TECHNICIAN TRAINING FOR THE CONSERVATION OF MOSAICS

PART 2
THE CONSERVATION OF DETACHED MOSAICS

Mosaics detached and relaid in situ on reinforced concrete:
their reinstallion in situ and documentation

Livia Alberti, Ermanno Carbonara, Thomas Roby
The various types of conservation treatments for detached mosaics relaid on reinforced concrete panels

In situ maintenance treatments

• Stabilization by removing areas of tessellatum using protective facing

• Stabilization by removing individual tesserae using a “work aid” photograph

Removing and reinstalling panels on site on layers of mortar
Intervention phases:

1. Detachment of mosaic panels
2. Preparation of reinstallation area for the mosaic sections
3. Removal of old support of mosaic panels
4. Reinstallation and presentation of the mosaic
1. Detachment of mosaic panels

• Cleaning and Stabilization
  • Facing of the surface with one or more layers of fabric and adhesive
  • Numbering of sections to be removed and reference placement for reinstalling sections
  • Separation and detachment of panels
  • Inversion of panels and transport to the laboratory

Cleaning of deposits of dirt and debris without water.

Cleaning of micro-organisms with water.

Resetting of detached tesserae using a weak mortar.

Filling lacunae with a weak mortar.
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Apply one or more layers of fabric to the surface of the mosaic using an adhesive.
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Characteristics of the adhesive to be used:
- Able to be removed without damaging the mosaic.
- Compatible with the fabric.
- Adequate adhesion.
- Adequate vitreous transition temperature.
- Appropriate for the mosaic's humidity conditions.

Characteristics of the fabric to be used:
- Compatible with the adhesive.
- More than one fabric with different weaves.
- Adequate resistance.
1. Detachment of mosaic panels

- Cleaning and Stabilization

- Facing of the surface with one or more layers of fabric and adhesive

- Numbering of sections to be removed and reference placement for reinstalling sections

- Separation and detachment of panels

- Inversion of panels and transport to the laboratory

Types of adhesive:

Water-based:
- vinyl, acrylic, starch, bone

Solvent-based:
- acrylic resin

Types of fabric:

Natural fibers:
- cotton, hemp, jute, linen

Synthetic fibers:
- polyester, polyamide (nylon)
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
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- Inversion of panels and transport to the laboratory
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Mark and number the profiles of each section on a map and on each of the sections themselves.

Mark the reference lines between each of the sections.

Create a reference system separate from the mosaic.
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Detach and lift the sections using long, flat bars and/or a lever.

Slide the sections onto rigid plywood panels.
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
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- Separation and detachment of panels
- Inversion of panels and transport to the laboratory
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
- Inversion of panels and transport to the laboratory

Place a plywood panel on the surface of the section.

Hold the two panels together using rigid braces.

Invert the mosaic section.

Secure the panels with the mosaic section, if necessary.

Transport the panels manually or by other means, depending on the weight.
1. Detachment of mosaic panels

- Cleaning and Stabilization
- Facing of the surface with one or more layers of fabric and adhesive
- Numbering of sections to be removed and reference placement for reinstalling sections
- Separation and detachment of panels
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- Inversion of panels and transport to the laboratory
1. Detachment of mosaic panels

• Cleaning and Stabilization

• Facing of the surface with one or more layers of fabric and adhesive

• Numbering of sections to be removed and reference placement for reinstalling sections

• Separation and detachment of panels

• Inversion of panels and transport to the laboratory
2. Preparation of reinstallation area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer

Cleaning loose dirt and debris without water.

Cleaning compact dirt with water, if necessary.

Fill lacunae and cracks with lime putty or hydraulic lime-based mortar similar to the original layer to be stabilized.
2. Preparation of reinstallation area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer
2. Preparation of reinstallation area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer

Create mortar samples for the various preparatory layers to be integrated.

At the correct level, reconstruct the missing parts of each original preparatory layer, excluding the bedding layer for the tesserae.

Consider the slope for draining rain water from the room and determine the placement of a water drainage opening, if necessary.
2. Preparation of reinstallation area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer
2. Preparation of reinstallation area for sections

- Cleaning and stabilization of each original preparation layer
- Reconstruction of each preparation layer
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Make close parallel cuts in the panel using a disc grinder.

Remove the concrete ridges left behind by the cuts, using a hammer and chisel.

Clean the back of the tesserae with micro-chisels, micro-engravers, scalpel, etc.

Attach again with an adhesive any detached tesserae to the fabric, if necessary.
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Procedure to follow in the event of minimal panel deformation:

Verify the connection between the sections, correct their position and mark the new reference lines if errors are detected in the alignment from the previous positioning.

Create new section cuts in the mosaic, if necessary.
3. **Removal of old panel supports**

- Removal of reinforced concrete
- **Temporary assembly of mosaic sections**
- On-site transport of sections
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Procedure to follow in the event of significant panel deformation:

Apply a layer of clay to the back of the sections and invert them.

Tap the surface of the mosaic while the layer of clay is fresh to bring the sections together and correct the deformation of the mosaic, referring to the lines and motifs of the mosaic decoration itself.

