MORE FROM WOOD.

EGGER

# Egger Stammhaus

## We always knew more was possible. Now we have the proof.

# Content



The atrium of the EGGER Stammhaus in St. Johann in Tirol

# EGGER Stammhaus

***Start of construction:*** *7 March 2014* ***Start installation wood construction:*** *19 May 2014* ***Completion:*** *13 March 2015* ***Total floor space:*** *8,924 m²* ***Gross floor area:*** *10,440 m²* ***Cubic area:*** *45,502 m³*

Fritz Egger Senior built the first raw chipboard plant at the headquarters in St. Johann in 1961, thus launching today's EGGER Holzwerkstoffe family business. EGGER currently operates 17 plants in 5 European countries, Russia and Turkey, and, with a total of 7,400 employees, is one of the leading manufacturers of wood-based materials. The company headquarters remain in St. Johann in Tirol.

The ground-breaking ceremony for the construction of a new administrative building – the EGGER Stammhaus – took place in early 2014. Naturally, wood played a key role in the construction. It was particularly important to make sure all wood-based materials came from own production.

The new Stammhaus is a four-storey wooden construction, offering room for a total of more than 250 work and 48 training stations. A 220 seater employee restaurant with fresh food is also part of the building.

→ The new EGGER Stammhaus locks in approximately **3000 t $CO_2$ –** as much as is needed for three flights to New York.

## Building height without basement

**15 m**

including the mechanical equipment room on the roof

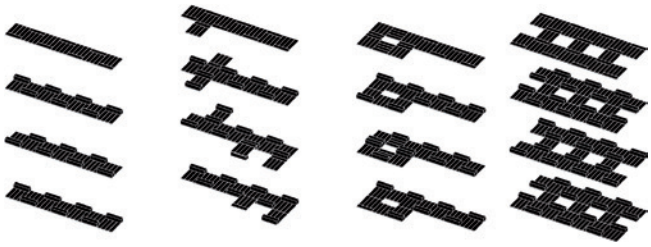
## Dimensions of building components on floor plan

each **15 m × 58 m**

## **Where** do we come from?

Everything started in 2008 with an architecture competition launched by EGGER. The call for submissions focused on developing a modular and sustainable building which allows centralised execution and complies with the requirements of the various locations. The architect Bruno Moser from Breitenbach won with his idea for an innovative, modular system. The OSB 4 TOP board with the maximum format 11.40 × 2.80 m is central to it. The EGGER Stammhaus is already the fourth building constructed with this method.

1. Administrative building in Rădăuți, Romania
2. TechCenter in Unterradlberg, Austria
3. Administrative building in Brilon, Germany
4. Headquarters in St. Johann in Tirol, Austria



Modular design possibilities

The construction phase - the building complex was erected in a year

Bruno Moser's idea of a modular system was refined with every new building project. The administrative building in Rădăuți (RO) still used 11.40 m steel frames for reinforcement. This type of structure was selected due to increased earthquake exposure.

The subsequent project, the TechCenter in Unterradlberg (AT), replaced the steel frames with solid wood disks. The ceiling components were structured so that the load of the ceiling is distributed across four points. The building structure of the TechCenter was also used for the administrative building in Brilon (DE). The only change concerns the heating and cooling. A heating and cooling ceiling was placed in the entrance area, while the rest of the building received floor convectors. They react faster to differences in room temperature.

All technical achievements from Brilon were implemented in the Stammhaus in St. Johann in Tirol (AT). But there are three distinct changes: the atrium, the circular balconies, and the wooden façade. The Stammhaus received a wooden façade with balcony instead of a copper façade, as was the case for earlier constructions. A chessboard pattern is achieved through the configuration of larch lamellas in the façade. They also act as privacy screens. They are set closer for modules containing a coffee kitchen or toilets, and wider for modules with offices. The circular balcony protects first of all against fire spreading. It also makes it easier to clean the glass and protects the wooden façade from the effects of weather. The balconies also prolong and open the room towards the outside.

## **Changes** to earlier buildings

# Wood construction – Modular construction method

*Except for the underground car park made of concrete, the entire four-storey building with timber frame structure consists mainly of OSB 4 Top boards, timber and glass.*

The four-storey timber frame construction, together with an innovative fire protection concept is unique in Tirol and represents a special structural challenge.

