Neues Museum, Berlin

Client: Stiftung Preussischer Kulturbesitz represented by the Bundesamt fur Bauwesen

Gross floor area: 20 500 sqm

Budget: EUR 230m (£210m)

Cost per sqm: £10 244

Consultants: David Chipperfield Architects; Julian Harrap Architects; Ernst & Young Real estate (project manager)

Newbuild and concrete contractor: Dressler Bau

Restoration contractors: Various

Programme: Six years in design, six in construction, opened in October 2009.

Description

The Neues Museum is one of five institutions on the “Museum Island” in the former East Berlin, and had lain derelict since it was bombed in WWII. The building dates from 1841-59, by architect Friedrich Stuler. In 1997, David Chipperfield Architects won a design competition to re-think the museum as an institution fit for the 21st century, and also to produce a masterplan for the rest of the Museum Island site. The Neues Museum is home to a collection of artefacts from Ancient Egypt and other early civilisations. The project was paid for out of state funds, channelled through the Federal Office for Building.

Design

The key aim was to complete the original volume of the building, repairing the sections that had been damaged and rebuilding sections that had been destroyed completely. The restoration followed the “Charter of Venice”, respecting the historical structure in its different states of preservation (ie not attempting to restore ‘as new’). All the gaps were filled in with materials that would not compete with the existing structure in terms of brightness and materials – the new reflects the lost.

The new build elements, including the northwest wing, the Egyptian court and the South Dome, are built from reclaimed brick. The galleries in the northwest wing are lined with large format pre-fabricated concrete elements, using a special mix of white cement mixed with Saxonian marble chips.

The museum’s majestic entrance hall had been left after the war as an empty shell. A new staircase was built from the same concrete elements, repeating the original but not replicating it.

Construction

The restoration work was carried out by a series of specialist restoration contractors, with contracts tendered and managed by the Federal Office for Building. A website
www.wiederaufbauneuesmuseumberlin.de/en was used to publish details of the various contracts. On site, the architect checked and signed off work with the Bundesamt staff.

The new build and pre-cast concrete elements of the scheme were built by Dressler Bau, the contractor that was also largely responsible for the restoration of the Frauenkirche in Dresden.

The cost was originally forecast above the level of the combined tenders; the architect says this was because the original cost plan was factored in more risks than actually arose. The building opened on time to a schedule set 10 years in advance.

The client chose to divide the museum into different sets of rooms, and appoint a team of restoration contractors for each sector. This meant that the work progressed in parallel in each section, rather than sequentially across the whole building, ie it avoided having completed floors throughout in the building, while the walls hadn’t been touched, or vice versa.

The original interiors were highly decorated and extremely varied, and often tailored to the artefacts they housed. For example, there are Quasi-Grecian, Egyptian and Pompeian rooms, while others featured the exposed cast iron of the Prussian industrial age. The restoration retained the fragments that were left without attempting to make the damage good. Where areas of fresco have been lost, the stucco has not been reinstated, but the exposed bricks have been colour washed to soften the contrast with the adjoining paintwork.

The restoration contractors had to get to grips with a number of unusual techniques. These included restoring a domed ceiling built of hollow terracotta pots, a technique the architect had seen used by Sir John Soane at the Bank of England. The project also called for delicate plasterwork, and repairing “marble cement” – a type of plaster that incorporated marble dust. A further complication was the building had a cast-iron frame, which had to be coated in carbon fibre for fire protection.

Pre-cast concrete was used, in polished and sand-blasted form, to fill the gaps where substantial parts of the original fabric had been lost. Concrete also creates new gallery space in two new internal courtyards, and pre-cast concrete panels line the new galleries in the northwest wing.

Alexander Schwarz, design director, Berlin office of David Chipperfield Architects:
“\textit{We pushed the \textit{concrete} techniques to an extreme – we used a concrete mix with marble chips, pouring sections up to 10m by 4m with 5 mm joints. We did a lot of research, and developed it together with Dressler. They were very interested and co-operative. The original museum was the best that Prussia could build at the time, so the idea is to reflect this is in the new-build section. We thought that today's concrete could compete with 19\textsuperscript{th} century techniques.}”

Sustainability

The Neues Museum had to meet rigorous German standards, although it doesn't meet any formal certification scheme (none was available at the time of the design). The design team's overall approach was to make the new elements highly energy efficient, to offset the inevitably poorer performance of the 19\textsuperscript{th} century fabric. The windows were extensively tested at a German university to maximise their thermal efficiency.

The new build volumes are made from 500 000 salvaged bricks. As the Berlin area has no stone, bricks were the historic vernacular, and available from many ruined barns in the area.

Final comments

Alexander Schwarz: “The culture of the whole project was not one of confrontation, there was a lot of cooperation from the monument people [ie the English Heritage equivalent body], the museum directors, the client – somehow there was a lot of consensus. Everyone created a constructive atmosphere. When we started, there were competing interests - some said the building was the most important, some said the collection was. But all this turned into a big understanding.”