StoraEnso

Partner of Stora Enso

HolzKogler

# Kita Naila

# Naila, Germany

In a charming town in the Franconian Forest on the Selbitz River in Germany, a new daycare center is being constructed with some of the very latest in sustainable construction methods and materials. The structural frame of this Bavarian daycare was erected in just one week with the latest in low-carbon construction materials and methods.

In the Spring of 2025 this new single-storey, accessible facility will provide educational learning experiences for 74 childcare places (24 crèche places divided into two groups of 12 toddlers each and 50 kindergarten places).

Our partners, Holz Kogler GmbH & Co. KG, from Oberhaching near Munich, Germany, are the mass timber specialists behind this project, making optimal use of Sylva™ CLT Walls.

**Design**

The design brief for the new build called for a safe and inviting space that is healthy, durable, and climate-aligned but also rapid to build and affordable as, like many communities today, they are in need of immediate childcare spaces on a fixed budget.

Prefabricated, cross-laminated timber (CLT) Sylva™ Walls by Stora Enso are proving to exceed all of the design requirements. Sylva is a regenerative and renewable building material that can future-proof childcare places for generations to come. It's no wonder over fifty educational buildings in the DACH region are also being built with Sylva in 2024 alone and more are planned for next year.

**Safe and healthy**

Educational facilities built with Sylva provide a healthy start to learning. Wood's warm, natural aesthetics create a calming environment, fostering better mental health and overall wellbeing for children. This connection has been shown to reduce stress, enhance mood, and improve cognitive function in educational environments. (Source).

Exposed CLT also offers significant benefits for children's lungs. It is a non-toxic material that improves indoor air quality by reducing harmful emissions compared with many other commonly used building materials. (More on this DE version coming soon).

At this centre, much of the Sylva CLT Walls are of a visual surface quality grade and will be left naturally exposed, creating an immediate biophilic connection to nature.

Green open spaces with a variety of outdoor playground equipment and a separate area for younger children will complete the design with a garden area adjoining the building to the southeast.

**Durable**

Sylva CLT Walls, when installed correctly, can have a service life of 100 years or more. The Sylva Walls were precoated in Stora Enso's state-of-the-art, fully automated coating line in Ybbs, Austria, with UV Hydrophobic Coating and UV Protection.

The coatings provide an additional layer of protection against moisture and UV radiation and prevent risks or delays in the construction phase. The coatings also help to maintain the structural integrity and appearance of the CLT over time, reducing maintenance costs and extending the lifespan of the building - important considerations for long-term operational budgeting of the centre.

Here, they have opted for LINGNOPRO® CLT-Varnish UV 100 White, which is soft and light and adds a beautiful aesthetic appeal by giving the timber a clean, modern look. It has the added benefit of being in a school setting because the coating is resistant to scratches and abrasions, helping the surfaces remain smooth and attractive even in high-traffic areas.

**Rapid construction**

One of the greatest overall advantages of Sylva is the speed with which mass timber buildings can be erected. Prefabrication when coupled with the protective precoating service allow the structural system of the building to be delivered to the site and installed very quickly by a small crew of workers.

Not only does this speed up the construction phase and associated onsite labour hours, it also allows the structural components of the building to be constructed concurrently with the foundations and footings which was demonstrated in the structural frame of this project being completed in just one week.

Using Sylva also reduced any possible lag time that can occur with conventional concrete building projects where ground improvements must be made before the structural frame can be built given concrete is typically cured for at least 28 days before its final strength is reached and construction of the next floor can begin. (Wilson, M.; Kosmatka, S.H.).

The operator of the facility, the Bayerisches Rotes Kreuz (BRK) district chairwoman, Angela Bier, praised the rapid implementation at the topping-out ceremony that took only one week for the structural frame to be erected.

**The carbon footprint of the Sylva™ CLT Walls used in this project**

**Manufacturing** 9 tonnes $CO_2e$

**Transporting** 2 tonnes $CO_2e$

**Carbon dioxide removed from the air and stored in Kita Naila** 130 tonnes $CO_2$

**Emissions avoided by using wood instead of non-renewable construction materials** 195 tonnes $CO_2e$

When completed, the daycare will also have green roof areas and a photovoltaic system to supply the underfloor heating. Combined with the airtightness of the Sylva Walls this will help lower operational costs for the centre.

**PEFC certified**

By specifying PEFC-certified, the building's overall carbon footprint is expected to be relatively small, as Stora Enso's wood products have an impressively low carbon footprints which are third party verified in their environmental product declarations (EPDs).

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## General

**Delivery year**

Under Construction

**Building type**

Education

**Area (m²)**

880

**Storeys**

2

**Units**

74

Photo credit: ©beyer architekten

## Products

**Products and Services**

Sylva™ CLT Floors and Roofs, Sylva™ CLT Walls, UV Hydrophobic Coating

**Product quality**

PEFC-certified

**Product volume (m³)**

171

## Team

**Partner of Stora Enso**

Holz Kogler

**Architect**

beyer architekten

**Main contractor**

Holz Kogler GmbH & Co. KG

**Specialist Timber Subcontractor**

Holzbau Pfeiffer GmbH

**Timber Engineer**

Holzbau Pfeiffer GmbH

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## Others

| Total construction development cost (€) | Timber superstructure erection duration (weeks) |
| --- | --- |
| 3,700,000 | 1 |