Holzbau Saurer manufactured individual wood construction components and delivered them to St. Johann in Tirol. Components measuring 11.40 × 2.80 m include OSB 4 TOP boards from the EGGER plant in Wismar. Therefore, both buildings reach a total length of approximately 58 m and a width of approximately 15 m.

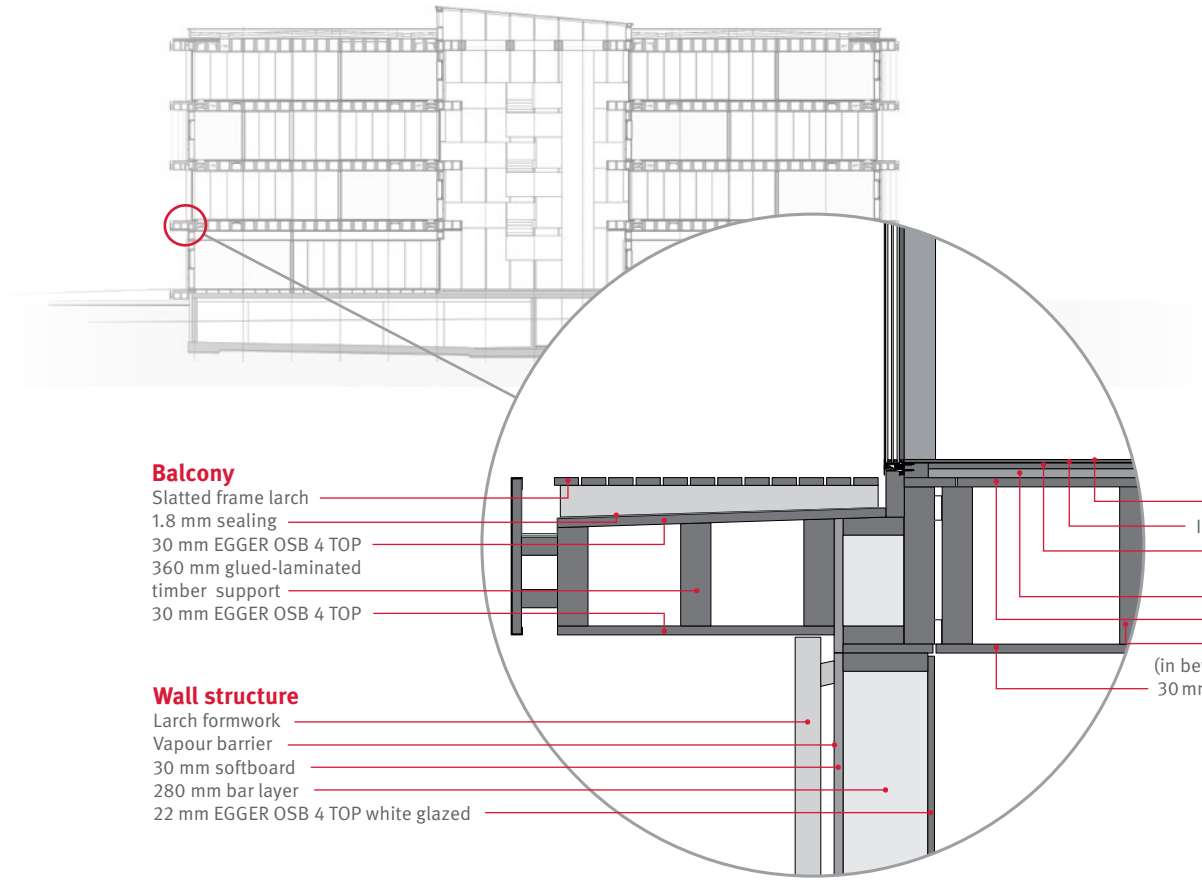
The building is constructed by module according to a certain raster, where the size of the large-format OSB 4 TOP board dictates the basic raster. The floor plan shows one module consists of five components. Five modules aligned with each other create a building component. The width of the atrium is of four such components. The changing configuration of modules creates the chessboard pattern characteristic for the EGGER company architecture. It is clearly visible from the outside through the larch lamellas.

