

## DORNBIRN EXHIBITION GROUNDS

“A Place of 1000 Possibilities”: the Dornbirn Exhibition Grounds in Austria is advertising with this motto. At the beginning of April 2017 – just in time for the start of the spring SCHAU! trade fair – three newly built halls numbered 9 to 11 were unveiled to the public in a special pre-opening preview. Featuring recessed ellipsoid entrances and a red foyer, the new buildings aren’t just striking in appearance – they have also been designed to very flexibly accommodate a vast range of events.

The Dornbirn Exhibition Grounds are the biggest marketplace in Vorarlberg, Austria’s westernmost federal state. Year after year, it hosts not only major trade-only and public fairs but also a wide variety of sporting competitions, concerts, corporate events, balls and exhibitions. Around 200 events a year attract a total of more than 400,000 visitors and over 1600 exhibitors from all over the world.

### Architecture: Striking Ellipses an Brilliant Red

The city of Dornbirn and the state of Vorarlberg, which co-own the exhibition grounds, therefore decided to invest a total of 28 million euros to erect state-of-the-art new halls for holding trade fairs, exhibitions and events. The highly reputed architects of Marte.Marte in Feldkirch created the plans for a monolithic structure comprising two halls and a foyer that is characterised by three striking ellipsoid recesses.



Red ellipses mark the entrances of the exhibition halls

Renderings: Marte.Marte  
Architekten ZT GmbH  
Photos: Messe Dornbirn GmbH

# Wood at its best



The outside of the entire complex is clad with matt black corrugated sheet metal, providing a striking contrast to the elegant curves of the red entrances.

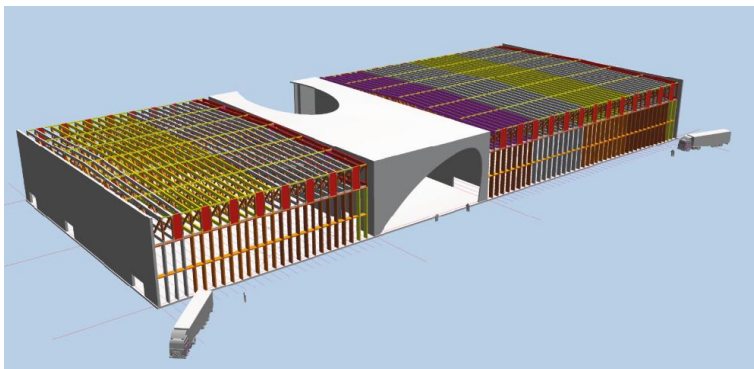
Their shape and colour are reflected in the “Red Foyer”, with walls, ceiling and floor sharing the same shade of red and arches between the rooms echoing the exterior ellipsoidal recesses.



Shape and colour of the red and arches are reflected in the “Red Foyer” (Photo: Messe Dornbirn GmbH)

## Timber Construction: a Roof Spanning 8,000 sq.m

Halls 9 and 11 are being built using modern timber construction methods. “The architects have succeeded in designing a fantastic timber structure that ideally merges practicality, aesthetics and functionality,” says Uwe Jöst, Managing Director of SWISS KRONO GmbH. The loadbearing structures and the wall and ceiling claddings are all executed in wood.



3D views of the loadbearing structure and timber constructions (Picture: Kaufmann Bausysteme GmbH)



Rendering: Marte.Marte  
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The roof construction consists of 65 enormous beams, each of which is 4.5m high and up to 66m long. They rest on 11m-high posts that are spaced 1.8m apart and double as the skeleton of the exterior walls.

Without any additional supports in the middle, the roof spans a total area of nearly 8,000sq.m. Its large size was necessitated by the architects' innovative plans and structural requirements. Nothing comparable exists anywhere in Central Europe.



The halls going up: 66m-long beams without any supports in the middle (Photo: Messe Dornbirn GmbH)

Kaufmann Bausysteme, based in the nearby town of Reuthe, was charged with prefabricating the beams. In January 2016 the firm assembled and successfully tested a prototype roof with the 66m-long beams weighing a total of 17.5 tonnes.

The company's timber specialists covered and glued the loadbearing roof members with SWISS KRONO OSB/3 EN300 ContiFinish® (25mm, sanded) panels.



