

**55HX® ALUMINUM**  
FOR MODERN ARCHITECTURE

***Aleris***





55HX® BRANDED FOIL

## 55HX® – PREMIUM ALUMINUM ANODIZING QUALITY

For over 25 years, our Aleris technical experts provide innovative aluminum solutions optimized for architectural applications.

Our committed workforce produces aluminum coils, strips and sheets with high-surface quality and excellent deformation properties.

Five innovation centers around the world continuously develop durable solutions in

collaboration with our customers, in order to meet their demand as well as improve overall processes, e.g. for the building and construction industry.

### 55HX® – ANODIZED FOR HIGH RESISTANCE

To enhance corrosion and scratch resistance, 55HX® aluminum can be anodized while keeping its unique metallic look. Anodizing may be done in its natural shade or combined with coloring.

### 55HX® – FOR EXTERIOR AND INTERIOR ARCHITECTURE

Reference projects in different sectors and for various applications illustrate 55HX®'s successful usage inside and outside of buildings in architecture worldwide.

#### ARCHITECTURAL APPLICATIONS

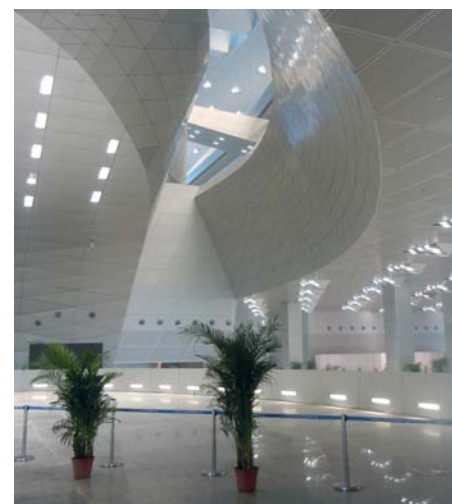
- Façades and wall cladding
- Ceilings, roofs and balconies
- Pillars and escalator casing

#### KEY BENEFITS

- Color uniformity across various batches
- Corrosion, UV- and scratch resistant after anodizing
- Excellent deformation properties
- Very good bending properties
- Outstanding durability
- Easy cleaning
- 100% recyclable
- Non-combustible (European Fire Class A1, NFPA 285)



**EXTERIOR ARCHITECTURE**  
Rézo Building in Paris / France  
Architectures Anne Démians



**INTERIOR ARCHITECTURE**  
Dalian International Conference Centre / China  
Coop Himmelb(l)au



## 55HX® – BENEFITS AND FEATURES

### FAST DELIVERY TIME

Aleris has developed a stock program to meet short delivery times. This gives our customers the required flexibility to respond to sudden market fluctuations or unexpected changes.

### TRACEABILITY

55HX® is branded with a special foil and marked with a black ink stencil at the non-visible side of anodizing quality sheets. After etching and anodizing it leaves a kind of braille text surface which is sufficiently readable. This ensures traceability of mill origin during the whole life cycle of the product.

### COMPETENCE CENTER

An experienced group of Aleris' field engineers and metallurgists are involved to meet project requirements. With their know-how they can advise on the optimum chemical composition and mechanical properties of the alloy.

### COLOR AND GLOSS CONSISTENCY

The 55HX® production from casting through rolling is kept within strict tolerances and closely monitored during the entire production process. This provides the aluminum with perfect surface quality, consistent in color and gloss.

### NON-COMBUSTIBLE ALUMINUM

Aluminum is classified Euroclass A1, the highest standard in the European classification system for materials. In addition Aleris 55HX® meets the National Fire Protection Association (NFPA) requirements.