One component is closed in each module, and four are open. Every level represents an independent unit, with ventilation, heating circuit, measuring, control and regulation technology, as well as electricity distribution. All ventilation, heating, exhaust air and cooling lines are led through the hollow box component. The lines in the ceiling component are laid into special grooves. One remarkable aspect is that loads are only carried via the corners of the components. In addition, all ceiling components are stretched longitudinally.

The underground garage with 36 parking spaces is a solid construction with reinforced concrete, where clamped pillars made of reinforced concrete reaching from the ground floor to the basement ensure secure static. Starting from the basement ceiling, the building is a pure wooden construction. Interior walls were erected with the dry construction method.

**Products used**

| | |
|---|---|
| 1,150 m³ | EGGER OSB 4 TOP |
| 185 m³ | softboards |
| 30 m³ | MDF |
| 95 m³ | Larch |
| 1,480 m³ | Glulam |
| 175 m³ | Solid wood (battens, duo, solid structural timber) |


Balcony
Slatted frame larch
1.8 mm sealing
30 mm EGGER OSB 4 TOP
360 mm glued-laminated
timber support
30 mm EGGER OSB 4 TOP
Wall structure
Larch formwork
Vapour barrier
30 mm softboard
280 mm bar layer
22 mm EGGER OSB 4 TOP white glazed
Ceiling structure
EGGER laminate flooring
Impact sound insulating underlay
18 mm EGGER OSB 4 TOP
with tongue and groove profile
30 mm softboard
30 mm EGGER OSB 4 TOP
520 mm ceiling ribs
(in between approx. 60 mm chippings)
30 mm EGGER OSB 4 TOP white glazed

## **Components Wall** and **ceiling**

Due to their process technology and product features, OSB 4 TOP boards with building permit fulfil key wood construction requirements. The defined high raw density of more than 600 kg/m³ leads to very good airtightness of the board, which means that solid and reliable constructions are possible without the additional use of vapour barriers. In addition, the visibly polished and surface-processed board provides interiors with a harmonious appearance. The boards are glazed white to prevent darkening.

The exterior wall components consist of 28 cm thick insulated solid structural timber posts, planked with OSB 4 TOP 22 mm inside and a soft underlay board of 30 mm.

The ceilings are hollow box components made of glue-laminated timber, which are statically secure and can handle high loads. The load is transferred to the component's corners. The maximum format of the board allows for a span width of 11.40 m, the double span width of when using solid wood boards.

The static load bearing OSB 4 TOP board was also used for the ceiling components. The grit on the board, which is filled into the component via holes on site, ensures noise protection. The cables for building technology were installed in the layer above.

# The **atrium**

The special thing about the Stammhaus is the atrium, which links both sections of the building. The roof construction is made of glue-laminated timber and lamellas of OSB boards. The structure was intentionally built so as to create a separate space. The design with the concrete floor and the greenery is intended to remind one of a piazza or a public space, where employees and customers meet and exchange thoughts.

The reception area is also located in the atrium, and the employee restaurant, seminar, and training rooms can be reached from it. The staircase and the elevator shaft made of OSB 4 TOP boards are the core of the atrium. The staircase is right by the elevator, which reaches all the way to the basement. Seven glued OSB 4 TOP boards carry the load of the staircase and the elevator. Separately approved connection devices are used for fastening.

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# Fire protection

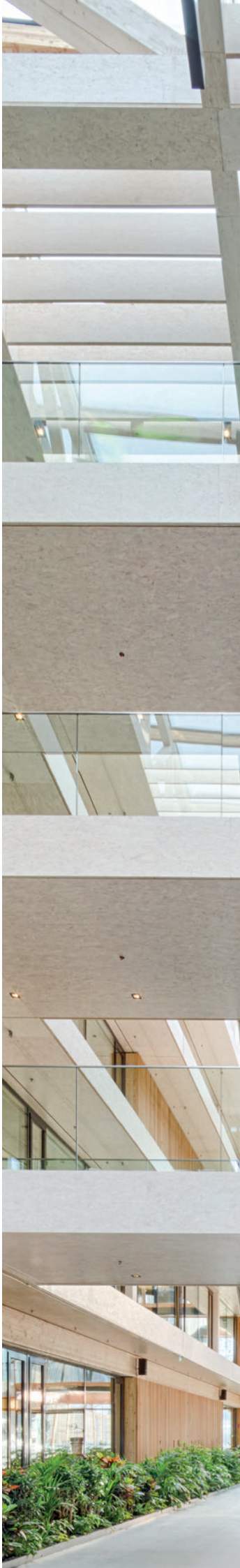
*A well-thought fire protection concept turns the Stammhaus into a safe place. From the underground parking lot all the way to the roof.*

