



## Case Study

### Prime Selfstorage in Darmstadt, Germany

**Products:**

1'500 m<sup>2</sup> MONTALINE ML 26/300 F-K, RAL 9006, 1.00 mm

**Builder:**

Prime Selfstorage GmbH in Wiesbaden, Germany

**General Constructor:**

Eurobilia GmbH in Wiesbaden, Germany

**Architect:**

Norbert Riedel in Hamburg, Germany

**Realisation:**

2015/2016



# CREATING AN ATMOSPHERE

Hochdorf Swiss Nutrition AG is known as one of the leading Swiss manufacturers of high-quality food products. Its products are exported to more than 90 countries all over the world and are required amongst other things for the production of baby food. Therefore, the company sets high standards to ensure the flawless quality of its products. And this begins with the planning of the building: in order to create the hygienic and atmospheric prerequisites for the storage of high-quality food products, the manufacturer sets particular requirements on the building envelope. Therefore, the high-quality MONTANATHERM® AirStop outdoor panel came into use for the construction of the new high-shelf warehouse in Sulgen. This ensures a particularly air-tight and hygienic atmosphere.



Special hygienic and atmospheric requirements frequently have to be fulfilled particularly in buildings used for the production or storage of food products. This also applies for Hochdorf Swiss Nutrition AG. The company from the Canton of Lucerne produces high-quality food products that are sold all over the world. These are partly used for further processing, but are also frequently directly sold. In order to

ensure the highest quality of the food products even during storage, the company uses the so-called Controlled Atmosphere (CA) method in its warehouses.

## [Stored in the right atmosphere](#)

In CA storage, the room environment in the warehouse is exactly monitored, adapted and modified purposefully if required. This means

that not only the temperature and air humidity are controlled; the proportions of gases in the room are also exactly analysed and regulated. This is intended to prevent any changes in the stored food products. The first and most important prerequisite for such a controlled room atmosphere is an air-tight building envelope. This prevents and unintentional compensation of the air gases – such as



oxygen, nitrogen, carbon dioxide and ethylene – from the outside to the inside.

Hochdorf Swiss Nutrition AG also wanted an air-tight building envelope for their new high-bay warehouse in Sulgen. “We wanted the façade of the new warehouse to be suitable for warehouse operations in an oxygen-reduced atmosphere”, explains David Helfenberger from Montana Building Systems Ltd., who accompanied the construction process as a field sales representative. “We offer the MONTANATHERM® AirStop sandwich panel especially for such cases.” An air renewal rate of  $N50 = 0.05 \text{ h}^{-1}$  was the specification for the air tightness of the building envelope. As Hochdorf Swiss Nutrition has already successfully realised former projects with elements from Montana, the know-how of the company from Villmergen was again called for. “The positive experience of former projects convinced the building owner”, Helfenberger explains with pride. “Not only the quality of the

deliveries, but also the consultation in terms of the gas tightness of the elements found particular praise here.”

#### Simple and effective

The MONTANATHERM® AirStop sandwich panels were especially developed for the optimisation of the air tightness of a building envelope. Based on the original MONTANATHERM® sandwich elements, the products used in Sulgen are therefore a particularly tight further development. This is achieved by a special factory-installed sealing tape. This enables the element to achieve a lowest possible value in the joint permeability coefficient and is therefore ranked in the highest joint tightness class L1. The use of the additionally available assembly device from Montana ensures optimal compression, allowing an outer gap measurement of no more than 3 millimetres.

Just as the basic panels of the MONTANATHERM® series, the AirStop element also has a low weight but still a high degree of rigidity. Thus, the panel enables the realisation of large spans and also ensures easy and time-saving assembly – an enormous advantage, particularly in industrial and commercial applications. A merit that made itself felt in Sulgen, too. “On-site installation was quick and presented no problems at all”, Urban Thaler from Covra Metall AG, the company charged with the installation, confirms.

#### Aiming high

The planned façade height posed an additional challenge in Sulgen. Because as the name high-shelf warehouse suggests, its height of 29 metres was not exactly small. And another attached building component also made logistics difficult. With an overall area of 4,890 square metres, not an everyday feat. A well-coordinated team and long-standing experience were called for here to install



the panels with the necessary tightness. Fortunately the solution was quickly found and resulted in the vertical installation of the panels. This enabled the building height to be bridged without problems. "Thanks to the perfectly factory-adapted elements, the wall heights was simply not an issue", Thaler reminisces. "And with the appropriate assembly device it was also not a problem to get the panels properly tight." So the building could be finished without any delays. The installation of the 4,890 m<sup>2</sup> elements on the high-shelf warehouse took only 10 workdays using two mobile cranes. "Our efficient services have now also been rewarded with two more orders from Hochdorf Swiss Nutrition AG at the Sulgen location" Thaler mentions.

#### Convincing time and time again

But Hochdorf Swiss Nutrition AG not only benefited in terms of assembly and air tightness, but also from the use of the MONTANATHERM® sandwich panel: as well as the fast work progress, the rainscreen façade panels also guarantee the building owner excellent insulation of the exterior wall. This is achieved by the inner foam core made of polyurethane (PIR). Important information: well-insulated rooms can be target-temperature controlled and are less susceptible to fluctuations in the room temperature. As Montana Building Systems Ltd. works solely with CFC and HCFC free foaming agents, the MONTANATHERM® elements are deemed to be environmentally friendly and recyclable despite their polyurethane layer. The outer shells of the

sandwich panels are corrosion-resistant and highly weatherproof due to their coated steel design. They therefore additionally protect the building envelope against external influences. All in all, MONTANATHERM® AirStop – apart from its specific great air tightness – also offers a high level of insulation, reliable protection of the outside wall and uncomplicated and fast assembly. Numerous advantages to ensure that the high-quality food products from Hochdorf Swiss Nutrition AG will also in future be stored in the right environment.



[www.montana-ag.ch](http://www.montana-ag.ch)

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