### 55HX® dimensional capabilities

	Thickness [mm]	Width [mm]
Coil	0.3 - 5	up to 1,650
Sheet	0.6 - 5	up to 1,650

### 55HX® non-combustible material



European  
Fire Class A1

### 55HX® delivery program

Width x length [mm]	Thickness [mm]					
	1.0	1.5	2.0	2.5	3.0	4.0
1,000 x 2,000	■ ■	■ ■	■ ■	■ ■	■ ■	■
1,250 x 2,500	■ ■	■ ■	■ ■		■ ■	
1,500 x 3,000	■ ■	■ ■	■ ■		■ ■	
1,500 x 4,000	■	■	■ ■		■	

■ 55HX® anodizing quality

■ 55HX® 10µm or 15µm natural anodized

### 55HX® chemical composition limits [all data on wt. - %]

Alloy	EN-alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others each	total
55HX®	5005	0.3	0.7	0.2	0.2	0.5 - 1.1	0.1	0.25	–	0.05	0.15

### 55HX® mechanical properties [typical values]

Alloy	Temper	Thickness [mm]	Tensile strength $R_m$ [MPa]	Yield strength $R_{p0.2}$ [MPa]	Elongation $A_{50}$ [%]
55HX®	H14	$0.2 \leq 1.5$	145 - 185	min. 120	min. 2
55HX®	H14	$1.5 \leq 3$	145 - 185	min. 120	min. 3
55HX®	H14	$3 \leq 5$	145 - 185	min. 120	min. 4



OXYGEN RESIDENCE, WARSAW / POLAND  
RAFAEL DE LA-HOZ CASTANYS

# 55HX® – COLOR UNIFORMITY AND BEST PRACTICE

For the unique metallic look of 55HX®, it is essential to combine a consistent surface finish coil-to-coil aluminum production with a perfectly controlled anodizing process.

For anodizing quality and natural anodized 55HX® (by a certified anodizer), Aleris guarantees color and gloss stability between production batches.

The guarantee applies provided that Aleris guidelines are followed. Color anodizing remains the additional responsibility of the anodizer.

## ALERIS RECOMMENDS THE FOLLOWING GUIDELINES:

- Ordering**  
 55HX® should be ordered with paper or protective film on the visible side. The UV-resistant film can be removed without residue, provided it was protected against water during storage at temperatures between 5°C and 30°C.
- Handling**  
 Loading and unloading of 55HX® should be done very carefully to avoid scratches and other surface defects.
- Fabrication**  
 All creative processes such as laser-cutting, punching, perforating and folding, should take place prior to anodizing. All processes influencing the surface quality must be avoided on the visible side. Therefore welding and soldering should only be done at the non-visible side.
- Anodizing**  
 A certified anodizer is capable to hold parameters constant, capture their data during the entire process and perform obligatory pre-treatment of the natural oxide layer. Etching must be min. 15µm on the visible side and anodizing layer max. 30µm thick with narrow thickness layer tolerances.
- Installation**  
 During wall cladding all panels need to be put up in the same rolling direction. Thicknesses sizes < 2mm and ≥ 2mm should not be intermixed.
- Cleaning**  
 Once a year wash with water added with a neutral soft detergent. Afterwards rinse with plain water and dry with a soft and absorbing cloth.



PERFECTION OF FORM  
Friends Arena, Stockholm / Sweden  
Berg Arkitektkontor AB, Arkitekterna Krook & Tjäder



A CITY'S RESOLVE TO HOST LARGE-SCALE WORLD-CLASS EVENTS  
Fiera Milano SpA, Rho / Italy  
Massimiliano Fuksas