The Stammhaus was built with the fire protection concept of Dehne und Kruse. To this end, the building was divided into several, separate fire sections – the basement, the ground floor with the atrium, and the remaining three floors. The concept consists of 2 exterior staircases made of incombustible steel, as well as the staircase in the atrium as escape route. Furthermore, the entire administrative building was equipped with a fire alarm system and façade sprinklers in the atrium. The fire protection doors towards the outside are steel and/or aluminium structures with safety fire protection glass.

The office glass, as well as a maximum height of furniture provides a good overview. Thus, employees are able to see a fire already in its initial phase, or recognise it by its smell or fire sounds.

**The following escape routes are available in the case of fire**

- the middle bridge, which leads to another fire compartment, and onto escaping to the staircase
- the two external stair towers
- eight direct exits on the ground floor
- an emergency exit in the kitchen



## **Fire alarm** and **sprinkler system**

The circular balcony with a width of 1.40 m prevents fire from spreading from the ground floor to the upper floor. Given the low fire load equipment of the atrium, a fire spreading to both administrative sections is almost impossible, especially in connection with the bilaterally compacted sprinkling system. In addition, the central, open staircase system including the connection bridges is part of the sprinkler protection. The building is equipped with a full-surface fire alarm system in line with the Austrian standard EN 54 with automatic and non-automatic alarms. This means that fire detection and communication with the fire department is already ensured in the early stages of the fire.

## **Ceiling** above the **ground floor**

The suspended ceiling between the ground floor and the first upper level has a fire resistance of 90 minutes (REI90). The ceiling is built so that fire penetration is isolated in a ceiling cavity for 90 minutes. There are no ignition sources in the cavities. Regarding fire resistance, the full ceiling corresponds to a reinforced concrete ceiling.

# Details

*Many details were taken into account when designing the interior – fresh air, lighting, furniture and co.*

## Air conditioning

The building fulfils the low-energy-house standard and is supplied with district heating and groundwater cooling. The heating energy is gained in this case from the waste heat generated by the St. Johann plant. The energy is then led into the office via floor convectors (via 4 control systems). This means that one office can be heated and the other cooled. The offices are ventilated mechanically, and the exchange of air is of 35 m³ per person per hour. The waste air is always led outside, while there is also the option of natural ventilation by tilting the windows. Constant four-fold exchange of air is in place throughout the day for the locker rooms and shower areas in the basement.

## Lighting

The natural lighting of the workstations is ensured via sufficient window areas and transparent glass ceilings. The floor to ceiling windows and doors made of wood and aluminium are triple-glazed, just like the façade elements. Every workstation has its own integrated LED lighting, which can be controlled by the employee directly.

## Interior design

EGGER materials are also used inside, such as melamine-faced boards, laminates, compact laminates, Eurolight lightweight boards, edges and laminate flooring. Acoustic boards made of EGGER products were installed to ensure ideal room acoustics in office and training rooms. The layout provides such good overview that it is possible to have unrestricted views from central areas into individual offices and vice-versa. Thus, furniture and space separators are not higher than approx. 1.50 m. Higher built-in elements (e.g., filing cabinets) are placed by exterior walls. Door panels of interior doors are part of the inside wall cladding and thus also clad with OSB 4 TOP boards. There are communication areas in each department: conference rooms, video conference rooms, and a tea kitchen with seating as retreat area.

LED lighting **100%**

The entire building, starting with the ground floor, has dry screed and EGGER laminate flooring. The only exception is the ground floor (kitchen area) with concrete screed with epoxy resin coating, and the atrium flooring with concrete pitching. Auxiliary rooms in the basement have a laminated concrete screed.

