



StoraEnso

St. Joseph's School (Zorgcampus Sint-Jozef)

Ekeren, Belgium

Partner of Stora Enso



Whether you're a developer, city planner, architect or simply a parent of a school-aged child, you will be interested to learn how modern wood products are changing how we build schools for the better.

Up until now, education facilities often had to prioritise construction costs and speed to build while student classes are not in session. Now with *Sylva™* by Stora Enso they don't have to. It's never been easier to incorporate exposed wooden frame structures into the heart of the school to create ideal learning environments and biophilic effects on child development that are both good for the environment and long-lasting. Read here for how mass timber construction is gaining top marks in enabling school projects.

St. Joseph's School is an existing school that needed to be relocated because of the infrastructure works around the ring of Antwerp, Belgium. The relocation needed to be executed very fast to not slow down these infrastructure works. The plot was found very quickly in a residential neighbourhood in Ekeren. The new campus will house more than 400 students on a surface of about 20,000 m² and has all modern facilities to provide for an excellent education and environment for the students.

Why was St. Joseph's school built in wood?

After the plot was decided upon, a competition was held to find the right architect and design for the school. Bovenbouw Architects won the competition and immediately understood that this was a unique opportunity and that the timing was very short. That's why they were looking to find a building concept that was very quick and reduced the time on site. Aside from the construction speed, sustainability was also a very important consideration. Prefabrication was a must, and since cross-laminated timber (CLT) is one of the most sustainable materials that can be prefabricated, the choice was easy to make. St. Joseph's is built with offsite-manufactured building elements tell us more about working that way. The conceptual design has been considered to work with as many prefabricated elements as possible.

The general concept has been repeated throughout the building: glued laminated timber (GLT/glulam) columns and beams with CLT floors and walls. The connection details were kept as simple as possible, and for aesthetic reasons, the architects didn't want to see any steel connection details or screws. Essentially, we created a kit for all typologies of rooms and spaces in the building. As demand grows for healthier more sustainable buildings, many are turning to premanufactured mass timber solutions like *Sylva™* by Stora Enso. *Sylva* is a renewable building material with one of the lowest embodied emissions of all construction materials. It creates next to no pollution in to prefabricate and contributes to the overall wellbeing of students and teachers with ultra-green design possibilities.

How is it to work in this way? Are there any specific challenges?

Preparation is key. Since we are used to working with CLT, we already knew that the building must be completely modelled in 3D as it will be delivered and executed on-site exactly the way it is modelled. The BIM toolbox trajectory before the actual construction period is the biggest challenge. The MEP design needs to be integrated flawlessly with the structural model since there needed to be many cut-outs through the beams.

When you start a project like this, who decides that wood is the preferred material?



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The decision to use wood was made mainly for reasons of speed and sustainability. Another reason was the biophilic effect wood has on the students. The school board was quickly convinced. Compared to traditional construction materials wood is still a niche product, but in the current climate where sustainability is very important wood as a building product is gaining traction and market share.

After wood is chosen as the material, what is the process for ordering custom elements cut to size?

Our company, CLT-S likes to be there from the beginning because then we can influence the design process to optimise the structure. This was a public tender, so we got involved a bit later. Once CLT-S is on board, we immediately start working together with the contractor (Van Roey) to coordinate the design of the execution plans in BIM. The moment the production model is finished we send it to Stora Enso and a couple of weeks later the first truck arrives on site. This project has only had 100 trailers. They were all delivered and assembled in a period of just six months for the entire structure. The production and assembly process has been tremendously quick. About 20 000 m² in this short amount of time captures more than 4 500 tonnes of CO₂. The trees used for this project are grown back in less than one hour in the Austrian forests.

Building in wood is a trend that is here to stay, isn't it?

Our entire business model is based on that belief, yes. So, what do the students and teachers say about their new school? Everybody is very excited to move in beginning next year. The new school will uplift the neighbourhood and create a second home for all the kids. The school is designed with materials that are close to nature which results in a healthy environment where the future generation can blossom.

Thanks for taking the time to talk to us about building schools with wood. Before we leave, please can you tell us a bit about yourself and CLT-S

My name is Karel Verzelen and I'm the CEO of CLT-S. CLT-S is a partner of Stora Enso for the market of The Netherlands and Belgium. At CLT-S we take care of the engineering, production design, logistics and assembly of CLT and other wood products. We were one of the first partners of Stora Enso and are proud of our experience and expertise as a subcontractor for all wooden structures. Special thanks to Karel Verzelen, the CEO of CLT-S for this interview

[Read more about the project here](#)

General

Delivery year

Under Construction

Building type

Education

Area (m²)

20,000



Photo credit: CLT-S



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Products

Products and Services

Sylva™ CLT Floors and Roofs,
Sylva™ CLT Walls

Product volume (m³)

4,500

Product delivery duration (weeks)

20

Number of deliveries

100



Photo credit: CLT-S

Team

Partner of Stora Enso

CLT-S NV

Developer

Fondatie Terninck
CKSA

Architect

Bovenbouw

Main contractor

Van Roey



Photo credit: CLT-S

Others

Total construction development cost (€)

30,000,000

Construction duration (months)

6



Photo credit: CLT-S



Photo credit: CLT-S