55HX® ALUMINUM
ARCHITECTURAL SOLUTIONS

Aleris

ARCHITECTURE...

55HX® is the solution from Aleris for critical anodized applications with aluminum coil and sheet.

55HX® complies with the EN 5005 H14 (AlMg1) with an optimized chemical composition and excellent mechanical properties.

55HX® was developed in order to fulfil contemporary demands on modern interior and exterior architecture. Thanks to its composition, 55HX® is especially suitable for decorative anodization.

The material can be processed easily and thus gives architects and designers the possibility of creating miscellaneous styles and objects with unique appearance.

Last of all it is the objective to combine functional efficiency with a stylish design that at the same time is based on quality and durability.

For all these applications, 55HX® is available in mill finish or anodized.

Market fluctuations are sometimes difficult to forecast. In order to help you coping with unexpected changes, Aleris has developed specific logistical programs.

Short delivery times and enhanced flexibility are part of our service. Our commercial network is in permanent contact with our customer base. They combine segment expertise with an extended presence on the marketplace. Feel free to contact them for any questions regarding our commercial, technical or logistical offer.

... AND INNOVATION

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Delivery possibilities

		Thickness (mm)	Width (mm)
55HX®	Coil	0.3 - 5	Up to 1,650
55HX®	Sheet	0.6 - 5	Up to 1,650

Chemical Composition EN 5005

Si	Fe	Cu	Mn	Mg	Cr	Zn	Other elements
0.3	0.7	0.2	0.2	0.5 - 1.1	0.1	0.25	0.05 individually 0.15 together

The chemical alloy is represented in weight percent. The values represent the maximum, apart from Mg where the proportion lies within the limits 0.5 - 1.1.

Mechanical Properties H14

Thickness (mm)	R_m (MPa)	$R_{p\,0,2}$ (MPa)	A50 (%)
0.2 ≤ 1.5	145 - 185	min. 120	min. 2
1.5 ≤ 3	145 - 185	min. 120	min. 3
3 ≤ 5	145 - 185	min. 120	min. 4

Colours

Champagne
Light Gold
Medium Gold
Dark Gold
Natural
Black
Light Bronze
Light Medium Bronze
Medium Bronze
Dark Bronze

other colours possible (upon request)

