StoraEnso

Partner of Stora Enso

MAX HOLZBAU

Holzhaus Linse
Berlin, Germany

In the heart of Berlin's bustling Gotenstraße, Holzhaus Linse stands tall as a seven-story multi-residential timber building. This vibrant area, teeming with a mix of commercial spaces, local businesses, cafes, and cultural hotspots, fosters a lively community atmosphere.

At the core of this €4.7 million, 14,500 m³ hybrid project was the application of prefabricated cross-laminated timber (CLT) specifically Sylva™ CLT Walls by Stora Enso. Their integration boasts beautifully exposed visual-grade surfaces with soundproofing from the outside traffic, creating a tranquil and welcoming home for marginalised communities on the inside.

Holzhaus Linse consists of both residential apartments and a cohousing apartment (Clusterwohnung). The cohousing unit is grouped around shared communal spaces designed to foster social interaction while providing sufficient private space for residents. This model balances privacy with community living, making efficient use of space and resources compared to traditional apartments.

Customizable Living Spaces Holzhaus Linse offered the initial residents the flexibility to personalise their living spaces in both the floor plans and window arrangements. Special requests were accommodated from a wide range of possibilities before construction began. (Source).

Reducing the need for concrete and columns with mass timber Only the basement, ground floor, the access core staircases and the fire walls were implemented in reinforced concrete. The construction of the upper floors consists of load-bearing mass timber façades and composite of wooden columns and steel girders. The roof spans up to six metres and is virtually column-free. (Source).

Background In 2016, BIM Berliner Immobilienmanagement GmbH tendered a concept for a highly energy-efficient timber residential building. Nearly 80 design teams applied, aiming to provide space for disadvantaged groups. Scharabi Architekten won with a pragmatic hybrid concept that was realized by our partners, the mass timber specialists, MAX Holzbau.

Design layout

Ground Floor: Houses a non-profit association for youth work, with childcare services and direct access to the communal garden. **1st Floor:** Features a cluster apartment with four units and a common room with a large outdoor seating area, for single women over 50. **Ground, 2nd, and 4th Floors:** Include rent-controlled apartments. **Common Areas:** Three designated spaces for various activities, including a wood workshop and shared garden. **Upper Floors:** Apartments with room heights of about 2.75 meters. **Basement:** Contains an underground bicycle parking garage with five spaces, including charging facilities for electric and cargo bikes.

All areas and apartments are accessible via a staircase and elevator. Residential units range from 55 to 155 square meters (m²). The two attic apartments, with 55 and 95 m² of living space, feature roof terraces of 35 and 65 m² on the courtyard and street sides. (Source).

Prefabricated timber

During the detailed planning phase, special emphasis was placed on maximizing the prefabrication of mass timber elements, including preassembled window systems.

Prefabrication of Sylva™ CLT Walls offers numerous benefits. The off-site manufacturing process ensures at least 30% faster construction, as elements are produced in a controlled factory environment and then quickly assembled, reducing on-site labour by up to 75% fewer workers on active deck and minimizing weather-related delays and works site accidents.

This method also generates less waste, as precise cutting and assembly in the factory lead to more efficient use of materials. Additionally, prefabrication results in less noise and disruption at the construction site, which is particularly advantageous in urban areas.

High-Load Bearing Walls Sylva CLT Walls were chosen for their exceptional ability to handle high vertical loads. The cross-laminated structure of CLT provides high dimensional stability, minimizing in-plane shrinkage and enabling the production of large, uniform wall elements that were easily fitted into place. Learn more about prefabricated mass timber elements from Stora Enso.

Exposed wood Most of the mass timber components on the ceilings and walls were intentionally left exposed with their untreated natural surface to create a very warm and inviting space to feel like home. Stora Enso offers CLT in three visual surface grades, and for this project, 'Visual Quality' surface grade was used in many of the interiors. It is the best possible surface quality for when the CLT will be exposed and featured as part of the interior design of the building. For areas that were not visible, a non-visual surface grade was applied.

Learn more about Stora Enso's Surface Qualities

The prefabricated floor slabs are hollow-core wooden elements, (not supplied by Stora Enso) were initially specified for the earlier Walden 48 project in Berlin-Friedrichshain, but were deemed too costly. The architect reflecting on the project said in hindsight that was a mistake because the concrete ceilings ultimately incurred similar costs due to additional construction expenses. (Source).

