

Objektbericht *Project Report*

The former customs house in Hammerhavn, Denmark

Nostalgic and modern

The location and the fine combination of titanium zinc, wood and bricks turn the former customs house into something truly special.

Situated high above Hammerhavn on the Danish island of Bornholm, the seemingly inconspicuous house stands alone in the landscape and yet gives the impression that its location is by no means a coincidence. When the small harbour was built in 1891 to ship the locally mined granite, this measure also required a Toldhuset, a customs house, from which – with a wide view over the harbour – customs administration could carry out their formalities.

Until the early 1970s, granite was mined from the cliffs in the north of the island and Hammerhavn was used as a loading harbour. Today, the coast on the untamed Baltic Sea as well as the entire island is a popular destination for tourists and locals alike. The distinctive landscape formations were created during the Ice Age over 2.5 million years ago; many hiking trails in rocky landscapes, heath areas, castle ruins, former granite quarries and much more invite you to experience Bornholm's long history.

The language of materials

Many travellers are attracted by the wide range of holiday homes and flats in this richly diversified natural environment. Whether on the coast, in the cliffs or in the somewhat quieter terrain, each location has its specific benefits. It therefore follows that the customs house in the privileged location was first converted into a residential house, then into a holiday home, a few years ago. The Danish architectural firm Algreen Arkitekter opted for an unobtrusive design and let the materials do the talking.

The cubature of the traditional gable-roofed house was left as it was, with the exception of a few sensible interventions. Due to the strong westerly wind, the old red brick house was given a new façade cladding of rough wooden lathing facing the sea. The original wooden cladding was added a few years after the house was built in 1892, already at that time to protect against the strong winds and – as an early attempt and in wise foresight – to satisfy the requirements in terms of moisture protection and structural heat insulation. For the new panelling, the architects chose vertically laid spruce panels, which are very strong and easy to work with. The structure consists of a wooden substructure with a 50 mm insulation layer, rear ventilation and a second batten on which the wooden panels were fixed. Ultimately, it was the choice of wood as a natural material that prompted the decision to use RHEINZINK titanium zinc for the roof.

Ecological aspects

However, until the decision had been made, the architects explored the possibility of re-insulating the roof and renovating the old tile roofing. However, this approach did not lead to the desired result, so a new material was considered that could withstand the local weather conditions in the long term. After examining various materials, the decision was finally made in favour of RHEINZINK titanium zinc. The positive characteristics such as durability, robustness and freedom from maintenance as well as the ecological aspects of the material convinced the architects and the former owner right from the start. For example, the material titanium zinc can be 100% recycled, an aspect that is now a fixed planning basis for building owners and architects. Yet the expressive appearance achieved by combining the cool titanium zinc roof with the warm wooden façade also impressed the architect and client. The

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strong contrast continues in the inner courtyard. There, the red brickwork of the old building was left openly visible. The old, traditional façade and the modern titanium zinc panels give the house an unmistakable structure and allow for a wonderful ageing process.

Stability and safety

The roof area of approximately 200 m² was executed using the double standing seam system in RHEINZINK-prePATINA blue-grey surface finish. The titanium zinc panels in a standard width of approx. 530 mm are precisely aligned to the width of the house and the dormer with their particularly filigree vertical fold lines. The handcrafted installation method called for a considerable amount of dexterity and careful assembly. The panels were fastened with additional concealed fixed and sliding clips to cope with the strong winds and changing weather conditions. The smaller centre distance selected between the clips is wind load tested and thus guarantees stability and safety in the event of wind suction forces acting on the roof surface.

Small, subtle feature

The architects came up with a small, subtle feature in two senses for the entrance to the house facing the street. The narrow, unobtrusive extension made of horizontal wooden slatted elements with a glass roof serves as a vestibule and at the same time creates a certain amount of privacy, while still allowing views of the sea and the sky. From the vestibule, guests are first led further into an entrance hall. From there, a separate area with rooms and bathroom opens up on one side, while on the other side, the spacious 30 m² living and dining room opens up with a generous view over the harbour to the horizon of the Baltic Sea.

The large kitchen island offers enough space for many guests and is an inviting place to spend time together preparing meals. A staircase continues to the attic, which has been developed as a large open space up to the roof ridge offering spectacular views: towards the south, guests can enjoy the midday sun with a view of the harbour and the coast; towards the west, the open sea including sunsets; towards the east, the hilly landscape; and towards the north, a small hill in the untamed wilderness, which deer also discover from time to time for a little rest. If necessary, a small area in the north can be separated into a sleeping room with three folding doors. In addition, two ladders lead to further sleeping facilities in the attic.

Respectful adaptation to modernity

The interiors have been very respectfully and carefully adapted to modern times. The rooms are dominated by floors made of wooden planks, concrete and stone as well as restrained white wall surfaces. The attic is an exception. As a result of the large dormer windows and the strong reflection of the sun on the water, the attic would have been severely overexposed. So the decision was made to cover a large part of the wall and roof surfaces with white-pigmented pine wood, with the effect of transporting the light into the room without any glaring reflections.

The holiday home in Hammerhavn is a prime example of the potential that lies behind old walls and documents how an old house can still be used with architectural and technical possibilities after almost 120 years. In particular, the RHEINZINK titanium zinc roof exhibits a timeless and durable alternative to classic roof tiles. The combination of the wider titanium zinc panels with the narrow wooden battens reinforces the calm and consistent appearance of the residential building. The RHEINZINK material once again demonstrates the unmistakable and impressive contrast created by the combination of titanium zinc with wood, as well as with the old red brickwork in the courtyard.

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Construction panel:

Project: Customs House/Toldhuset, Hammerhavn, Denmark, completion 2019

Architect: (Planning and execution) Algreen Arkitekter, Virum, Denmark

Technical data: Roof: 200 m², 1.3 t RHEINZINK-prePATINA blue-grey, double standing seam system

Images:



img_7983.jpg

Unobtrusive and efficient: The vestibule protects against strong westerly winds and undesirable views.



IMG_7991.jpg

After more than 100 years, the well-known Toldhuset shines in new splendour, crafted from wood and titanium zinc.



IMG_7992.jpg

An eye-catcher even from afar: the former customs house has been transformed into a holiday home.

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img_7972.jpg

The old red brickwork in combination with modern titanium-zinc panels promises a wonderful ageing process.



IMG_7926.jpg

The reflection of sunlight was the deciding factor: the attic was clad in wood up to the peak of the roof.

Photos: RHEINZINK