

Hot-Dip Galvanized Steel Data Sheet



Type of corrosion protection	Cathodic and Barrier
Type of reaction with iron in steel	Diffusion, producing intermetallic layers
Coating layers (zinc %, Iron %)	Gamma (75, 25), Delta (90, 10), Zeta (94, 6), Eta (100, 0)
Abrasion resistance/Hardness of coating layers	Gamma (250 DPN) Delta (244 DPN) Zeta (179 DPN) Eta (70 DPN)
Bond strength to steel	approx. 3600 psi
Density of zinc coating	446 lbs./ft ³ (7.14 g/cm ³)
Thickness of coating	Variable (ASTM A 123, A153, A767, or CSA G 164)
Thickness of coating (edges, corners)	> = flat surfaces
Zinc coating coverage on tubular pieces	100%, inside and out
Inspection method	Visual and/or magnetic
Durability without maintenance*	
Industrial	> 65 years
Tropical Marine	> 70 years
Temperate Marine	> 70 years
Suburban	> 85 years
Rural	> 120 years
Durability in solutions	Excellent in pH range 5.5 - 12.5
Durability in fresh water	Good, f(O, N, CO ₂ , Ca, Mg, Fe, Mn, temp., pH)
Durability in sea water	Good, f(dissolved sulfides and chlorides, aeration, pH)
Durability in soils	Good, f(moisture, resistivity, aeration, pH)
Durability in concrete	Excellent, approx. 75 years
Bond strength	> = to black bar
Temperature range of use	-75°F to +392°F (-59° to 200°C)
Formability radius	3x steel thickness
Steel's mechanical properties	Unchanged
Zinc coating appearance	Shiny, spangled, matte gray, but equivalent
Other properties	Paintable, weldable

* 1/4" thick carbon steel

Note: It should be noted that the data sheet is a listing of 'features' that are a basis for you to establish the corresponding benefits to your particular customer.