



Lindab Seamline™

Lindab Standing Seam Roofing  
Aluminium-zinc  
Technical Information



# Technical Facts

## Lindab Seamline aluminium-zinc

### Aluminium-zinc coated steel sheets for standing seam roofing

#### Range of application

Aluminium-zinc for tinsmith work are available in two different steel qualities, tinsmith quality and FA. The tinsmith quality is used for standing seam roofing on buildings using long strip roofing and sheet roofing on roofs, flashings and wall claddings. The FA quality is used for facade cassettes and flashings on buildings.

#### Product Description

Aluminium-zinc is a aluminium-zinc coated steel sheet that can be used unpainted up to corrosive class C4. See table on next page for information about corrosive classes.

The alloy of the metal coat has a weight percentage of 55% aluminium, 43.4% zinc and approx. 1.6 % silica with a coat weight of 185 g/m<sup>2</sup> per double side.

The surface has been treated with SPT (Surface Protection Treatment) to prevent stains during handling and to ease shaping.

The tinsmith quality is an extra soft steel sheet. The steel has practically no resilience so that tight seams can be made. The material may be seamed by machine and by hand.

The base material FA is used for flashings and details that do not need a tight seam.

#### Appearance

The surface is initially glossy metal with a rose pattern but after some time it turns greyish, and eventually it becomes matt grey.

#### Properties

Aluminium-zinc coated steel sheet AZ185	According to EN 10327:2004
Thickness	0.60 ±0.06 mm
Tinsmith quality, yield strenght	ca 180 N/m <sup>2</sup>
FA, yield strenght	-
Minimum bending radius	Tinsmith quality: suitable for seaming FA: 1T
Protection against corrosion on the edges	Very good
Fire Resistance Classification	A1 (EN 13501-1)
Reflection of solar heat	81% (new) 39% (aged)

#### Lifetime

It is customary to separate between the aesthetic and technical lifetime.

The aesthetic lifetime is a measure of the time it takes for the top coat to change to such an extent that the appearance no longer meets the requirements.

The technical lifetime is the time it takes until the sheet no longer can protect the supporting constructions or foundations of the building.

The layer of aluminium-zinc has a thickness of approx. 25 µm (0.025 mm) per side for AZ185. The corrosive speed, i.e. how much of the coating that disappears each year, is a maximum of 0.2 µm in a normal environment (C2) in which aluminium-zinc is freely exposed. In theory, it could therefore be evaluated that the lifetime in a normal environment exceeds 100 years. In tough marine environments, the corrosive speed can be up to 0.6 µm per year.

Due to corrosive and appearance-related reasons, the following combinations should be avoided to prevent them from affecting the aesthetic and technical lifetime:

- Aluminium-zinc in combination with copper, brass or lead can cause galvanic corrosion. Avoid drainage from constructions and roofs that contain these metals. In particularly aggressive environments, even stainless steel and nickel can increase the corrosive speed of aluminium-zinc.
- Aluminium-zinc in contact with high-grade woods, damp wood or wood with waterproofing containing copper can cause black rust or corrosion.
- Aluminium-zinc in combination with bitumen products without a UV stabiliser.
- Aluminium-zinc in combination with wet concrete, cement and plastering that are very alkaline can cause discoloration or black rust.

Care must be taken when protecting the roof with plastic foil as trapped moisture can cause black rust.

#### Working in the cold

Aluminium-zinc for standing seam roofing can be seamed down to a sheet temperature of -5°C by machine and by hand. At lower temperatures, small cracks can occur in the metal coat when the material is worked.

#### Trimming edges

Corrosion on the edges can occur in environments that are exposed to corrosion and in which the edges of the sheet are exposed. Normally, the trimmed edges do not need to be painted with a protective paint. Protective paint can be applied in environments in which the trimmed edges are aesthetically prominent.

**Anti-slip**

Aluminium-zinc has the same anti-slip properties as other roof sheet materials.

**Corrosion**

Aluminium-zinc has an ability to repair itself which makes the material resistant to corrosion caused by scratches. The long lifetime is due to the fact that the aluminium-zinc coating provides the steel sheet with a double protection against corrosion. The first protection factor is the coating on the steel sheet that forms a passivating barrier against general corrosion. The other protection factor involves the formation of a galvanic element when the sheet is exposed to moisture (electrolyte), resulting in zinc ions flowing over and protecting the exposed steel against corrosion in scratches or trimmed edges.

Aluminium-zinc can be used in considerably more corrosive environments than for instance hot dip galvanised steel. Aluminium-zinc is the only metal-coated material that can be used in the corrosive classes C3 and C4. The standard EN ISO 12944-2 lists the corrosive classes C1–C5 along with different environments, in which C1 represents a very low influence and C5 represents a very high influence. Aluminium-zinc with a coat weight of AZ 185 meets the requirements for corrosive class C4.

In accordance with the German standard DIN 55928-8, aluminium-zinc is the only metal-coated sheet that can be used in Korrosionsschutzklasse III.

**Corrosive Class**

Aluminium-zinc can be used up to corrosive class C4 in accordance with SS-EN ISO 12944-2.

**Environment**

The long lifetime of aluminium-zinc, in comparison with for instance hot dip galvanised sheets, entails major environmental benefits. There is a worldwide infrastructure for recycling steel that works well. Once steel is produced, it is part of a constant cycle as steel always contains recycled materials. Steel is always 100% recyclable, the metal layer does not pose any problems for remelting.

**Corrosive classes in accordance with SS EN ISO 12944-2**

Corrosive Class	Environmental Corrosivity	Examples of typical outdoor environments in the temperate climate zone (informative)
C1	Very low	Interior environments. Heated buildings with clean atmospheres, e.g. offices, shops, schools, hotels.
C2	Low	Atmospheres with low level of pollution. Mostly rural areas.
C3	Measurable	Urban and industrial atmospheres, moderate sulfur dioxide pollution. Coastal areas with low salinity.
C4	High	Industrial and coastal areas with moderate salinity.
C5-I	Very high (Industrial)	Industrial areas with high humidity and aggressive atmosphere.
C5-M	Very high (Marine)	Coastal and offshore areas with high salinity.



Lindab Profile is a business area within the Lindab Group that develops, manufactures, and markets efficient, economical and aesthetic steel and sheet-metal solutions for the building industry.

We offer everything from complete building systems to individual building components for all types of housing, as well as commercial and industrial buildings.

Lindab Profile is represented in over 25 countries throughout Europe. Our head office is in Förslöv, in the south of Sweden.



**Lindab Profile**

SE-269 82 Båstad

Phone +46 (0)431 850 00

[www.lindab.com](http://www.lindab.com)