

Roofing

State-of-the-art distribution center in Schafisheim, Switzerland Swiss Coop's largest private site



Coop is investing 600 million Swiss francs in the construction of a state-of-the-art distribution center as an extension to its existing premises in Schafisheim. The volume of the mammoth building alone is almost a million cubic meters. There are 1,300 parking spaces below ground.

The enormous site rises up like a giant to greet visitors as they arrive. Up to 25 meters below, the tiny figures of construction workers busy themselves with more than a dozen diggers, trucks, and dumpers. Schafisheim's former gravel quarry is now 300 meters long and 100 meters wide.

It is here that the country's largest bakery, which from 2016 will produce 60,000 tons of bread and baked goods every year, is taking shape. «The ground must be able to withstand the same loads as the Prime Tower in Zurich,» says Diego Lechmann of Food Engineering. «We have a general engineering brief,» underlines the architect, who specializes in construction for the food industry. This brief includes the highly automated logistics, «which we have tested in pilot projects.»

“**Gone are the days in which an automatic welder reached its proverbial limits.**”

Concept with five superstructures

The volume of the mammoth building alone, which runs along the Aarauerstrasse, is almost a million cubic meters. There are 1,300 parking spaces below ground. In addition to the bakery and confectionery, there is space for the empties store and automated frozen storage.

The old Coop distribution center is surrounded by the new buildings, so to speak. The biggest complex is connected to the current site via a tunnel underneath the Rapperswilerstrasse and a two-story linkway for pedestrians and logistics.

The blue thermal insulation in the foundation slab of the building in the southerly section of the site catches the eye. «This will be home to the automated cold storage for dairy products, meat, fruit, vegetables, salad, and much more,» explains Lechmann as we take a tour of the site.



Near-edge welding up to 100 mm possible

Fresh food logistics are located to the west, close to the border with Hunzenschwil. The high-bay warehouse with rail depot is located in the northerly section of the site, linking the distribution center to locations in both the east and the west. The fifth new building houses the energy center.

The total volume is gigantic. The numbers speak for themselves: The five new buildings at the Coop site cover a gross floor area of 240,000 square meters and measure 1.5 million cubic meters in volume. 350,000 cubic meters of gravel, most of which is being used in the new build, were removed during excavation work. The foundation slab is 1.1 m thick and sits on 282 piles, which reach between 10 and 23 meters down into the gravelly subsoil. The foundation pit, which is 25 meters deep, is shored up by a retaining wall. 850 steel anchors measuring an average of 14 meters in length and tightened with 40 tons have been used in this particular construction. The movement of the pit is monitored constantly. A 6-meter-wide strip running as far as the Aarauerstrasse carries a high-pressure gas line and data cables.

Concentrating on Schafisheim

Coop divides Switzerland into five sales and logistics regions. In the north-west of the country, the new buildings in Aargau are replacing the site in Basel. «Zurich/Central Switzerland is also being relocated to

Schafisheim,» explains Daniel P. Hintermann, Head of Logistics for North-West Switzerland. «This huge, central, and highly automated location offers significant potential for savings,» Hintermann is keen to point out. Constantly juggling daily outgoing deliveries with the construction of the new build, which is linked to the old building in many places, is a challenge.

It is no easy feat when 600 million Swiss francs are being invested (although this investment should quickly pay off with annual savings of 60 million). The new distribution center is set to deliver goods to almost a third of Coop's retail outlets in Switzerland in the future.

Significant reduction in CO₂ emissions

Coop is making huge efforts to keep up its image as an environmentally friendly major distributor. It has set itself the ambitious aim of becoming CO₂-neutral by 2023 in all areas it is able to control directly.

«Reducing CO₂ is a major concern of ours and has long since been second nature to us,» Daniel P. Hintermann assures me. With the new build in Schafisheim, the food distributor is able to save 10,000 metric tons of CO₂ each year, half of which is on the roads thanks to shorter journeys and state-of-the-art vehicles. The close proximity of the bakery to the frozen storage will also reduce the consumption of energy and resources. Moreover, a new biomass central heating system will supply climate-friendly heat to all Coop



The new UNIROOF AT; great for larger surface areas too.



