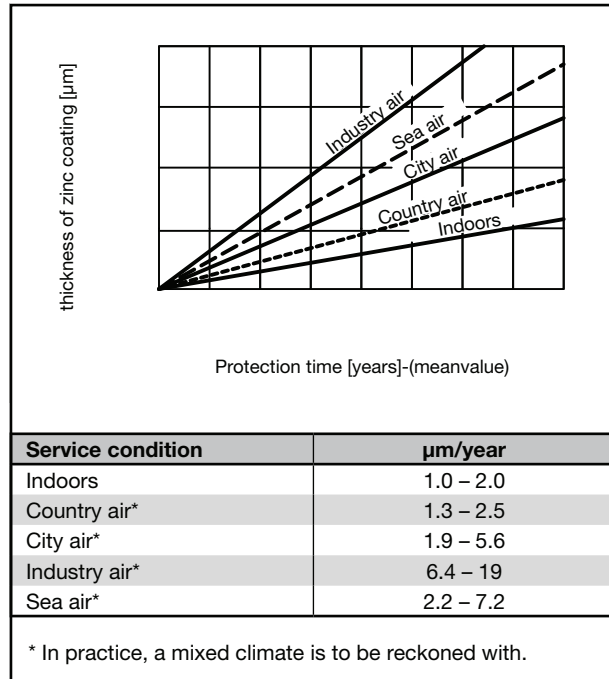


Table 6: Service conditions/Layer thicknesses for zinc plated steel

| Service condition (areas of application) | Allocation of zinc layer thickness in µm | Description examples |
|--|--|---|
| 0 "very mild" (Decorative use without strain) | 3 - 5 ① | "zinc plated" A 1 A / B / F A 2 A / B / F Fe / Zn 3 / 5 |
| 1 "mild" (Indoor conditions in warm, dry atmosphere) | 5 - 8 ① | "zinc plated" A 2 C / D A 3 A / B / F Fe / Zn 5 / 8 |
| 2 "moderate" (Indoor conditions in rooms in which condensation may occur) | 8 - 12 ② | A 3 C / D Fe / Zn 12 A / F Fe / Zn 8 / 12 |
| 3 "strong" (Outdoor weathering under moderate conditions) | 12 - 25 ② | A 4 C / D A 5-6 / B-G A 7 A / F Fe / Zn 12-25 |
| 4 "very strong" (Outdoor weathering under difficult corrosive conditions – e.g. sea/industry environment) | 25 ③ | A 7 C / D Fe / Zn 25 c 2 C / D |

① Corresponds to general standard stock type
 ② ③ Observe maximum layer thicknesses according to Table 8.
 Thread size/oversize required, choose hot dip galvanization if necessary
 Extract from EN 1403, 12329 (protective effects differ in practice)

Table 7: Reference values for corrosion and temperature resistance of galvanizing on steel

| Coating | Cr(VI)-free | Coat thickness [µm] | Saltspray test according to ISO 9227 | | Temperature resistance Coating up to approx. ... °C |
|--|-------------|---------------------|--------------------------------------|--------------|---|
| | | | White rust [h] | Red rust [h] | |
| zinc plated colourless/blue passivated ① | yes | 3 | 2 | 12 | 60 |
| | | 5 | 12 | 36 | |
| | | 8 | 24 | 72 | |
| zinc plated yellow chromated ① | no | 5 | 48 | 72 | 60 |
| | | 8 | 72 | 120 | |
| zinc plated olive chromated ① | no | 5 | 72 | 96 | 60 |
| | | 8 | 96 | 144 | |
| zinc plated black chromated ① | no | 5 | 12 | - | 60 |
| | | 8 | 24 | 72 | |
| zinc plated colourless/blue passivated with sealing ② | yes | 5 | 72 | 96 | 60 |
| | | 8 | 72 | 120 | |
| zinc plated thicklayer passivated (TLP) without sealing ② | yes | 5 | 48 | 72 | 120 |
| | | 8 | 72 | 120 | |
| zinc plated thicklayer passivated with sealing ② | yes | 5 | 96 | 168 | 120 |
| | | 8 | 96 | 240 | |
| zinc plated black passivated with sealing ② | yes | 5 | 24 | 72 | 60 |
| | | 8 | 24 | 96 | |
| ZnFe black without sealing ②③ | yes | 5 | 24 | 48 | 100 |
| | | 8 | 24 | 72 | |
| ZnFe black with sealing ② | yes | 5 | 120 | 196 | |
| | | 8 | 120 | 240 | |
| ZnNi black without sealing ②③ | yes | 5 | 24 | 360 | 180 |
| | | 8 | 24 | 480 | |
| ZnNi black with sealing ② | yes | 5 | 120 | 600 | |
| | | 8 | 120 | 720 | |
| ZnNi transparent without sealing ② | yes | 5 | 120 | 360 | 180 |
| | | 8 | 120 | 600 | |
| ZnNi transparent with sealing ② | yes | 5 | 144 | 480 | |
| | | 8 | 144 | 720 | |
| Zinc flake coating with chromate (Cr-(VI)) | no | 5 | - | 480 | 150/180 ④ |
| | | 8 | - | 720 | |
| Zinc flake coating without chromate | yes | 6 | - | 240 | 150/180 ④ |
| | | 8 | - | 480 | |

① Resistance according to ISO 4042 attachment B (informative)

② Typical values for drum goods, before first assembly and without thermal processing. All surfaces with sealant are only electrically conductive to a limited extent. The friction coefficients vary and need to be inspected when undertaking actual installation work.

③ Limited abrasion resistance of the black surface

④ Temperature dependent on the product used