



REHABILITATION OF FAÇADE ELEMENTS.

IS IT:

Product

Technology

Equipment

APPLICABLE FOR:

Restoration

Rehabilitation

New Construction

APPLICABLE ON:

1. Foundations and underground structures

2. Vertical structures

3. Horizontal structures and vertical connections

4. Roof and terraces

5. Façade and building envelope

6. Finishes and completion elements

7. Integrated services

8. General strategies for building recovery

Related companies: No companies; university research; structural study.

DESCRIPTION

Whenever there is an element similar to the one exposed, which requires the reinforcement of the cantilever profiles that support it.

WHY TO USE

To avoid having to disassemble the gallery, we can then reinforce the profiles, taking advantage of the intermediate zone between profile and profile.

HOW TO USE AND APPLY

The partition between the existing profiles is repaired, and new profiles are placed, cantilevering out and entering towards the inside of the building, reproducing the original way of working of the cantilevers (the floor and the roof of the gallery).

1. Repointing of the closing partition at the façade level.
2. Placement of the plates at the end of the overhangs, to fix the heads of the new profiles.
3. Placement of the new profiles between existing profiles, welding the end to the previously placed sheets. The more they enter inside the building the better, since the upward force of the profiles will be lower.
4. Placement and welding of a metal plate at the inner end of the new profiles. This will be welded to the new and the existing ones, and its function is to prevent the new profiles from pushing excessively on the lightening stirrups, transferring the effort directly to the existing profiles (reproduction of the original way of working of the cantilevers).
5. Placement of a lower plate inside the grandstand, approximately in the center of the span, welded to the new and existing profiles, in order to make the system more monolithic.
6. The area of contact of the new profiles with the ceramic vaults, as well as the space between the metal sheets and the ceramic vaults, shall be filled

with mortar, never with plaster. This will be done with mortar, in no case with plaster.

TECHNICAL CHARACTERISTICS

The application technique is as described previously in the "how to use and apply" section.

RECOMMENDATIONS AND OTHER INFORMATION

For the system to work properly, it is necessary to confirm that the inside of the existing profiles is in perfect condition, because otherwise it would not be possible to apply the system as described before. It would probably then be appropriate to insert the new profiles up to the first load-bearing wall, without welding the aforementioned metal sheet.

If we have ceramic vaults, it could also be applied after removing part of them, to allow the installation of the new profiles.

EXAMPLES

The example of the project for the reinforcement and consolidation of a gallery located in a residential building at 92 Balmes Street in Barcelona, Spain, is provided (See figures 1 - 8).

REFERENCES / SOURCES AND LITERATURE

N/A

WEBSITE OF THE COMPANY

www.aceweb.cat



IMAGES AND CAPTIONS



Fig.1: Damages on the railing prior to the intervention. ©Xavier Falguera



Fig.2: The shored-up gallery, prior to the start of the works. ©Xavier Falguera



Fig.3: The new profiles, from the inside of the building, prior to the repointing of the profiles. ©Xavier Falguera



Fig.4: The new profiles, from the inside of the building, after being rejointed. ©Xavier Falguera