Carbon footprint The Sylva Walls only generated 8 tonnes of greenhouse gases (CO_2e) to manufacture. Compared to the 120 tonnes of carbon dioxide that the trees removed while growing and will store in Holzhaus Linse for decades, this amount is a small fraction.

Choosing Sylva CLT elements instead of non-renewables avoided 180 tonnes of greenhouse gases. Source: Stora Enso Carbon Calculator based on third-party verified EPDs.

Substitution effect The elevator shaft is also constructed from self-supporting, 5-layer Sylva™ CLT Wall elements, integrated within the stairwell. According to Farid Scharabi by using CLT in the elevator shaft the building avoided ~165 tonnes of CO_2 than if it had been entirely made with concrete. (BauNetz).

Energy efficient The building was developed by the KfW standard 40+. The KfW Standard 40+ is an energy efficiency standard for buildings in Germany, established by the KfW (Kreditanstalt für Wiederaufbau) Development Bank. This standard indicates that a building consumes only 40% of the primary energy compared to a reference building defined by the German Building Energy Act (GEG). Buildings meeting the KfW 40+ standard are eligible for financial incentives and subsidies from the KfW bank, promoting the construction of highly energy-efficient and sustainable buildings.

Wood Origins The Sylva™ elements were made with wood sourced from PEFC-certified forests, ensuring that the timber used comes from sustainably managed forests. PEFC is one of the most trusted and widely recognised certifications for sustainable forest management.

About the architects Scharabi Architekten have a reputation for high-carbon storing architecture. Talking about the project to trade magazine BBA Daniela Galárraga of Scharabi Architekten said "our decision to build with wood more than 15 years ago was a conscious one and, in addition to the architectural added value that wood offers, it also takes into account our social responsibility as builders. To build sustainably, you need buildings that are durable, aesthetically high-quality and reusable. All of this can be achieved with the renewable building material wood." (Source).

Awards

The project was honored with an official recognition in the 2025 Berlin-Brandenburg Holzbaupreis for its architectural, technical, and sustainable use of timber. This prestigious local award celebrates outstanding buildings that highlight timber as a key, sustainable construction material in Berlin and the Brandenburg region. Read more under the 'Projekttafeln Anerkennungen' section.

Official Recognition in Holzbaupreis Berlin-Brandenburg 2025

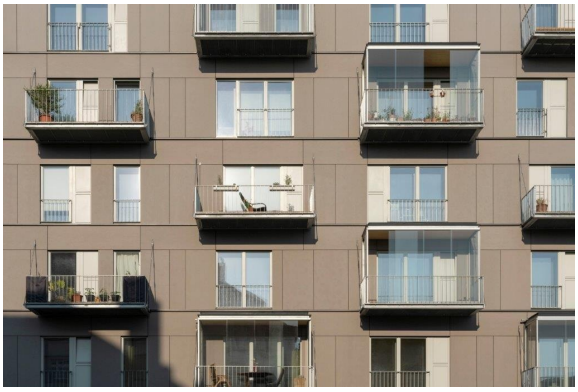

Photo credit: MAX Holzbau

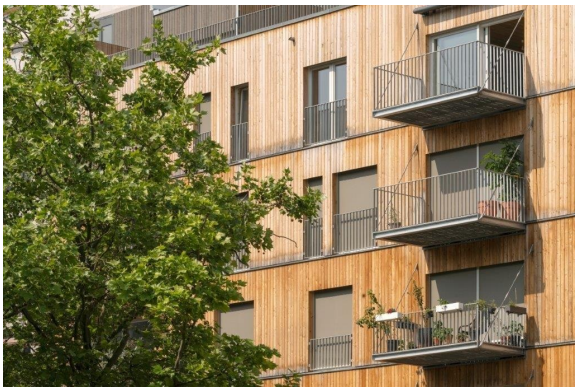

Photo credit: MAX Holzbau

General

Delivery year

2021

Building type

Multi Residential

Area (m²)

2,750

Storeys

7

Units

20

Products

Products and Services

Sylva™ CLT Walls

Product quality

VI, NVI

Product volume (m³)

155

Product delivery duration (weeks)

26

Number of deliveries

4

StoraEnso

Team

Partner of Stora Enso

MAX Holzbau

Architect

Scharabi Architekten

Structural Engineer

Ifb frohloff staffa kühl ecker