

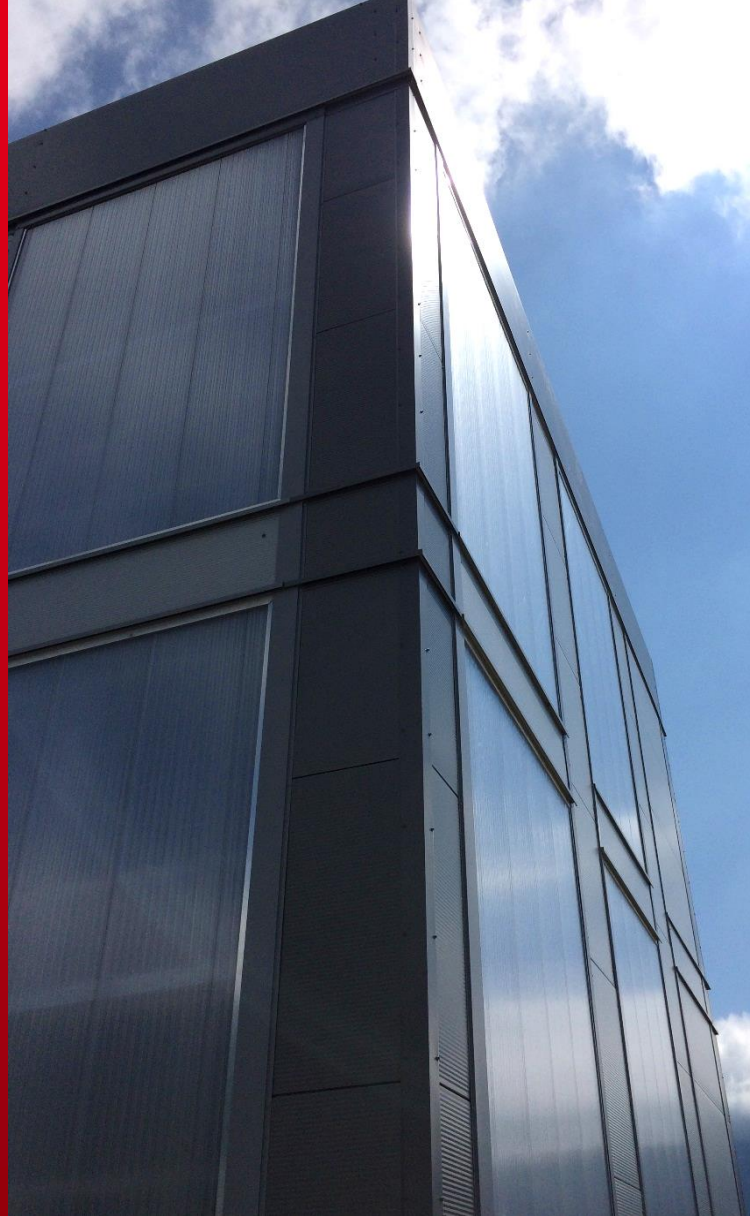
FACT

a new facility for building envelope test

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FACT

a new facility for building envelope test

FACT is an experimental outdoor facility for building energy efficiency test which allows to evaluate building technologies on a real scale



This project has received the support from the State program Investment for the Future (reference ANR-10-IEED-0003).



FROM RESEARCH TO INDUSTRY

cea tech

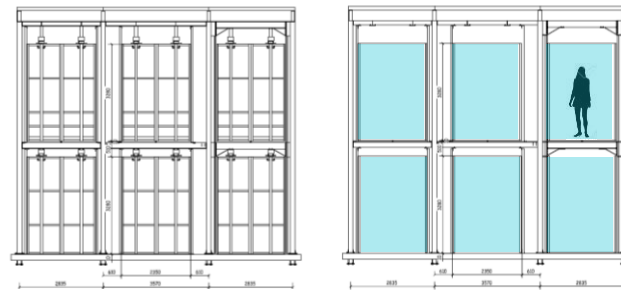
FACT

concept

A new facility named FACT (FACade Tool) will be soon inaugurated on the experimental platform of CEA-INES (Le Bourget du Lac – France).

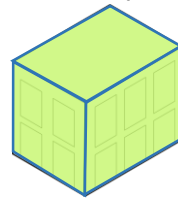
This versatile testing tool will be dedicated to test diverse building envelope components:

- opaque and transparent elements;
- building envelope integrated with HVAC system,
- light-weight and massive facades;
- different thickness and heights (from 10 to 60 cm and up to 8 m);
- different geometry of the indoor environment.



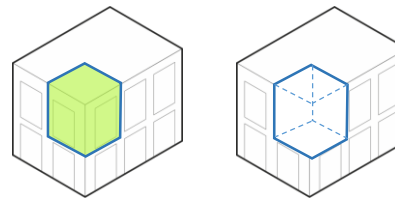
On the left is the secondary structure to hang the heavy tested facades whilst the right diagram shows the transparent envelope without the secondary structure.

Envelope test

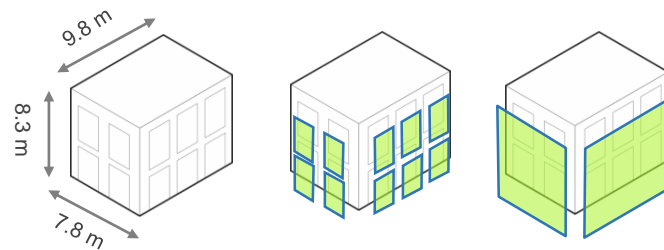


Heat and mass transfer
Solar and light transmission
PV/TC efficiency.

Room test



Energy performance
IEQ: visual comfort, thermal comfort,
Indoor air quality, acoustic comfort.



Different facade test configurations

FACT

objectives

FACT is designed to perform experimental measurements at different levels:

- the building envelope components themselves;
- the impact of these components on the energy behavior of the room and the building;
- indoor environment quality (IEQ).

The building envelope tests can be carried out to measure:

- heat and mass transfer in the tested envelope;
- light and solar transmission for transparent envelope;
- the efficiency of PV or thermal collector integrated in facade.

