## The Umbrellas

Langendorf, CH





#### **Project details**

Architecture Harder Haas P. AG
Project type Commercial and industrial
Construction type Free Form
Services Timber construction
Construction 2011
Locality Langendorf
Country Switzerland

#### Umbrellas for a shopping centre

The car park roof project for a shopping centre in Langendorf was planned by Engelburg-based architecture firm Harder Haas Partner, which also provided support during the construction phase. The intention of the client and architects was for the design to enhance the overall complex. Accordingly, the project combines both communicative and functional aspects. Different areas were covered in three phases. The 30 umbrella-like roofs on the parking deck are held aloft on 90 round steel columns. Each umbrella stands on two load-bearing steel columns and has a third column that drains the rainwater from the umbrella. The 7.5 m  $\times$  15 m umbrellas are double-curved and comprise glue-laminated timber and multi-layer boards in spruce. The entrance to the shopping centre features five umbrellas at a height of 8 m. The entrance canopy extends from the parking area to the basement of the shopping centre. The design of the entrance was inspired by the design of the umbrellas on the parking deck. The geometry of the load-bearing construction is created by 55 individual rafters. The total surface area is 3,500 m<sup>2</sup>. The 30 umbrellas on the parking deck can be categorised into four umbrella types. The single-curved purlins and rafters were processed on all sides via CNC machine. The entire planning process - from developing the geometry to detail planning, planning the supporting structure and machine control - was based on specifically designed 3D models.

### **Specific Contact**



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