Dissolve the facing adhesive with an appropriate solvent, depending on the type of adhesive used, and remove the fabric, verifying that the tesserae do not detach from the clay bedding layer.

Apply a new fabric layer (one or more) to the surface of the mosaic using an appropriate adhesive.

Mark and number the new sections on the map and on each of the sections themselves.

Mark the reference lines between sections and create a new reference system with the in situ structures.

Create new section cuts in the mosaic.

Invert the mosaic sections and remove the clay layer.
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections

Invert the mosaic sections on plywood panels.

Transport the sections on site.
3. Removal of old panel supports

- Removal of reinforced concrete
- Temporary assembly of mosaic sections
- On-site transport of sections
4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum

Apply the lime-based mortar on the tesserae and the section reinstallation area.

Reposition the sections one at a time by sliding them onto the mortar beds that are still freshly applied to the section reinstallation area.

Verify the position of the sections using the reference lines between the various sections and the reference systems previously set up around the mosaic.

Tap the surface of the mosaic while the mortar is still soft to bring the sections together and correct deformations, if necessary.

Apply weight to the surface of the mosaic while the mortar is setting.
4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum
4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum
4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum

Dissolve the adhesive with an appropriate solvent, depending on the type of adhesive used.

Remove the fabric one small area at a time, verifying that the tesserae do not detach from the bedding layer.

Clean the adhesive off the mosaic surface with an appropriate solvent.
4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum
4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum

Remove the old mortar in the lacunae and fill them with appropriate mortar.

Fill the interstices between the tesserae where needed.
4. Reinstallation and presentation of the mosaic

- On-site reinstallation of mosaic sections
- Removing the fabric and cleaning the adhesive
- Stabilization of the tessellatum
Documentation
for in situ reinstallation interventions for detached mosaics
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

PREPARED BY DATE
## DATA FORM NO. 3 – CONDITION ASSESSMENT

**STUDY PHASE**

<table>
<thead>
<tr>
<th>MOSAIC ID</th>
<th>/</th>
<th>/</th>
<th>/</th>
</tr>
</thead>
</table>

### INSPECTION TYPE
- [ ] Initial inspection
- [ ] Maintenance cycle

### PRESENT 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

*Condition Assessment Map No. 1*
- [ ] Tessellatum lacunae
- [ ] Depressions
- [ ] Cracks
- [ ] Bulges

### SURFACE DETERIORATION

*Condition Assessment Map No. 2*
- [ ] Detached tesserae
- [ ] Deteriorated tesserae
- [ ] Deteriorated mortar between tesserae
- [ ] Stains
- [ ] Incrustations
- [ ] Efflorescence

### PRESENCE OF BIO-DETERIORATION AGENTS

*Condition Assessment Map No. 3*
- [ ] Micro-organisms
- [ ] Vegetation
- [ ] Tunnels or entrance holes made by insects and other animals

### DETERIORATION OF INTERVENTIONS

*Condition Assessment Map No. 4*
- [ ] Deteriorated lacunae fills or edging repairs
- [ ] Re-detached tesserae
- [ ] Deteriorated support panels
- [ ] Deteriorated support metal reinforcements

**Reburial:**
- [ ] Presence of vegetation
- [ ] Loss of fill materials
- [ ] Deteriorated separation membranes

### 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

- [ ] Date recommended for next inspection: ________________
  (No intervention required)
- [ ] Date recommended for intervention: ________________
  (Intervention required)

**PREPARED BY**

<table>
<thead>
<tr>
<th>DATE</th>
</tr>
</thead>
</table>

**LEGEND – CONDITION ASSESSMENT MAP NO. 4**

**DETERIORATION OF INTERVENTIONS**

| 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
- [ ] Visible deterioration of metal reinforcements in support panels
- [ ] Detachment between tessellatum and support panels
- [ ] Cracks in mosaic support panels

**PREPARED BY**

<table>
<thead>
<tr>
<th>DATE</th>
</tr>
</thead>
</table>

**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
  - Notes:
  - [ ] Other: ______
    - Notes:

**NAMES OF THE TECHNICIANS WHO CARRIED OUT THE WORK**

**PREPARED BY**

**DATE**

---

**Legend - Current Interventions Map**

**MOSAIC ID __ / __ / __ / __**

- [ ] Vegetation removal
  - Mortar composition:

- [ ] Cleaning of part of the surface
  - Mortar composition:

- [ ] 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:

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

- [ ] Facing with adhesive:

- [ ] Removal and resetting tesserae with facing
  - Mortar composition:

- [ ] Removal of metal reinforcements in support panels

- [ ] Treatment of metal reinforcements in support panels

- [ ] Drainage openings

- [ ] Reburial of a part of the surface
Example of documentation

Hergla, Tunisia (2010)

House “of the two peristyles”
ID: HE/H2P/12
House «of the two peristyles»
Previous Interventions

**DATA FORM NO. 2 – PREVIOUS INTERVENTIONS**

**MOSAIC: HE, H2P, 12**

**PREVIOUS INTERVENTIONS ON THE MOSAIC**

**Mortar repairs**
- Reinforced concrete mortar visible on the surface (1969)
- Edging repair
- Filling of interstices between tesserae

