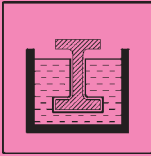
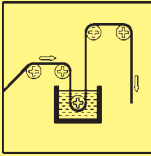
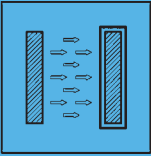


## Galvanizing Processes

Liquid Dip Process		Electrolytic Process	
<b>F</b> 	<b>S</b> 	<b>V</b> <b>G</b> 	
Process standard			
Hot Dip Galvanizing (HDG) after fabrication according to DIN EN ISO 1461 (DIN EN ISO 10684 for hardware)	Continuous Strip Galvanization (Sendzimir Process) according to DIN EN 10 346	Electrolytic Galvanizing (Electroplating) according to DIN EN ISO 2081 (DIN EN ISO 4042 for hardware)	
Structure and composition of the coating			
Alloying with the base material	Alloying with the base material	Laminated coating	
Usual thickness of the zinc layer			
Depending on the thickness of the material to be galvanized, up to 1.5 mm thickness approx. 45 µm, up to 3 mm thickness approx. 55 µm, up to 6 mm thickness approx. 70 µm	Layer thickness Z 140: 10 µm ± 3 µm Layer thickness Z 275: 20 µm ± 5 µm according to DIN EN 10 346	Approx. 2.5 to 20 µm, in undercuts and recesses (thread flanks) the layer thickness is less than on open surfaces	
Special features			
Each component is individually dipped in the liquid zinc bath. The zinc washes over the entire surface. Hollow sections are protected on the in- and outside. Rigid corrosion protection	The corrosion protection layer is applied to the surface by passing the steel as a continuous ribbon through a bath of molten zinc.	The zinc layer is deposited from an aqueous electrolyte by means of DC current. Post-treatment is generally applied to improve the protective effect. Decorative visual appearance, smooth surface with no edges and burrs. <b>3</b>	
Distinguishing features			
The surface is relatively rough, and solidified zinc may block small holes. Newly galvanized surfaces are bright shining; high temperature galvanized part such as screws are grey.	Smooth surface depending on the process, slightly greased. Holes and cut edges expose "bare metal". Corrosion protection of "bare" edges up to 2 mm material thickness is provided by the by cathodic protection effect. <b>1</b>	Iridescent shimmer, bright and shiny surface after passivation.	
Usage - Application			
Welded components, equipment exposed to the weather.	Non-welded components up to 2 mm thick, especially for interior building work.	For parts in almost all shapes and sizes, corrosion protection and decorative finish. Recommended for dry, indoor areas only.	
Corrosion Protection (typical annual degradation for Central Europe)		Corrosion Protection	
Depending on the atmospheric conditions and the local environment. Rural 0.1 - 1.0 µm Suburban 1.0 - 2.0 µm Marine 2.0 - 4.0 µm <b>2</b>	Annual degradation almost unmeasurable in dry indoor areas without pollution.	Salt spray tests according to DIN EN ISO 9227 NSS show up to 360 hours before rusting depending on the thickness of the zinc layer and the passivation method.	

**1** Components over 2 mm in material thickness are hot dip galvanized at Niedax

**2** Local environmental conditions would be for instance the direct corrosive effect of a chimney with CO<sub>2</sub> flue gases.

**3** Chromating process is ROHS compliant.