Drainage trench around the walls to prevent rising damp Removal of plaster from the lower part of a masonry wall facing the moisture effects.

IS IT:

- [ ] *Product*
- [X] *Technology*
- [ ] *Equipment*

APPLICABLE FOR:

- [X] *Restoration*
- [X] *Rehabilitation*
- [X] *New Construction*

APPLICABLE ON:

- [X] *1. Foundations and underground structures*
- [X] *2. Vertical structures*
- [ ] *3. Horizontal structures and vertical connections*
- [ ] *4. Roof and terraces*
- [X] *5. Façade and building envelope*
- [ ] *6. Finishes and completion elements*
- [ ] *7. Integrated services*
- [X] *8. General strategies for building recovery*

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

DESCRIPTION

The plaster at the lower part of the masonry walls in building interiors is removed so the stone wall can “breathe” and its insulating behavior towards penetrating moisture is improved. This technique is combined with other measures such as drainage trenches under the floor, waterproof plasters, etc. in order to address the issue of penetrating damp.

WHY TO USE

When there is a need for protection of the wall from penetrating damp. Humidity control is a major challenge in conservation. When there is a problem of penetrating damp in the case of historic buildings, this technique is a compatible solution that respects the architectural value of the building.

HOW TO USE AND APPLY

For waterproofing the masonry in addition to the removal of the plaster at the lower part of the wall, it is essential to create a trench around the perimeter of the foundation. In addition, special care should be given to the conservation and replacement of the affected plaster above, with new waterproofing, compatible with the original materials.

TECHNICAL CHARACTERISTICS

After the removal of the plaster, the lower part of the wall should be repointed with new mortar in order to improve the water resistance of the wall.

A perimeter trench should be created around the wall in addition to the removal of plaster. At the same time, care should be paid to the wall plaster, especially in the parts that are more likely to be affected by the raising moisture.

RECOMMENDATIONS AND OTHER INFORMATION

This technique only deals with the coating corrosion and detachment but does not face the real moisture problem.

This is the reason why in addition to this technique, a perimeter drainage trench is needed, as mentioned above.

EXAMPLES

Museum of Pancyprian Gymnasium, Nicosia, Cyprus. [See attached images on the end of the sheet].

REFERENCES / SOURCES AND LITERATURE

Franzoni E. (2014) Rising damp removal from historical masonries: A still open challenge, Construction and Building Materials 54:123-136

https://www.visitcyprus.com/index.php/en/discovercyprus/culture-religion/museums-galleries/item/131-the-pancyprian-gymnasium-museums

http://owsurveyors.co.uk/french-drains/

www.ihbc.org.uk/guidance_notes/docs/tech_papers/French%20Drains.htm

WEBSITE OF THE COMPANY

N/A

IMAGES AND CAPTIONS

Fig.1-3: The case of Museum of Pancyprian Gymnasium. Removal of the lower part of the plaster from the exterior walls and uncovering the stone masonry for approximately 1m. Architect: Antonia Theodosiou.
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