

## Objektbericht *Project Report*

**Project: Single-family home 100Doly – Skačany (Slovakia)**

### **The double barn**

*RHEINZINK is durable and robust, and also has a very distinguished appearance. This is why the architect and client decided to use this material to design the 100Doly single-family home, which consists of two structures.*

Skačany, a small Slovakian town 165 km northwest of Bratislava in the middle of an agricultural region, has a population of around 1350 inhabitants. For centuries, barns were among the typical buildings here. Their simple yet striking form served as a model for the design and dimensions of this extraordinary single-family home. They were also the inspiration for the name. The name of the house is "100Doly", which is a play on words made up of the Slovakian word "Stodoly" (barns) and "Sto" (100). Visible from afar, the building rests as if on a throne and is enveloped by a roof covering and façade cladding made of titanium zinc.

### **Two building sections**

100Doly is composed of two different-sized building sections, facing north-south atop a landscaped hill. The larger part accommodates a garage in the north of the ground floor and a party room in the south, which can be opened to the garden by means of a lavish sliding glass wall.

The upper floor, which seems to float above the ground floor, is where the architect has positioned the living-dining room with open-plan kitchen, a bedroom and a bathroom. There are two more bedrooms and a bathroom on the same level in the smaller wing of the building. Both parts of the building are connected by a glazed corridor, which also provides access to a small balcony with a panoramic view to the south. The basement of the smaller part of the building houses another cellar room and a bathroom for the party room.

### **Gable roofs**

The architectural features of the building include the two 30° pitched gable roofs and the fully glazed gables with very deep reveals on the upper floor. The two southern gables provide an unobstructed view of the expansive landscape, while the architects installed vertically arranged wooden planks in front of the northern gables as a privacy screen.

In doing so, they emphasise the character of 100Doly as a barn, as farmers use this element to create openings for air to pass through the gables of their barns. With this construction, they ensure that the wind dries the hay and straw stored inside.

## **Objektbericht** *Project Report*

### **Sustainability**

When it came to the material for the protective shell, the owner attached great importance to sustainability, low maintenance and durability. The titanium zinc from RHEINZINK GmbH & Co. KG, Datteln, fully meets these requirements. This also provides a sophisticated and at the same time robust appearance, which perfectly suits the barn-like character of the structure. Through natural weathering, the titanium zinc forms a zinc carbonate layer that reliably protects the surface from corrosion and also regenerates itself immediately in the event of damage. The development of this protective layer is a natural process that occurs slowly and unevenly and depends, among other things, on the frequency of rainfall and the orientation of the house.

RHEINZINK has developed a special staining process to give the material the same colour tone in the factory, which is created by natural weathering. The material's ability to develop the lifelong protective patina is fully retained. RHEINZINK titanium zinc is available in three surface qualities: prePATINA graphite-grey, prePATINA blue-grey and CLASSIC bright rolled. The architect and client decided to clad the larger building component with prePATINA graphite-grey and the smaller one with prePATINA blue-grey.

### **Variable façade design**

On both roofs, the material is installed in a double standing seam, on the façades in an angled standing seam. The double standing seam can be used from a roof pitch of 3° and stands out due to its particularly filigree seams. The angled standing seam enables a concise and at the same time very variable façade design by using different panel lengths and widths.

The architect had the ground floor built of reinforced concrete and integrated it into the landscaped hill. The upper floor and roof are made of a steel-frame construction with cellular concrete masonry. This was followed by the following construction in the roof area (from inside to outside): vapour barrier, rafters with thermal insulation between and on top of them, oriented strand boards, RHEINZINK structural mat and on top 0.7 millimetre thick titanium zinc. The façade cladding of the upper floor was executed as follows (from inside to outside): vapour barrier, thermal insulation, oriented stand boards and titanium zinc (0.7 millimetres).

### **Special craftsmanship features**

100Doly has several distinctive features in terms of craftsmanship. These include, among other things, the use of differently wide sheets, the continuous lines from the ridge over the eaves down to the base of the upper storey and the rain gutter behind the cornice with downpipe drainage in the space between the façades.

The extremely deep and pointed reveals in the north and south of both parts of the building are an additional bonus feature. On the outside, they are integrated into the structure and design of the façade cladding; on the window side, the RHEINZINK reveal panel system with concealed fastening was used.

Nearly 440 square metres of titanium zinc were installed on the roofs and façades at 100Doly. It was delivered in coils, and the cutting and edging of the panels was carried out completely on site by the installer due to the very individual design. RHEINZINK only supplied the prefabricated push-fit reveal panels for the cladding of the four reveals. The

## Objektbericht *Project Report*

clean and aesthetically pleasing workmanship was the result of qualified advice from RHEINZINK, precise planning, careful project preparation and a high level of technical and craftsmanship know-how during practical execution.

### Construction panel

#### Data

Architekt: Ing. arch. Marián Minarovič, Žabokreky nad Nitrou, Slovakia

Contractor: Ratislav Turanec & Peter Ondrejka, Kamenná Poruba, Slovakia

#### Technical data

##### *Larger building section*

Roof: 198 m<sup>2</sup>, 0.5 to, RHEINZINK- prePATINA graphite-grey, double standing seam system

Façade: 129 m<sup>2</sup>, 0.9 to, RHEINZINK- prePATINA graphite-grey, angled standing seam system

Details window covering: 0.2 to, RHEINZINK- prePATINA graphite-grey, reveal panel system

##### *Smaller building section*

Roof: 63 m<sup>2</sup>, 1.3 to, RHEINZINK- prePATINA blue-grey, double standing seam system

Façade: 49 m<sup>2</sup>, 0.3 to, RHEINZINK- prePATINA blue-grey, angled standing seam system

Details window covering: 0.2 to, RHEINZINK- prePATINA blue-grey, reveal panel system

### Captions:



*100Doly is composed of two different-sized building sections, facing north-south atop a landscaped hill – here a view from the south. Photo: Rheinzink*

## Objektbericht *Project Report*



*File: Skačany-20130614-00631*

*The upper floor and roof were made of a steel-frame construction with cellular concrete masonry.*

*Photo: Miroslav Komzala*



*File: IMG\_20140624\_164531*

*The special design and craftsmanship features of 100Doly include the application of different panel widths and the continuous lines from the ridge to the eaves and down to the base of the upper storey.*

*Photo: Miroslav Komzala*



*File: IMG\_20140709\_171236*

*Cutting and edging of the panels was carried out completely on site by the installer due to the very individual design. RHEINZINK only supplied the prefabricated push-fit reveal panels for the cladding of the four reveals, here the north view with the mounts for the privacy screen*

*Photo: Miroslav Komzala*

## Objektbericht *Project Report*



*File: 2447-residential-building-slovakia-9*

*In front of the northern gables, the architects arranged vertically wooden planks as a privacy screen. Farmers use this kind of element to create openings for air to pass through the gables of their barns.*

*Photo: Rheinzink*



*File: RZ database*

*The simple, yet striking form of barns served as a model for the design and dimensioning of 100Doly. RHEINZINK titanium zinc enhances the architectural concept. Photo: Rheinzink*



*File: 2447-residential-building-slovakia-12*

*Towards the south, the upper floor consists of a room with a dining area, living room and kitchen. The glazed gable affords panoramic views of the landscape. Photo: Rheinzink*



*File: 2447-residential-building-slovakia-5*

*The glazing of the party room can be opened to the garden with a lavish sliding glass wall. Photo: Rheinzink*

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