M6.1, 6.2 Design and realisation of the façade specimen

WP6. Façade Innovation, T6.1
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1 Introduction

The FACEcamp project tackles the challenge of Complex Fenestration System (CFS) performances. Nowadays, a practical relevant issue connected to one specific technology within the CFS family (the Double Skin Façade – Window box type) concerns the characterisation of the whole façade construction, depending from the kind of air cavity ventilation regimes. Starting from this, the choice has been taken to design and realise a window-box façade specimen able to be configured with different air-cavity ventilation regimes, as well as to fit with the two kind of outdoor laboratories (EURAC and UIBK).

2 Objective

This report describes the process of designing, assembling and installation of the FACEcamp window box specimen.

3 Design

The sketches of the concept are reported in Figure 1 and Figure 2, as discussed by the FACEcamp partners.

![Figure 1: Front view sketch of the window box type façade and shading system typology.](image1)

![Figure 2: Specification on façade and shading systems requirements.](image2)
The external glass is openable with a manual pantograph (able to realise a plane shift of the external skin), differently from the internal one. Different openings’ types on the external glass fixing system (metal sheet closure) allow verifying different natural ventilation strategies of the façade cavity. The internal skin is a traditional window that can realise top and side openings. The whole specimen is sketched in Figure 3.

The executive design has been assigned to a subcontractor through a tendering procedure, which included also the manufacturing and the transport.

Figure 3: Executive design as proposed by the subcontractor.

4 Manufacturing and installation

Two façade specimens have been manufactured and transported to the EURAC outdoor lab, as documented by the Figure 4.
Figure 4: Transportation, installation of the FACEcamp façade specimen at EURAC outdoor lab.
5 Conclusions

Two façade specimens have been designed, manufactured and installed at EURAC outdoor lab. The chosen façade type and design allows to verify the performance of different kind of ventilation in the façade air cavity.
### FACEcamp partners

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<th>Partner</th>
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<tr>
<td>EURAC</td>
<td>Eurac Research, Institute for Renewable Energy Coordinator</td>
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<tr>
<td>IDM</td>
<td>IDM Suedtirol - Alto Adige Partner</td>
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<td>Universität Innsbruck, Arbeitsbereich Energieeffizientes Bauen Partner</td>
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