Welding behind scaffolding poles

services on the site, including the hot ovens in the bakery and confectionery.

Most of the 1,800 trucks will be on the road outside of peak times. Until construction work is completed in 2016 there will be special signposts on the roads used to access the site. Different

colors have been used for each of the four large building complexes A, B, C, and D so that drivers know immediately where they need to go. «To avoid overloading the main intersections, site traffic arriving from Lenzburg is diverted to the site via a turn-off,» explains Lead Project Manager Diego Lechmann. Morning and evening rush hours are avoided if at all possible.

For the operation of the distribution center from 2015 and 2016 onwards, planners estimate 1,800 truck journeys and 4,000 private car journeys per day, primarily for the 1,900 employees. Coop has already had to produce an environmental impact report to demonstrate that the additional traffic is manageable. To avoid total gridlock, Schafisheim, Lenzburg, Hunzenschwil, and Rapperswil have signed an agreement with Coop at cantonal and federal level to solve the problems. In the future, journeys longer than 90 kilometers will be made by rail. «Operation in three shifts will be a significant help in avoiding traffic peaks,» stresses Lechmann.

1,100 more employees

Coop currently employs 800 men and women in Schafisheim. From 2016, they will be joined by approximately 1,100 more employees, some of whom will move from sites that are closing. Due to three-shift operation over 24 hours, the additional traffic will be very much spread out. There is a mobility concept for employees.

Every morning 165 trucks will depart from the site to make deliveries, but they will be on the road before the commuter rush as fresh goods have to be on site before the shops open.

“
We are now even able to weld at or on the parapet without problems
 ”

Naser Dakaj from Tecton

Now that the foundation stone has been laid, the number of construction workers will soon double to approximately 400. The tight schedule is the biggest challenge for them and the planners. The new logistics center is due to go into operation at the end of 2015, with the huge bakery following at the start of 2016.

How Tecton's project became a success story

The more welding can be automated, the lower the risk posed by manual welding. Having recognized this at an early stage, Leister developed the new UNIROOF AT. A great success, as has now been evidenced in



Leister specialists are on site to make a detailed inspection of the new UNIROOF.

practice. Leister's UNIROOF AT is proving that even welding behind scaffolding poles can be automated. Gone are the days in which an automatic welder had to be laboriously repositioned, reaching its proverbial limits at every turn. Constantly moving the automatic welder and subsequently having to carry out manual welding time and time again are finally at an end with the UNIROOF AT.

The pilot series of the slimline UNIROOF AT is already holding its own on the site. Just 244 mm wide, it is even capable of welding where space really is at a premium. This flexibility makes the work much easier. As the automatic welder no longer has to be moved from one position to another, there is no need for laborious manual welding to finish the job. However, what this means ultimately is a much safer process and a significant increase in productivity.

Tecton's Mr. Naser Dakaj is particularly impressed with the ability of the new Leister automatic welder to complete tasks without problems even at and around the edges of balustrades. Moreover, at just 17 kg, the UNIROOF AT really is light in weight and can be taken to the roof with ease by a 230 V machine, the likes of which are in abundant supply on the site.

**Leister Sales and Service Center:**

F. Jannone AG, Switzerland
www.jannone.ch

Client:

Company TECTON
Employees 350

On-site team 7–8 people;
on occasion up to 20 people

Foreman: Mr. Naser Dakaj
Site manager: Mr. Stefano Cappelletto

www.tecton.ch

Materials:

Bauder Thermofin FPO 1.8 mm for main building
Bauder Thermofin F15 for linkway

Roof size sealing sheets

Building B and linkway ~20,000 m²
Loosely placed, planted (connections tightened mechanically)

Leister products:

VARIMAT V (2x)
X84 (2x)
PID/AT hot air hand tools (4x)
UNIROOF AT tests
Recommended parameters 2.5 m / 450° / 100%

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