AT_Hörsching_Logistikhalle Schachinger

Image 01: Exterior view ©Kurt Hörbst	**Image 02:** Interior view ©Kurt Hörbst	**Image 03:** Interior view ©Kurt Hörbst
		

Building Specifications

Address	Logistikpark 1, 4063 Hörsching, Austria
Building Category	Other
Year of Construction	2013
Special Qualities	Passive house
Location	48° northern latitude, 14° eastern longitude, 294 m above sea level
Climate	Cfb (warm temperate, fully humid, warm summer) (monthly mean temperature below 19 °C, at least five months with a monthly mean temperature above 10 °C)

Vent. Cooling Site Design Elements (Solar Site Design and Wind Exposure Design, Evaporative Effects from Plants or Water)

Due to the fact that the lorries have to circle the building, no supporting site design for Ventilative Cooling was possible close to the building. However trees were planted about 30m away for ecological reasons.

Vent. Cooling Architectural Design Elements (Form, Morphology, Envelope, Construction&Material)

Envelope: Passive house envelope to keep temperatures warm in winter and cool during summer time as temperatures have to stay between 14 and 18 degrees at all times (to keep the stored products fresh).

Morphology: During summer time, when the outer temperature is more than 2 degrees lower than the inner temperature, Ventilative Cooling is introduced by automatically opening façade-windows and roof lights. Natural ventilation is controlled by the centralised building automation.

Construction & Material: Overall massive wooden construction, concrete floor and ecological friendly materials.

Vent. Cooling Technical Components (Airflow Guiding Components, Airflow Enhancing Components, Passive Cooling Components)

A mechanical ventilation system is in operation additionally to natural ventilation. The air is precooled by ground water. As long as this passive cooling strategy achieves lower temperatures as the inner temperature, it is the sole cooling system. During peak demands a heat pump supports cooling the air.

Actuators, Sensors and Control Strategies

The sensors are optimised for a warehouse to keep constant conditions indoors. Temperature and humidity are very important. Rain and wind sensors ensure the safe operation of Ventilative Cooling. Indoor light is regulated by presence sensors and the outer shading by solar sensors.

The building automation system automatically operates night time ventilation according to temperature and pre-set time schedules.

Building Energy Systems (Heating, Ventilation, Cooling, Electricity)

Heating: Ground-water system with heat pump
Cooling: Ground-water system with heat pump, with free cooling.
Ventilation: System with heat and humidity recovery. Low velocity inlets of the air at ground floor level.
Electricity: LED Lighting

Building Ownership and Building Facility Management Structures

Building Owner: Schachinger Logistik
Facility Management: inhouse
Architect: Poppe Prehal, Housing Technologies: TB Freudenthaler GmbH

Aknowledgements

Staatspreis für Architektur und Nachhaltigkeit
Holzbaupreis Niederösterreich 2014
Confare Blue and Green Building Award
GreenBuilding Award

Datasheet Source:
http://www.nextroom.at
Institute of Building Research & Innovation