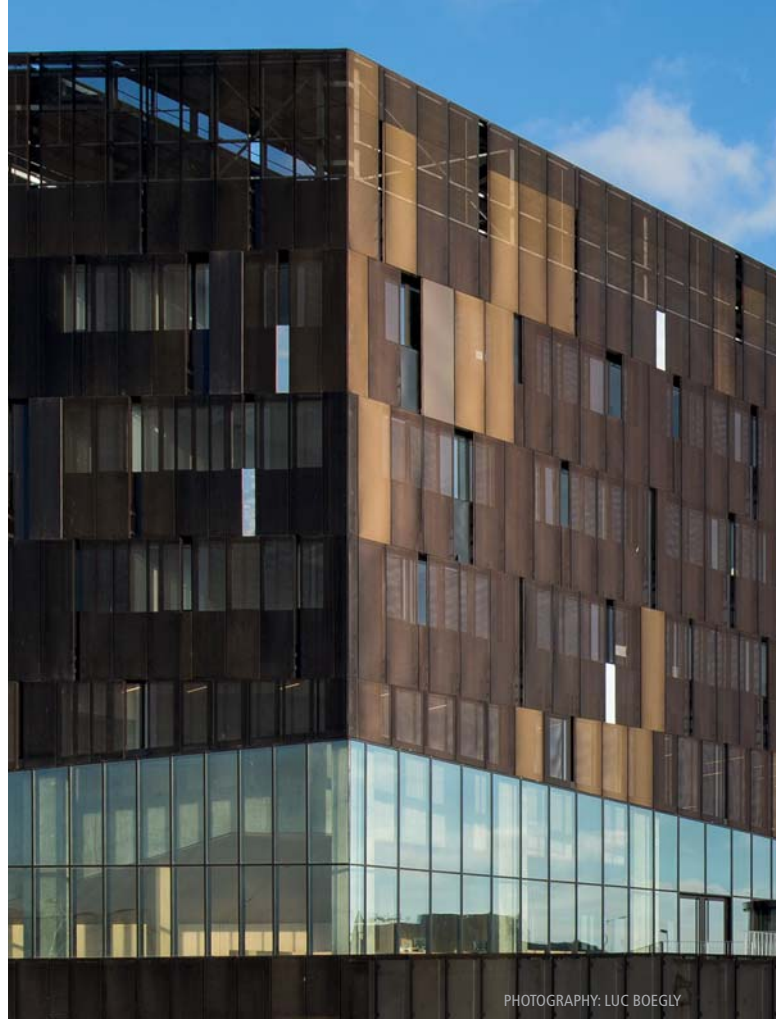


RESEMBLING ARCHITECTURE FROM ANOTHER PLANET  
International Conference Center, Dalian / China  
COOP HIMMELB(L)AU



ENSM MARITIME SCHOOL,  
LE HAVRE / FRANCE  
AIA ASSOCIÉS

PHOTOGRAPHY: LUC BOEGLY



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## 55HX® – UNLIMITED CREATIVE POTENTIAL

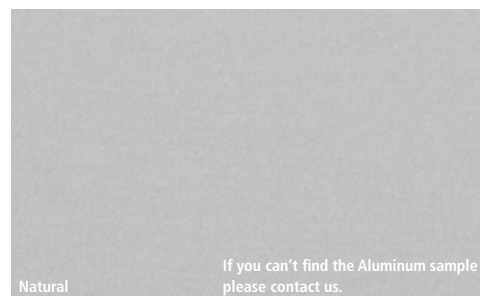
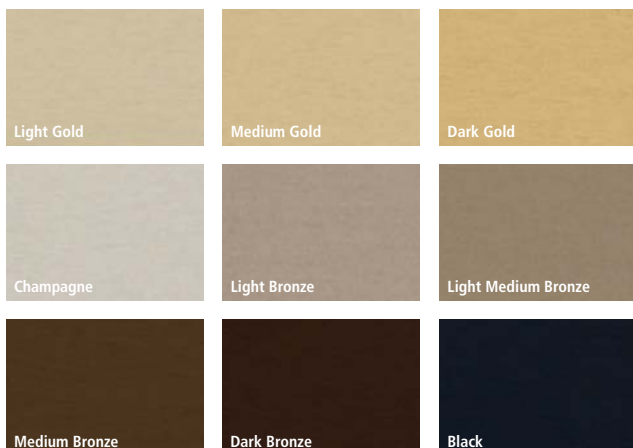
55HX® allows architects to design the material in line with their individual needs. The easiness of its bending, perforating, punching and deep-drawing have made it the outstanding aluminum solution. After anodizing aluminum substrate is weather-, corrosion- and UV-resistant while maintaining the authentic metallic gloss as well as the durability.

To view more references, request a color sample or look into technical details, visit  
[www.aleris.com/industries/architecture-and-design/](http://www.aleris.com/industries/architecture-and-design/)

### THE COLOR VARIETY OF 55HX®



FIND HERE YOUR 55HX®  
NATURAL ANODIZED ALUMINUM SAMPLE



other colors possible  
(upon request)



**TITLE:**

**ICE RINK, MÉDIACITÉ, LIÈGE / BELGIUM**

L'ESCAUT ARCHITECTURES

ET BUREAU D'ÉTUDES WEINAND

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