Lindab **Aluminium**

Technical information

Lindab®

Technical facts Lindab Aluminium

Colour coated and natural aluminium sheet for standing seam roofing and rain water systems

Range of application

Lindab offers aluminium for standing seam roofing, used for long strip roofing and sheet roofing on roofs, flashings and wall claddings. The quality is 8111 H41 (colour coated) according to EN 1396 and 8111 H 12 (natural) and is 0,8mm thick. We also offer an assortment in rain water systems.

Product description

The quality is an extra soft tinsmith quality. The sheet has practically no resilience so that tight seams can be made. The material may be seamed by machine or by hand. The material is 0,8 mm and has a typical yield strength of 100-105 MPA and a typical elongation of 20%.

Lindabs rainwater system in aluminium is manufactured in, for the product, a suitable quality.

Paint system

- PX12AL has a coating made of PVDF which has excellent color and gloss retention.
- DuraFrost (PXALM) is an extremely scratch resistant coating. The wrinkled surface makes the surface matt. Always make sure to mount the material in the same direction and void mixing batches on the same roof- och wall side. Difference in structure can otherwise lead to a color deviation when the sun breaks in different ways on the surface.
- The backside of the sheet is coated with a grey polyester or epoxy-based paint.
- The aluminium for rain water systems is double coated and has a HBP (structured polyester) paint with a thickness of 25 µm on each side.

Product	Type of coating	Thickness frontside	Thickness backside	Gloss
PX12AL	PVDF	25 µm	5 µm	30±5
DuraFrost (PXALM)	PUR	25 µm	5 µm	5±2
Rain Water System	HBP	25 µm	25 µm	40±6
FAAL	PE25	25 µm	5 µm	30±6 / 90±10

Working temperature

Lindab aluminium can be machine- and hand seamed down to a sheet temperature of +5°C. At lower temperatures, micro cracks in the coating might appear. Maximum working temperature is 80°C. Aluminium is coated for aesthetic reasons only, and you actually rather add a risk when applying coating, compared to steel sheet, where you help protect the metal with the paint. This because micro cracks in the paint can cause moisture to accumu late which can lead to corrosion in the aluminium. This is why aluminium should be processed in a way so that micro cracks are avoided.

The softer products PX12AL and PXALM can be bent to 0,5T. FAAL to 1T.

Chemical durability

The coating has a good general chemical durability. However, there are exceptions, such as some organic solvents like aromatics, ketones and chlorinated hydrocarbons.

Fire resistance classification

Lindab Aluminium fulfils A1 according to EN13501-1:2007+A1:2009

Corrosion

Aluminium must not be stored in moist environments or close to corrosive materials. Storing of the material outside should be avoided. If the material has to be stored outdoors, it should be covered sufficiently and stored in well ventilated areas to avoid coming into contact with the damp. This to make sure the coating or the metal does not get damaged before mounting. Remaining metal from the boring chips and rivets may cause discolouration and, in the long term, corrosion. You should therefor ensure that the surfaces are cleaned.

Corrosion resistance

Lindab Aluminium can be used until corrosion class C5 in terms of technical life. For more information regarding corrosion classes, see table below.

In Lindabs warranty document for aluminium you can read how long the warranty period is in each corrosion class.

Combination with other materials

For the sake of corrosion and appearance, avoid direct contact or run offs from bitumen, iron vitriol, copper, brass, iron, pressure treated wood and lead. Use stainless fastenings or fastenings made from aluminium.
Seaming oil must always be removed directly from the surface, otherwise it can damage the coating. If protective film is added, this must be removed within 6 months from application.

Lifetime and maintenance

For colour coated sheets, it is customary to separate between the aesthetic and technical lifetime.
The aesthetic lifetime is a measure of the time it takes for the colour 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 can no longer protect the supporting constructions or foundations of the building.

Regular maintenance prolongs the lifetime of the colour coat and thus the time until it needs repainting. Sun radiation, weather and proximity to the ocean are factors that contribute to ageing the colour, but it is also affected by environmental pollution. The lifetime is also dependent on whether the material is used for walls or roofs, for instance south-facing roofs with a low incline are more affected by the sun than north-facing surfaces.

The sun affects the ageing of the colour coat in two ways:
- through ultra violet radiation
- through the heat of the sun

Thus, the choice of colour has already affected the lifetime; bright colours last a bit longer, dark colours a bit shorter. The life of the colour coat also depends on the environment in which the sheet is located. Sheets that are located near the coast can be exposed to salt water which would give it a shorter life than sheets on buildings inland. Other factors that affect the lifetime include local factory emissions, traffic and oil heating.
With regular maintenance, a sheet roof in aluminium is expected to have a technical lifetime of 50 years or more. The lifetime can be prolonged by means of regular inspection and maintenance.

Environment

There is a worldwide infrastructure for recycling metals that works well. Aluminium is 100% recyclable.

Corrosivity classes according to ISO 12944-2 with environmental examples

Corrosivity category	**Corrosivity**	**Examples of typical environments (informative only)**	
		Exterior	**Interior**
C1	Very low	-	Heated buildings with clean atmosphere, e.g. offices, shops, schools, hotels
C2	Low	Atmospheres with low level of pollution: mostly rural areas	Unheated buildings where condensation can occur, e.g. depots, sports halls
C3	Medium	Urban and industrial atmospheres, moderate sulfur dioxide pollution; coastal areas with low salinity	Production rooms with high humidity and some air pollution, e.g. food-processing plants, laundries, breweries, dairies
C4	High	Industrial areas and coastal areas with moderate salinity	Chemical plants, swimming pools, coastal ship and boatyards
C5	Very high	Industrial areas with high humidity and aggressive atmosphere and coastal areas with high salinity	Buildings or areas with almost permanent condensation and with high pollution
CX	Extreme	Offshore areas with high salinity and industrial areas with extreme humidity and aggressive atmosphere and subtropical and tropical atmospheres.	Industrial areas with extreme humidity and aggressive atmosphere.

Good Thinking

At Lindab, good thinking is a philosophy that guides us in everything we do. We have made it our mission to create a healthy indoor climate – and to simplify the construction of sustainable buildings. We do that by designing innovative products and solutions that are easy to use, as well as offering efficient availability and logistics. We are also working on ways to reduce our impact on our environment and climate. We do that by developing methods to produce our solutions using a minimum of energy and natural resources, and by reducing negative effects on the environment. We use steel in our products. It's one of few materials that can be recycled an infinite number of times without losing any of its properties. That means less carbon emissions in nature and less energy wasted.

We simplify construction

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