



StoraEnso

# Hopealaakso Daycare Helsinki, Finland

Welcome to the award winning Forest School: Hopealaakso Daycare Centre/ Päiväkoti Hopealaakso – Daghemmet Silverdalen

This wooden forest daycare school was the first public building in a new residential area, Kruunuvuorenranta on the outskirts of Helsinki. The architecture consists of massive wooden structure as a frame for early childhood growth and creates a sustainable, healthy and inspiring environment with flexible spaces for varying purposes in the future. The two-storey building accommodates 210 children, and has seven main functional areas. An elevator and an internal staircase enable access to the functional areas on the first floor. Local residents can use the common areas of the building outside the daycare hours.

Designed as a flexible open space, the uncomplicated shapes of the functional areas support the activities of small groups of different sizes. There are no corridors, and the spaces can be connected to each other because all partitioning walls are mobile.

The common areas are split between the two floors. A hall for evening events is on the ground floor and has a private entrance. A multipurpose space and workshop are centrally located on the first floor. Both floors have cafeterias. The staff offices and workspaces are centrally located on the first floor.

Next to the day-care center there is also a public activity park and the building accommodates also the necessary service facilities for it. Inspired by the silver mining history of the area, silver-toned vegetation and materials create a captivating 'silver landscape' for children.

Straight street façade of pre-patinated zinc cladding serves as a raincoat and noise-barrier enclosing large playground and the joyful play of cantilevering wooden volumes that are expected to naturally age and weather grey in the future. Different forms and volumes are covered with a uniform green roof. The three most important goals of daycare spatial planning – the healthiness, safety and functionality of the spaces – provided the strategic guidelines in the design approach.

The spatial planning responds to the need for adaptability of the premises, designed to be flexible and open. The mapping of spaces offers flexibility, future adaptability and encourages opportunities for overlap of activities for children of different ages.

The building is compact and the accessibility between the meandering series of spaces is easy, as there are no corridors, and the spaces can also connect to each other by the mobility of partition walls. The rooms have plenty of windows and glass walls, creating interesting open views outside and between the spaces and enabling the passage of light. The overhead light shafts pierce the building in various points offering views between the floors and provide maximum daylight for the interiors, creating a luminous environment for growing. These voids also become natural nodes for artworks by artists appointed by the Helsinki City.

The planning of access routes avails for the common spaces to be utilized for activities outside daycare hours. The building aims for material efficiency, conversion flexibility and spatial efficiency and it can be kept in condition by repairing surfaces and renewing building components and systems for as long as possible with reasonable costs. For building materials, durability, repairability and easy maintenance were crucial criteria along with structural simplicity.

The quality of construction materials is high and the life cycle costs are affordable. Large quantities of solid wood act as a carbon sink, even out temperature and humidity in the indoor air and provide a soothing acoustic background. The building has a pile foundation and a ventilated concrete subfloor. [Cross-laminated timber](#) (CLT) elements by Stora Enso have been used for walls and left mostly visible for improved health and wellbeing effects. The intermediate floor is a CLT/concrete composite structure without beams, leaving more space for building services.

The roof structure is a load bearing CLT slab with wooden trusses. All interior ceiling surfaces are made with sound-absorbing materials and the floors have an absorbing coating leaving wood surfaces visible. Rainwater is collected on the site, reducing pollutant loads, and the green roof slows down the water load.

## Technical solutions

The building has a pile foundation and a ventilated concrete subfloor. CLT elements have been used for the load-bearing exterior and stairwell walls, with these structures being mostly left visible. The intermediate floor is a CLT/concrete composite structure (140 mm + 140 mm) mounted on steel beams, for perhaps the first time in Finland. The long spans enabled by this composite structure meant that ceiling beams could be left out, leaving more space for the building services.

The roof structure is a load-bearing CLT slab with a wooden truss. The building has a P2 fire class. The fire compartments are based on each room's intended use. The daycare centre's functional facilities on the ground and 1st floors belong to the same fire compartment, creating the building's largest fire component at approximately 1890 m<sup>2</sup>.



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16 Sep 2024

The stairwells, attic, social space, sprinkler centre and storage facilities are all in their own fire compartments. The heat distribution room and the main electrical centre share a fire compartment. The attic (1516 m<sup>2</sup>) and the roof structure cavities are divided into 400 m<sup>2</sup> compartments. The foundation floor cavities are divided into 400 m<sup>2</sup> compartments if the space's surfaces do not meet the requirements of category D-s2, d2 (small exceptions are allowed). Fire safety requirements for 1 and 2 storey buildings have been relaxed in Finland since the project was designed.

The building's two separate exits face in opposite directions. There are a number of other doors on the ground floor that lead directly out of the building. The time to exit the build was calculated at the site to ensure the design complied with safety requirements. As called for by the Finnish RTS classification, a conditions simulation was also conducted at the site, leading to cooling being added to the air conditioning.

The daycare centre is open all year round. All ceiling surfaces have dampening materials, and the HVAC and other equipment is hidden behind acoustic panels. The ceiling in the lounge also has insulation. The floors have a coating that absorbs impact sounds, and the wall cladding will use sound absorbent material. Thanks to the excellent acoustics, it was possible to leave the wood surface visible and keep the echoes and other sounds in the light shafts under control. In CLT walls, one side is exposed and the other side is clad with insulation and gypsum board.

Text adapted from: [EUMiesAward](#) and [AFKS Arkkitehdit Oy Puuinfo](#)

### Awards

EU Mies Van Der Rohe Award 2024 Nominee

Wood of the Year Award Finland



EUMies Award – 2024 Nominee



Wood Building of the Year – 2021



Photo credit: Mats Vuorenjuuri



### General

#### Delivery year

2021

#### Building type

Education

#### Area (m<sup>2</sup>)

2358

#### Storeys

2



Photo credit: Mats Vuorenjuuri

The renewable materials company



Products

Products

Sylva™ CLT Floors and Roofs, Sylva™ CLT Walls

Product quality

PEFC certified Services: CLT360+ model conversion / Technical Support

Product volume (m³)

965

Number of deliveries

21



Team

Developer

City of Helsinki

Architect

Jari Frondelius, AFKS Architects

Structural Engineer

Konsultointi T. Kekki

Main contractor

Rakennuspartio Oy  
Puurakentajat Group

Specialist Timber Subcontractor

Building technology: Granlund Oy