

## Objektbericht *Project Report*

### **Reusability: A 2nd life for RHEINZINK cladding material on Kiasma Museum, Helsinki**

#### **A sustainable material to take into the future.**

RHEINZINK clad buildings are situated all over the world due to the material's expression, sustainability, durability and maintenance-free surfaces.

RHEINZINK has been Cradle-to-Cradle certified since 2009. This means that 100% of the material – including the waste – can be used in the production of a new product, of the same high quality.

Another sustainable possibility is directly reusing a material, which has had a life elsewhere. Reusing has a huge sustainable benefit - due to the environmental aspect, but it also an obvious cost saver.

A great example of directly reusing is a demounted RHEINZINK façade-cladding in Finland which gained a new life on new projects in Finland and Sweden.

#### **A façade material to directly reuse**

Kiasma - Museum of Contemporary Art in Helsinki, Finland - was designed by Steven Holl and realised in the late 1990s.

An internal renovation to make the building more energy effective, also resulted in adaptations of the envelope's substructure, so that the external cladding needed to be removed.

*This was a golden opportunity to reuse the RHEINZINK titanium zinc with the prePATINA blue-grey surface, for a new life on other buildings:*



Cradle-to-cradle  
– the perfect material lifecycle.



The Kiasma Museum in Helsinki, built in the late 1990s.

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### 1. Onsala Space Observatory, Sweden

The observatory provides scientists with equipment to study the earth and the rest of the Universe. The observatory operates two radio telescopes in Onsala, 45 km south of Gothenburg and takes part in several international projects.

Parts of the observatory's new visiting building are now clad with 300 m<sup>2</sup> RHEINZINK prePATINA blue-grey, directly reused from Kiasma in Finland, and mounted with double standing seam panels.

A few square metres of the reused RHEINZINK are still available at Återbruksbyrån – a Swedish company specializing in the reuse of building material. The plan is to use it for a project in Gothenburg.

*In Helsinki, HSY – a company providing waste management services for residential properties and the public administration – will reuse the RHEINZINK material from Kiasma for two of their buildings:*



The new visitors building with details in RHEINZINK reused from the Kiasma Museum façade cladding.



Reused RHEINZINK waiting to be mounted on Onsala Space Observatory in Sweden.

### 2. HSY Koivukylä

The waste & recycle building has been mounted with about 200 m<sup>2</sup> reused RHEINZINK on the facade with angled, standing seam.



New zinc facade made of reused RHEINZINK from Kiasma.

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### 3. HSY Kiviko

The other HSY waste and recycling building will be mounted with reused RHEINZINK material in the 2nd half of 2023.

For this project the Finnish company TPE will produce and install 700-800 m<sup>2</sup> square tiles.

When the material arrived at TPE, the metal sheet edges were lightly cleaned with compressed air and the seams are cut off.

Next the metal sheets were transformed by being cut into tiles.

The leftover zinc from the cutting work is recycled and some of it is used on the construction site.

Afterwards the tiles are bent one by one.

When the bending is done, and the tiles are ready for mounting.

The first mock-up was made with the fish scale structure. Another version of the mock-up wall was made later, reflecting the requested changes.



Tiles are cut from the reused zinc sheets.



Bending the tiles.



The tile is practically ready for mounting.



The mock-up.

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### **Kiasma - Museum of Contemporary Art in Helsinki – with a new RHEINZINK Titanium zinc façade in prePATINA blue-grey**

Kiasma was built 24 years ago and whilst it was not listed as a heritage building it is actually managed after the same principles.

In the beginning of the year 2000, the first steps were taken by The Senate Properties to list buildings which were not listed officially – to secure important architecture and to take responsibility for the environment.

