TECHNICIAN TRAINING FOR THE CONSERVATION OF MOSAICS

PART 2

THE CONSERVATION OF DETACHED MOSAICS

Mosaics detached and relaid in situ on reinforced concrete: their deterioration, in situ maintenance treatments and documentation

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Examples of reinforced concrete panels
Panel reinforced with steel bar grid

- Tessellatum
- Fine cement mortar
- Coarse cement mortar
- Grid of steel bars
Panel reinforced with steel bar grid and wire
Panel reinforced with steel wire

- Tessellatum
- Fine cement mortar
- Grid of steel netting
- Coarse cement mortar
Example of on-site installation of reinforced concrete panels
1 Mosaic panels
2 Layer of sand
3 Original preparatory layers of mortar
Main deterioration phenomena

Corrosion of steel bars in the concrete

Deformation of mosaic support panels
Corrosion of steel bars in the concrete
Deformation of mosaic support panels
The effects of solar radiation on deteriorated and exposed panels of mosaics relaid on site.
In situ maintenance treatments

Stabilization by removing sections of the tessellatum using protective facing.

Stabilization by removing the individual tesserae with the use of “working aid” photograph.
Stabilization by removing sections of the tessellatum using protective facing

Before stabilization
Complete cleaning of the area of the mosaic panel affected by corrosion of rebar
Protection of the area with facing
Temporary removal of the section of tessellatum located above the corroded bar
Removal of the bar remains and cleaning of the area to remove debris
Cutting the steel bar
Filling with mortar the space left by the removed bar and concrete debris
Resetting the previously removed tessellatum section
Resetting the previously removed tessellatum section
Removal of the facing, including the adhesive, and filling interstices, cracks and lacunae with mortar
Stabilization by manually removing the tesserae using a “working aid” photograph

Before stabilization
Removing and placing the detached tesserae on temporary sand bedding
Using a “working aid” photograph
Resetting the tesserae, filling interstices, cracks and lacunae with mortar
Documentation of mosaics lifted and relaid on reinforced concrete
## PREVIOUS INTERVENTIONS ON THE MOSAIC

### Mortar repairs
- Infilling of lacunae
- Edging repair
- Filling of interstices between tesserae
- Grouting of voids between preparatory layers

### Reintegration of lacunae
- With tesserae
- With pieces of stone, brick or other material inserted into the mortar

### Lifting and relaying on a new support
- Reinforced concrete/cement support
- Other type of support: _________

### Surface treatment
- Chemical cleaning
- Mechanical abrasion
- Application of a surface product (resin, wax, etc.)
- Other: _________

- Parts detached and stored elsewhere
- Reburial (Draw a vertical section of the reburial: describe the fill materials and separation membranes used, provide the total thickness and the thickness of each layer)

## PREVIOUS INTERVENTIONS AROUND THE MOSAIC

- Drainage
- Open shelter
- Wall stabilization

- Removable cover
- Closed shelter
- Other: _________

- Access barrier: _________

## DATES OF PREVIOUS INTERVENTIONS CARRIED OUT AND INFORMATION SOURCES
DATA FORM NO. 3 – CONDITION ASSESSMENT

STUDY PHASE

MOSAIC ID / / / /

INInspection Type

- Initial inspection
- Maintenance cycle

PREsvalid Exposure Conditions

- In open air
- Reburied
- Under an open shelter
- Walked on
- Under a removable cover
- Under a closed shelter
- Parts not excavated or inaccessible

During the initial inspection, check the boxes of all the deterioration phenomena that are present. During maintenance cycles, only indicate new deterioration phenomena that have occurred since the last inspection or last intervention.