Prefabrication of the roof members in the plant of Kaufmann Bausysteme (Photo: SWISS KRONO GmbH)



Photos: Messe Dornbirn GmbH and SWISS KRONO GmbH

To make the exterior walls as a continuous shell, prefabricated timber-frame elements were bolted to the outside of the glulam posts. The ceilings, resting on the bottom chords of the square timber trusses, were used to install cables, the heating and ventilation systems and so on. Only a small part of the bottom chords is visible.

Wood is innovatively used for various purposes: for the supporting structures of the walls, for the roof trusses resting on them and for the interior cladding of the halls.

“There are many benefits to building new structures with wood,” stresses Herbert Rella. “Foremost among them are an excellent price/performance ratio and a positive carbon footprint.” This highlights the project’s importance to the timber construction industry. The interior cladding of both halls also consists of wood. And in every respect, the involved timber builders from Vorarlberg impressively demonstrated the outstanding suitability and performance of wood as a construction material.

## Facts about the Dornbirn Exhibition Grounds:

- 15 halls
- total exhibition and event space of 34,000sq.m
- outdoor area of 18,000sq.m

The investments made to build the new halls with a sophisticated timber supporting structure are key for ensuring a successful future for the facility, as is already apparent in the avid interest that various organisers have expressed in using it. The highly functional, architecturally attractive halls have given the exhibitions a sensational upgrade.



OSB boarding resting on the bottom chords of the roof truss



Installation shafts beneath the roof members



Connecting eye of steel braces for reinforcing a wall



Details of the loadbearing glulam posts for the exterior walls

Photos: Messe Dornbirn GmbH



# Wood at its best



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*SWISS KRONO OSB comprises eco-friendly engineered wood products which combine a host of positive attributes. Their high strength, low water vapour permeability and airtightness, and low tendency to shrink or swell optimally suit them for a vast range of applications.*



**Harald Sauter**

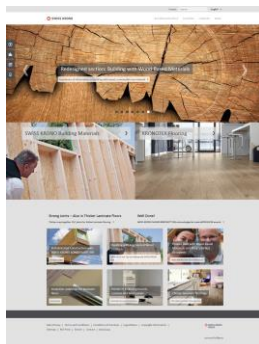
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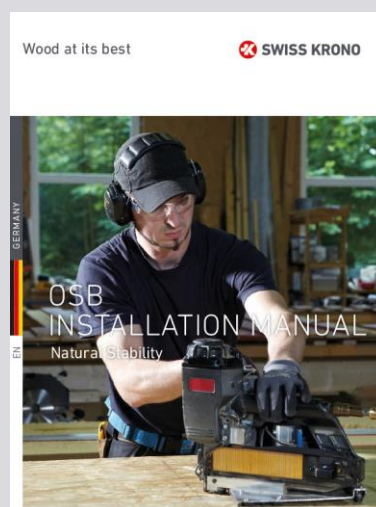
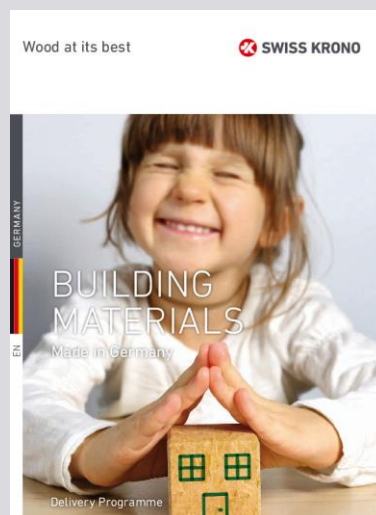
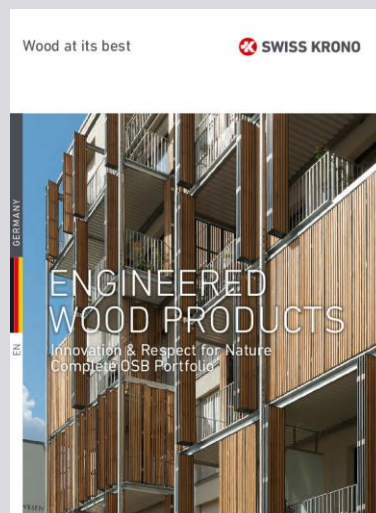
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## SWISS KRONO Website

The “Building Materials” section contains our entire OSB programme, reference projects, useful tools and lots of information on building with engineered wood.

[www.swisskrono.de](http://www.swisskrono.de)



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