



elZinc® allows great freedom to architects.

Asturiana de Laminados S.A supplies coils and sheets made of the highest quality Titanium Zinc in the international market under the name of elZinc®.

elZinc® titanium zinc meets all the requirements of the European standard EN 988, and American standard ASTM B-69 which establishes the general requirements for titanium zinc strips and sheets for use in the building industry.

High-grade refined zinc of the highest level of purity Z1 (>99.995%) according to the European standard EN 1179 is used as the base metal, to which are added precisely defined amounts of the alloying metals copper and titanium.

elZinc® titanium zinc has been fine tuned for use in building applications. A tightly controlled rolling process, precisely tailored to the elZinc® alloy, and accurate temperature control during manufacture are two fundamental aspects of production resulting in consistent quality and of full compliance all properties with the relevant standards.

elZinc® titanium zinc stands out due to:

- Very good workability irrespective of the direction of rolling.
- High resistance to creep (creep strain limit).
- Low cold temperature brittleness
- High re-crystallisation threshold, i.e. no grain growth until 300 °C; this is crucial for soldering.

elZinc® undergoes thorough internal and external quality assurance procedures that ensure excellent product properties, exceeding the requirements established by standard EN 988.

Whether natural or pre-weathered, zinc is highly valued by architects and professional roofers alike. It allows for great freedom in terms of building design, able to clad almost any shape in a variety of different systems, and is equally suited to both classical or contemporary architecture.

Handling

elZinc® products should be handled with special care when loading and unloading to prevent damage in the form of dents or scratches.

In order to correctly solder the material, the surface must be properly de-greased and cleaned. elZinc recommends using elZinc Flux, which has been specially developed for this purpose.

Storage

elZinc® should be stored in dry and ventilated places, preventing condensation and protecting it from moisture.

Natural weathering process

On exposure to the weather, elZinc® titanium zinc forms a natural self-healing protective patina that it provides it with exceptional resistance to corrosion and its attractive characteristic matt grey finish. Initial weathering can be uneven, depending on the differences in exposure of each area to rainwater, but eventually any colour difference will tend to fade away.

Carbon dioxide (CO₂) is essential to the patinating process and therefore it is extremely important to avoid continual ponding of water on the metal's surface by maintaining adequate falls on all surfaces. This not only prevents 'tide marks' from appearing, but standing water prevents the zinc hydroxycarbonate patina from forming, leaving the zinc's surface vulnerable to white rust. It is also just as important to allow air (and therefore CO₂) to get to the underside of the zinc, allowing the formation of the patina and drying out any possible condensation that might have formed on the underside of the zinc skin.



Test criteria for elZinc's standard rolled zinc is more demanding than EN 988 and ASTM B-69 as it's shown in the following table:

CRITERIA	EN 988	ELZINC	ASTM B-69 Arch. T. 1
CHEMICAL COMPOSITION			
Zinc	Zn 99,995 (Z1 according to EN 1179)	Zn 99,995 (Z1 according to EN 1179)	–
Pb-Fe-Cd-Sn-Mn-Mg	–	–	max. 0,005%
Copper	0,08 – 1,0%	0,08 – 0,2%	0,08 – 0,2%
Titanium	0,06 – 0,2%	0,07 – 0,12%	0,07 – 0,12%
Aluminium	max. 0,015%	max. 0,015%	0,001 – 0,015%
DIMENSIONS AND TOLERANCES FOR STANDARD PRODUCTS			
Thickness of sheets and coils	± 0,03mm	± 0,01mm	± 0,0254mm* ± 0,0508mm**
Width of sheets and coils	+2 / -0mm	+1 / -0mm	± 1,575mm
Length of sheets	+10 / -0mm	+2 / -0mm	± 5mm
Straightness	max. 1,5 mm/m	max. 1,0 mm/m	25,4mm
Flatness	max. 2mm	max. 2mm	–
MECHANICAL AND TECHNOLOGICAL PROPERTIES IN THE DIRECTION OF ROLLING			
Yield strength elasticity 0,2% (Rp 0,2)	min. 100 N/mm ²	min. 110 N/mm ²	–
Tensile strength (Rm)	min. 150 N/mm ²	min. 150 N/mm ²	96-262N/mm ²
Breaking strain (A50)	min. 35%	min. 40%	10 – 70%
Vickers hardness (HV3)	–	min. 45	–
HR15T hardness	–	–	54 – 74
Bending test	No cracks at the edge of fold	No cracks at the edge of fold	–
Folding back after bending test	–	No cracks	–
Erichsen test	–	min. 7,5 mm	–
Deformation after yield strength test (Rp0,1)	max. 0,1%	max. 0,1%	–