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# Glass for Restoration for a Reconstructed City Building

Project Report

# Haus zur Goldenen Waage, DomRömer project in Frankfurt am Main – Germany

Reconstruction of the “Haus zur Goldenen Waage” [House of the Golden Scales] is a highlight of the “DomRömer” urban building project in Frankfurt am Main. SCHOTT provided 390 glass for restoration panes to give the Renaissance facade an authentic look.

## The Background

The city quarter located between Frankfurt’s cathedral [Dom] and city hall [Römer] was a vibrant space in the historic city center with opulent patrician houses, old-style side streets and picturesque courtyards – until its destruction the Second World War. To reclaim the quarter’s vibrancy for this modern metropolis on the river Main, a major urban planning project was established in 2007. From 2012 – 2018, an area in the historic old city covering 7000 m<sup>2</sup> (75.347 sqft.) was to be reconstructed.

Among the **15 buildings to be restored** is the **Haus zur Goldenen Waage** that had been the city’s most well-known tourist attraction (Markt 5). The core of the building is a timber-framed construction from the Middle Ages

that had undergone reconstruction up to 1619 by its eventual owner, the wealthy spice trader and confectioner Abraham von Hameln. It received an opulent Renaissance facade and lavish timber framing and was crowned with a Rhenish waved gable.

## The Challenge

The reconstruction of this historical, architectural jewel presented restoration challenges of the highest order. Historical photographs were used for the reconstruction particularly for the doors and windows with their partitions, glazing bars and decorative profiling, as well as for the historical metal fittings such as the hand-forged angled metal strips, hinges and window knobs.

Other features included special window constructions such as a French casement



window for use as an escape. It appears as dual 4-sash windows separated by a solid roofing post.

A solution was required for the complete window and door glazing to recreate a coherent and authentic look. Further factors to be considered in selecting the glass included not only the needs of the restoration but also the requirements of modern construction and energy-saving.



Photos: Carsten Costard

### The Solution

The firm carrying out the work, **Kramp & Kramp** based in Lemgo, opted for **glass for restoration from SCHOTT** for the glazing. The firm **PaX** constructed the **windows and doors**.

- The exterior window panes of the new box windows used single-pane glass for restoration.
- The interior panes used triple glazed glass with corresponding thermal insulation ( $U_g=0.5 \text{ W/m}^2\text{K}$ ) and the latest fittings technology.

For the glazing, SCHOTT's TIKANA® and RESTOVER® were used. This glass is **machine drawn** using the traditional **Fourcault process** which, in contrast to float methods, intentionally results in irregular glass surfaces (longitudinal undulations) and thickness. This

produces characteristics shared with the glass originating from the different epochs while also enabling a range of processing options to fulfill construction and financial constraints.

Choosing the right glass requires not only consideration of historical contexts but also how the building is going to be used in the future. The **lightly structured glass** products TIKANA® and RESTOVER® light were therefore chosen for the "Goldene Waage" project.

A total of 390 panes of SCHOTT glass for restoration, with a special s-form lead coating (Karniesblei), were used to cover a window area totaling 110 m<sup>2</sup>. This has given the facade a coherent look despite the use of modern insulated glazing on the interior panes. A special

color tone was applied to the wooden surfaces as well as to some of the fittings to give the windows a highly impressive and unique appearance.

### The Material

- TIKANA® has a lightly irregular surface and is 4 mm (5/32") thick to merge harmoniously into buildings of the classical modern period.
- RESTOVER® light is 2.75 mm (0,11") thick and suitable for installation into narrow glazing rebates.



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