STRUCTURAL DETERIORATION

- Tessellatum lacunae
- Depressions
- Cracks
- Detachments between mosaic layers
- Bulges

SURFACE DETERIORATION

- Detached tesserae
- Depied tesserae
- Stains
- Incrustations
- Efflorescence
- Deteriorated mortar between tesserae

PRESENCE OF BIO-DETERIORATION AGENTS

- Micro-organisms
- Vegetation
- Tunnels or entrance holes made by insects and other animals

DETERIORATION OF INTERVENTIONS

- Deteriorated lacunae fills or edging repairs
- Re-detached tesserae
- Deteriorated support panels
- Deteriorated support metal reinforcements
- Deteriorated mortar between tesserae

Deteriorated support metal reinforcements

DETERIORATION OF INTERVENTIONS AROUND THE MOSAIC

- Clogged drainage
- Deteriorated cover or shelter
- Stabilized walls with new deterioration
- Damaged access barrier
- Other: ________________

OBSERVATIONS ON THE CONDITION ASSESSMENT

GENERAL CONDITION OF THE MOSAIC

- Good
- Fair
- Bad

Prepared by ____________________ Date ____________________

LEGEND – CONDITION ASSESSMENT MAP NO. 4

MOSAIC ID / / / /

Deteriorated lacunae fills or edging repairs

Deteriorated mortar between tesserae

Re-detached tesserae or detached tesserae of a re-laid mosaic

Deformed mosaic support panels

Bulging areas in support panels

Visible deterioration of metal reinforcements in support panels

Detachment between tessellatum and support panels

Cracks in mosaic support panels

Prepared by ____________________ Date ____________________
DATA FORM NO. 5 - CURRENT INTERVENTIONS

INTERVENTION PHASE

MOSAIC ID ______ / ______ / ______ / ______

INTERVENTION TYPE

- Initial intervention
- Maintenance cycle

DATE OF PREVIOUS INTERVENTION

DATE OF PREVIOUS INSPECTION

DATE AND LENGTH OF CURRENT WORK

DATE RECOMMENDED FOR THE NEXT INSPECTION

TREATMENTS CARRIED OUT ON THE MOSAIC

- Vegetation removal
- Cleaning of the entire surface
- Cleaning of part of the surface
- Removal of modern repair mortars
- Resetting tesserae
- Filling interstices between tesserae
- Grouting voids between preparatory layers
- Infilling lacunae and/or edging repairs
- Removal and resetting tesserae with facing
- Removal of metal reinforcements in support panels
- Treatment of metal reinforcements in support panels

- Drainage
- Reburial (Draw a vertical section of the reburial; describe the fill materials and separation membranes used, provide the total thickness and the thickness of each layer)

INTERVENTIONS CARRIED OUT AROUND THE MOSAIC

- Wall stabilization
- Other: _______

- Notes:

- Notes:

- Names of the technicians who carried out the work

PREPARED BY __________ DATE __________

LEGEND - CURRENT INTERVENTIONS MAP

MOSAIC ID ______ / ______ / ______ / ______

- Vegetation removal
- Cleaning of part of the surface
- Resetting tesserae
  - Mortar composition:

- Filling interstices between tesserae
  - Mortar composition:

- Grouting voids between preparatory layers
  - Mortar composition:

- Infilling of lacunae and/or edging repair
  - Mortar composition:

- Infilling of lacunae and/or edging repair
  - Mortar composition:

- Facing with adhesive:

- Removal and resetting tesserae with facing
- Removal of metal reinforcements in support panels
- Treatment of metal reinforcements in support panels

- Drainage openings
- Reburial of a part of the surface

PREPARED BY __________ DATE __________
MOSAIKON is a partnership of four institutions: the Getty Conservation Institute, the Getty Foundation, ICCROM, and ICCM. The aims of the project are to strengthen the network of professionals concerned with the conservation, restoration, maintenance, and management of mosaic heritage in the southern and eastern Mediterranean region; provide training to a variety of individuals involved in mosaics conservation and, more generally, with the management of archaeological sites and museums with mosaics; work with national and international bodies to provide a more favorable legislative, regulatory, and economic environment for the conservation of mosaics in the Mediterranean; and promote the dissemination and exchange of information.