TRIMO

CASE STUDY

HIGHEST ENERGY SAVINGS & AIR CLEANLINESS
EXTREMELY AIRTIGHT BUILDING

BUILDING TYPE: MANUFACTURING FACILITY
INVESTOR: KOLEKTOR ETRA
ARCHITECT: IKONA ARHITEKTURA
PRODUCT TYPE: TRIMO AIRTIGHT BUILDING SOLUTION
LOCATION: LJUBLJANA, SLOVENIA
A high level of air cleanliness, low and controlled humidity were basic client requirements for a new production facility for the large electrical power transformers. **Trimo’s highly airtight building system** was an ideal solution for the clients needs. The building is extremely airtight and economic in use as it facilitates low energy consumption, which brings substantial energy savings.

The extremely airtight prefabricated building, Etra, is built from a load-bearing steel construction and Trimo’s insulated, fire-proof facade cladding system Trinoterm. It was completed with a number of demanding detailed solutions.

A calculation model of permissible losses for individual elements and a brand new detail concept with primary sealing on the internal side of the cladding as well as additional secondary sealing on the external surface had to be made before the project could begin. This was particularly important in order to successfully construct such a complex building with over 300 penetrations.

Airtightness achieved for the building exceeds the airtightness level of passive buildings by a factor of 10. It is almost 60 times better than the levels of sealing achieved in common buildings.

### Airtightness Benefits

- Energy savings through reduced heat loss
- Cleanliness and living comfort:
  - indoor climate and air quality
  - manufacturing processes security
  - goods & materials preservation
- Fulfillment of special requirements (e.g. over or low pressure)
- Improving sustainable criteria for achieving environmental certificates.
HIGH ENERGY SAVINGS

The level of airtightness achieved for the building provides the customer with 56% energy savings in terms of heating, which equates to the energy generated using 500 kW solar power plant, which itself can power around 600 average air conditioning systems.

Compared to common buildings the Etra building with its 5,606 m² floor space and 106,691 m³ volume will deliver energy savings of up to 530,000 EUR over 10 years.

AIR CLEANLINESS

The specific demands regarding air cleanliness were also met as it is a necessary requirement for the production of power transformers and enables a safe and smooth production process for the client.
The airtightness of building was assessed by the Institute using the demanding Blower door test and according to the European standard EN 13829. The test results showed exceptional airtightness for Trimo’s configuration and design of the large and complex Etra building.

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