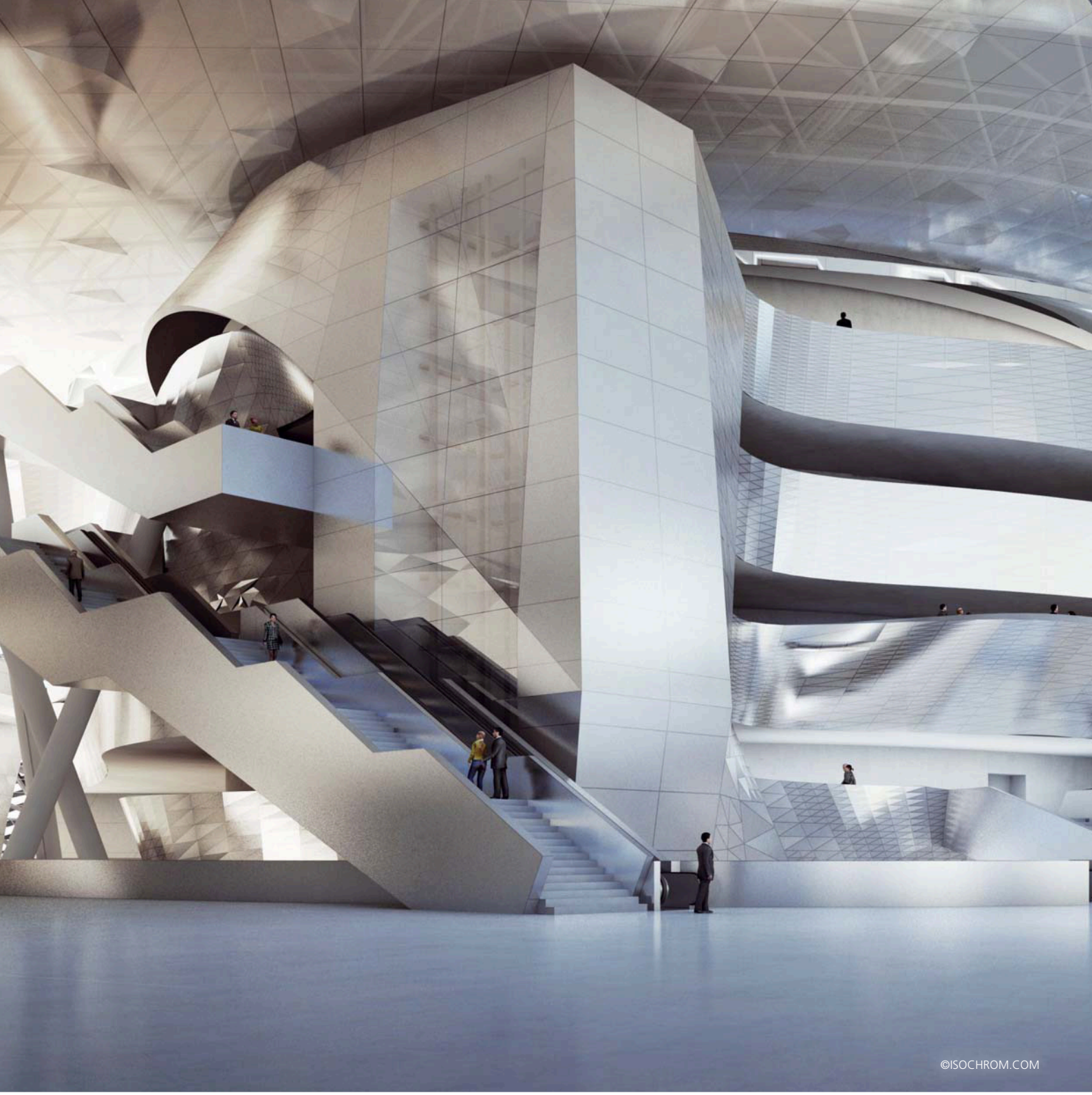
KEY BENEFITS

- anodizing free of streaks
- colour uniformity between product batches
- excellent flatness
- very good deformation and bending properties
- after anodizing, weather, corrosion and UV-resistant
- scratch-resistant

ARCHITECTURAL APPLICATIONS

- façades and claddings
- ceilings and walls
- roofs

Upon request, sheet and coil with protective foil are available.



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Charges may apply.

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55HX® COLOUR UNIFORMITY AFTER ANODIZING

The chemical composition and the manufacturing process are maintained within strict tolerances so that a uniform colour can be achieved.

55HX® is the result of a long-term research and development project with internal and external scientists to achieve colour uniformity after anodizing. This research led to a quality with constant production and anodizing parameters. Through strict production control, a product with higher colour stability between production batches is made.

In order to achieve optimal colour uniformity, high-technical knowledge of surface treatment is the key. For example, etching must be deep enough (min. 15µ on the visible side) in order to reach a stable surface quality and to avoid possible differences of reflection. Narrow thickness tolerances of the anodizing layer, limited up to 30µ, are an important factor for colour uniformity.

A uniform colour is only obtained if the material was pre-treated before anodizing (degreasing and removing of the natural oxide layer). It is obvious that constant process parameters must be guaranteed at all times. Please see our guidelines for the processing of 55HX®.

There is no measuring method that can convert the colour perception of the human eye into measurable quantity. It is therefore further necessary to subjectively determine the desired colour uniformity on the basis of samples from the different coils. In the preparation and / or assembly, the rolling direction must be respected. For large projects, Aleris Aluminum Duffel BVBA must be informed in advance.This uniformity guarantee applies to each order in the 55HX® quality, which was confirmed by Aleris Aluminum Duffel BVBA as 55HX®. During the entire fabrication process, full traceability should be guaranteed.

Aleris Aluminum Duffel BVBA can be made responsible solely for errors through their own production process. In that case, compensation will be limited to 1.5 times the value of the goods delivered, including possible exchange of sheets or coils and subject to Aleris Aluminum Duffel BVBA`s fault. Costs for delayed deliveries, under deliveries or purchase of replacement material will not be born by Aleris Aluminum Duffel BVBA.

Claims will be accepted until 6 months after delivery of the material.

This declaration refers exclusively to the selling of 55HX® and is valid as long as no new version is issued and replaces all previous versions.

Rev. 22.05.12

Processing guidelines for 55HX®

55HX® is Aleris' solution for architectural anodizing applications. It is obvious that certain measures must be taken in order to obtain the best results with 55HX®.

The loading and unloading of sheets should be done very carefully to avoid scratches and other surface defects due to manipulation. Aleris Aluminum Duffel BVBA will not accept any claim due to surface finish defects if it cannot be proved that the defects were caused by Aleris. If the client orders the sheets without protective film or paper, Aleris cannot be held responsible for surface damages during transportation. The chemical composition of our alloy 55HX® is maintained through strict tolerances. Through this a uniform colour between production batches can be achieved.

WE CAN ASSURE COLOUR UNIFORMITY WHEN FOLLOWING CONDITIONS ARE RESPECTED:

1. Aleris Aluminum Duffel BVBA must be informed about each project for which colour uniformity must be guaranteed.
2. The client and the anodizer must agree on reference samples in order to define the permitted colour and brightness changes caused by process variations.
3. During wall cladding, the customer has to take care that all the sheets are put up in the same rolling direction.
4. In order to guarantee the colour uniformity thickness sizes < 2 mm and ≥ 2 mm should not be mixed.
5. All processes that influence surface quality must be avoided on the visible side of the sheet. For example, welding, soldering and grinding should be done on the non-visible side.
6. Only a certified anodizer is permitted to carry out a project.
7. All production parameters during anodizing should be held constant. Data of the composition and temperature of the chemical bath must be captured for degreasing, etching, anodizing and colouring. Special attention must be given to the density parameter of the anodic bath. At each step of the production process, full traceability of the Aleris batch number is necessary.
8. At least 15 µ etching is required before anodizing.
9. The upper side is the visible side and is generally protected by a UV resistant film. This protective film can be removed without residue, provided it was protected against water during storage at temperatures between +5°C and +30°C and not longer than 6 months after the manufacturing date.
10. Should mechanical or metallurgical defects occur during anodizing, then every further processing should be stopped immediately and Aleris should be contacted as quickly as possible.

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