Fig.5: The new profiles, from inside the gallery. ©Xavier Falguera

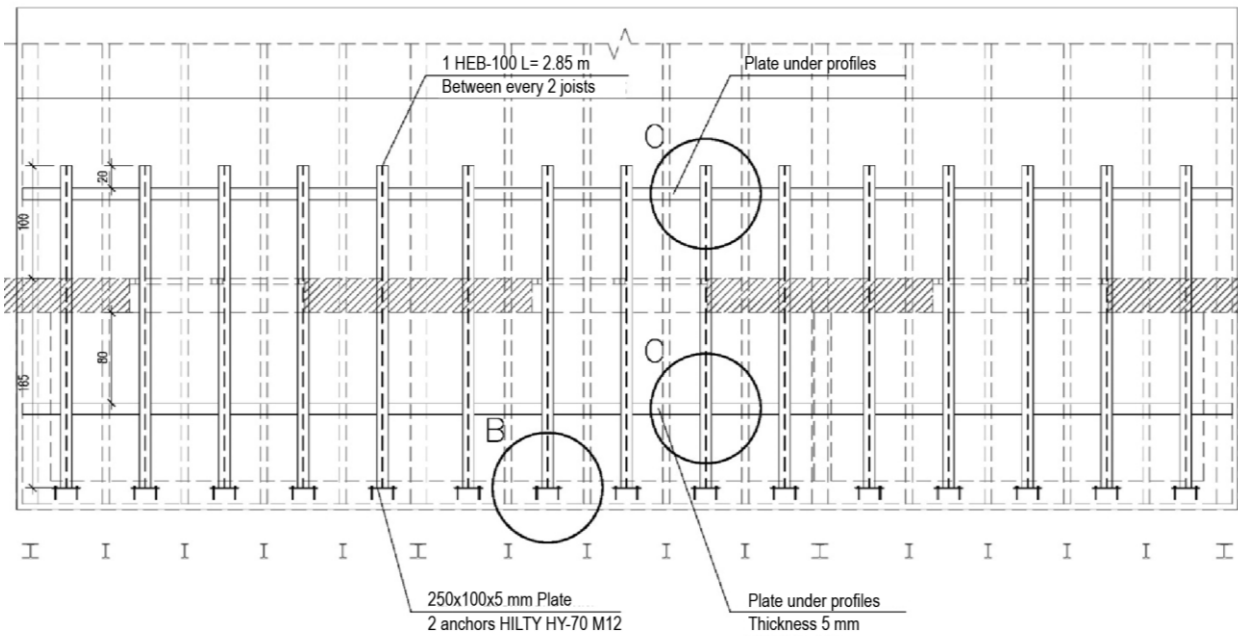


Fig.6: Indications on the drawings concerning the inner plate. ©Xavier Falguera

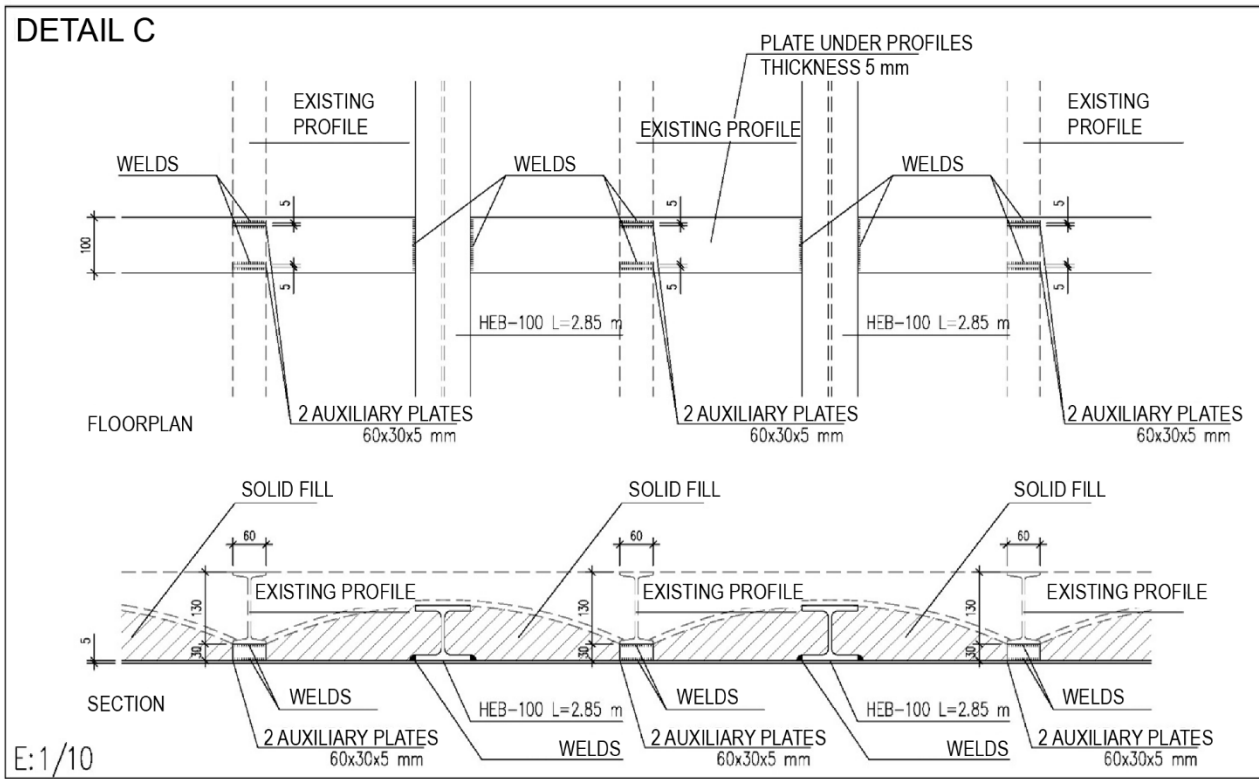


Fig.7: Floor plan of the intervention. ©Xavier Falguera