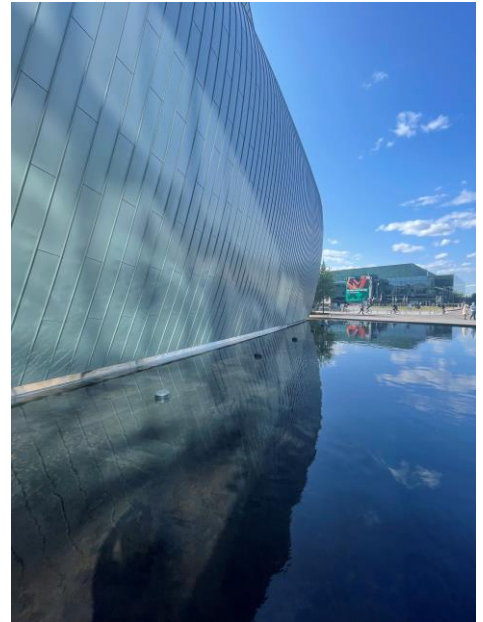
Kiasma fulfilled one more aspect: social sustainability, as it is centrally situated in Helsinki – the Finnish capital – close to many users of the Museum.

The Senate Properties, a Finnish state-owned enterprise, and the work environment partner of the Finnish government was behind the entire process, as Kiasma is “voluntarily protected”.

According to Construction Manager Selja Flink, the RHEINZINK material for the façade was mandatory as it was the original material and as they wanted to respect the original Steven Holl architecture; “It is also a unique material because you don’t need to paint it like normal galvanized roofs. And we knew that it had lasted more than 20 years with no problem”, says Selja Flink.

The old sheets were demounted from the façade very slowly by cutting the seams and storing them carefully afterwards. Naturally, this was a costly and time-consuming process including a lot of handworking and transportation.

Special expertise was needed for the many details for the new titanium zinc roof mounted with double standing seam.



The new cladding for Kiasma, Helsinki – again with RHEINZINK prePATINA blue-grey finish.

Photo: Architect Simo Freese



The same expression with the new RHEINZINK façade – but now with an internal renovation for more energy efficiency.

Photo: Architect Simo Freese

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Kiasma is designed by Steven Holl, and his vision for the building concerned choice of material and building details. According to him, he designed “the Kiasma route” rather than individual rooms.

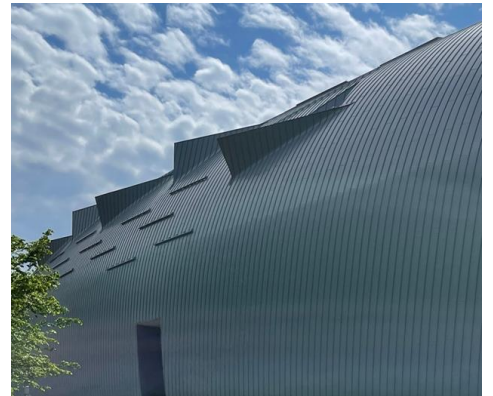
Steven Holl simply designed the building for the Finnish people, in their capital – exactly where it is situated.

Construction Manager Selja Flink was asked for her thoughts regarding the reuse of the old façade material. She answered by saying: “First of all, I want to tell, that the old RHEINZINK material was still OK after more than 20 years, there was nothing wrong with it, but to be able to adjust structures and underlaying layers, it had to be removed.

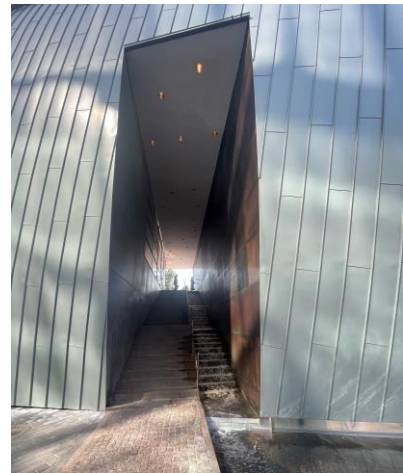
I have been proud that we could reuse the material. The original idea came from Kari Koskinen from RHEINZINK, who mentioned the Gothenburg project.

They could not take all the material, so I started to talk about reuse in every opportunity, and finally we found this HSY company who bought the rest of the zinc sheets.”

Kiasma has not been renovated the normal way, as the plans and solutions has evolved along with the renovation work. “It was very interesting to renovate such a young building with restauration/conservation attitude. I normally work with really historical buildings, like my next project is restauration of House of Estates from the 1890s. But the same principles can be attended as well”, Selja Flink says.



Beautiful inside – and outside.  
Photo: Architect Simo Freese



A special detail going through the building.  
Photo: Architect Simo Freese