



Demo Factsheet for IEA ES Task 43

“Storage for renewables and flexibility through standardized use of building mass”, Subtask D



Picture of Demo building

Building Name

Auenwerkstatt

Location/Country

Nussdorf am Haunsberg, Austria

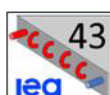
Submitting contact information

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Building information

Building type

- ☒ New construction
- ☐ Renovation/retrofit
- ☐ Prototype/Test building

Year of construction

*for renovation year of renovation

2022

Usage category

*e.g. residential, office, tertiary etc.
education

Total conditioned floor area [m²]

*total area conditioned with heat and/or cold

425 m²

Total energy consumption [kWh/m²a] and supply temperatures [°C]

*Electricity refers to the energy supply systems. If possible, exclude household electricity.

Heating	44,1 kWh/m ² a	temperature	30°C/Return
Hot water	2,1 kWh/m ² a	temperature	Flow/Return
Cooling	3,8 kWh/m ² a	temperature	19°C/Return
Electricity	20,8 kWh/m ² a		

Energy supply systems

*please list all supply systems (e.g. heat pumps, boilers, the electricity grid), including power ratings for locally deployed technologies

Heat:	45 kW solar thermal collectors 29 kW biodiesel CHP
Cold:	20 kW passive cooling with ground collectors, 1,45 kW split AC
Electricity:	22,4 kWp PV, 16 kW biodiesel CHP

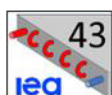
Installed energy storage systems

* please list all energy storage options besides activated building mass, including their capacities (e.g. hot water buffer, battery etc.)

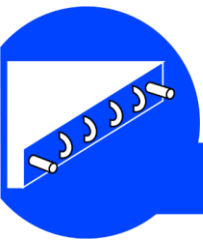
Heat:	5.000 liter high temperature buffer, 1.000 low temperature buffer
Cold:	Klicken oder tippen Sie hier, um Text einzugeben.
Electricity:	lead-carbon-batteries (total storage capacity of 144 kWh)

Other conditioning systems besides TABs [multiple choice]

- ☐ Radiators
- ☐ Conventional floor heating
- ☒ Other:
split AC
- ☐ Ventilation
- ☐ Wall heating



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Dimension of total installed thermal activated building mass [m^2/m^3]

*use one or both of the metrics depending on which information is available

Area [m^2]:

638 m^2

Volume [m^3]:

Klicken oder tippen Sie hier, um Text einzugeben.

Location of thermal activated building mass integration

- ☒ Floor
- ☐ Wall
- ☒ Ceiling
- ☐ Other:

Klicken oder tippen Sie hier, um Text einzugeben.

Material(s) used

concrete in floor (340 m^2), pre fabricated wood elements in ceiling (298 m^2)

Functional role of thermal activated building mass [multiple choice]

- ☒ Heating
- ☒ Cooling
- ☒ Energy storage

Is the thermal activated building mass used for flexibility services?

- ☐ No. Because of:
 - ☐ No need for additional storage
 - ☐ Lack of awareness or lack of information on the topic
 - ☐ Lack of social acceptance
 - ☐ Technical feasibility
 - ☐ Financial feasibility
 - ☐ Other reasons

- ☒ Yes. Please describe the use case below:

The thermally activated building mass is used to store as much solar heat as possible. The operating hours of the CHP can thus be minimized. Since the building is energy self-sufficient in normal operation, there are no flexibility services for the power grid.

Optional additional information

*e.g. further details about the building and its function, feedback from users, residents or owners, project homepage, studies or other information that is not covered by the factsheet