# Our products in use

*The Stammhaus "deserves" its name! It is the flagship of the EGGER Group headquartered in St. Johann in Tirol – but also the materials used mainly come from own production.*

## Construction products

**Exposed ceilings, walls, balconies** OSB 4 TOP 30 mm, 22 mm and 18 mm



**Floor structure** OSB 4 TOP with tongue and groove profile 18 mm

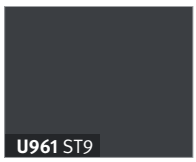
# Furniture and interior design





**Reception** Counter, wall and ceiling cladding W1000 ST9 Premium White, H3344 ST36 Highline Oak EGGER logo H1334 ST9 Light Ferrara Oak






**Foyer** Wall cladding U732 ST9 Dust Grey Half-shell MDF clad, edges natural/inserted U321 China Red Counter EGGER digital print décor Heartwood Ash as laminate, U961 ST9 Graphite (interior sides, insides of drawers) Wall cladding, doors and wardrobe U702 ST9, H3078 ST22 Hacienda white History Compact laminate 8 mm U732 ST9 Dust Grey with dark core EGGER POS W1000 ST9 Premium White, U961 ST9 Graphite, H3344 ST36 Highline Oak

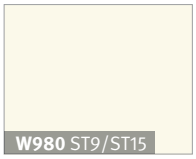



# Furniture and interior design

**Furniture** Acoustic walls GF H3078 ST22 Hacienda White, H3081 ST22 Hacienda Black Tables Compact laminate 13 mm U702 ST9 with dark core, OSB Combiline U961 ST9 Graphite Sideboards U702 ST9 Cashmere Lecterns U732 ST15 Dust Grey, W1000 ST9 Premium White Wardrobes with drill holes (3rd floor): Compact laminate 13 mm with drill holes of approx. Ø 25 mm, U963 ST15 Diamond Grey White shelf (3rd floor) Compact laminate W1000 ST9 Premium White with white core Furniture and desks W980 ST9 and ST15 Platinum white, ProAkustik partition walls W980 ST9 Platinum white








# Laminate floors

**GF** including employee restaurant H1003 Valley Oak mocca, ST65, Large, WV4, aqua+, 8 mm, CL32 **1st floor** H1055 Bardolino Oak, ST56, Classic, WV4, aqua+, 8+2 mm Silenzio, CL32, synchronised pore **2nd floor** H1026 Vintage Knoxville Oak grey, ST43, Large, WV4, aqua+, 8 mm, CL32 **3rd floor** H1001 Valley Oak, ST65, Large, WV4, aqua+, 8 mm, CL32, synchronised pore

# *Executing companies*

*Such a large building project can only be executed so smoothly if everyone pulls together. Planning and implementation go hand in hand. The Stammhaus is the best example of good cooperation.*

| | |
|---|---|
| **Customer / builder** | **FRITZ EGGER GmbH & Co OG**<br>St. Johann in Tirol (AT)<br>www.egger.com |
| **Architect** | **architekturWERKSTATT Bruno Moser**<br>Breitenbach (AT)<br>www.archimos.at |
| **Interior designers** | **SCHWEBIUS GESTALTUNG Michael Schwebius**<br>Prien am Chiemsee (DE)<br>www.schwebius.de |
| | **Johanna Egger Innenarchitektur**<br>Munich (DE)<br>www.johanna-egger.de |
| **Fabricator**<br>Wood construction | **Holzbau Saurer**<br>Höfen (AT)<br>www.holzbau-saurer.com |
| Atrium and management offices | **Barth Innenausbau**<br>Brixen (IT)<br>www.barth.it |
| Restaurant and meeting areas | **Tischlerei und Möbelhandel Sepp Hofer**<br>Oberndorf (AT)<br>www.sepp-hofer.com |
| Furniture and offices | **Schreinerei Daxenberger**<br>Seeon (DE)<br>www.schreinerei-daxenberger.de |
| **Lighting design** | **conceptlicht.at**<br>Mils (AT)<br>www.conceptlicht.at |

# Technical hotline

T +49 3841 301-21260 · F +49 3841 301-61260
buildingproducts@egger.com

**www.egger.com/buildingproducts**

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