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

**Lifting and relaying on a new support**
- Reinforced concrete/stone support (1969)
- Other type of support: 

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

---

**LEGEND – PREVIOUS INTERVENTIONS MAP**

**MOSAIC: HE, H2P, 12**

**ID:** HEH2P12  
**BASE MADE ON:** 05/12/2010  
**DATE:** 05/31/2010  
**PREPARED BY:** Ermanno Carbonara

**Mortar repairs**
- Reinforced concrete panel mortar visible on the surface (1969)
- Edging repair
- Outline of each infilling or edging mortar
- Overlapping between mortar layers (new = old)
- Filling of interstices between tesserae

**Reintegration of tesserae**
- Reintegration with tesserae
- Reintegration with:

**Detached mosaics**
- Outline of the support panels of a detached mosaic re-laid in situ

**Other types of interventions**
- Refurbish outline
- Drainage openings

---

**PREPARED BY:** Ermanno Carbonara  
**DATE:** 05/31/2010

Ermanno Carbonara 2010 © J. Paul Getty Trust
Condition Assessment

DATA FORM NO. 3 - CONDITION ASSESSMENT

STUDY PHASE

PROJECT ID: HE_H2P_12

INSPECTION TYPE

- Initial inspection
- Maintenance cycle

PRESENT EXPOSURE CONDITIONS

- In open air
- Planted
- Under an opening in the earth
- Under a closed shelter
- Parts not excavated or inaccessible

DURING THE STUDY PERIOD:

- The location of the site has been subject to archaeological excavation.

CONDITION ASSESSMENT MAP NO. 1

LEGEND - CONDITION ASSESSMENT MAP NO. 1

STRUCTURAL DETERIORATION

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

PREPARED BY: Ermanno Carbonara

ID: HE_H2P/12
BASE MADE ON: 05/12/2019

DATE: 05/31/2010

TITLE: Condition Assessment Map No. 1 - Structural deterioration
**Condition Assessment**

### Condition Assessment Map No. 2

**MOSAIC: HE_H2P_12**

**Title:** Condition Assessment Map No.2 - Surface Deterioration

**ID:** HEM2P12

**Base made on:** 05/12/2010

**Date:** 05/31/2010

**Prepared by:** Ermanno Carbonara

---

#### Data Form No. 3 - Condition Assessment

**Study Phase:** Mosaic HE_H2P_12

**Inspection Type:**
- [ ] Initial Inspection
- [ ] Maintenance cycle

**Present Exposure Conditions:**
- [ ] In open air
- [ ] Deteriorated
- [ ] Under an open shelter
- [ ] Under a removable cover
- [ ] 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**
- [ ] Tissue formation lacunae
- [ ] Cracks
- [ ] Bulges

**Surface Deterioration**
- [ ] Detached tesserae
- [ ] Deteriorated tesserae
- [ ] Deteriorated mortar between tesserae
- [ ] Efflorescence
- [ ] Stains
- [ ] Incrustations

---

**Legend - Condition Assessment Map No. 2**

- **Detached tesserae**
- **Deteriorated tesserae**
- **Deteriorated mortar between tesserae**
- **Stains**
- **Incrustations**
- **Efflorescence**
### Condition Assessment

#### Data Form No. 3 - Condition Assessment

**Study Phase:** HE_H2P, 12

<table>
<thead>
<tr>
<th>Insulation Type</th>
<th>Initial Inspection</th>
<th>Maintenance Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present Exposure Conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To open air</td>
<td>☑️</td>
<td></td>
</tr>
<tr>
<td>Under a cover</td>
<td>☑️</td>
<td></td>
</tr>
<tr>
<td>Parts not exposed or insulating</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Structural Deterioration

- Tissue/tear lacunae
- Breaks
- Cracks
- Delaminations between mosaic layers

### Surface Deterioration

- Detached tesserae
- Deteriorated tesserae
- Deteriorated mortar between tesserae
- Efflorescence

### Legend - Condition Assessment Map No. 3

<table>
<thead>
<tr>
<th>Presence of Bio-Deformation Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro-organisms</td>
</tr>
<tr>
<td>Vegetation</td>
</tr>
<tr>
<td>Tunnels or entrance holes made by insects and other animals</td>
</tr>
</tbody>
</table>

**ID:** HE_H2P/12

**Base Made On:** 05/12/2010

**Title:** Condition Assessment Map No. 3 - Presence of Bio-degradation agents

**Date:** 05/31/2010

**Prepared By:** Ermanno Carbonara
### Condition Assessment Map No. 4 - Deterioration of Interventions

<table>
<thead>
<tr>
<th>Legend</th>
<th>Condition Assessment Map No. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Deteriorated lacunae fills or edging repairs" /></td>
<td>Deteriorated lacunae fills or edging repairs</td>
</tr>
<tr>
<td><img src="image2" alt="Deteriorated mortar between tesserae" /></td>
<td>Deteriorated mortar between tesserae</td>
</tr>
<tr>
<td><img src="image3" alt="Re-detached tesserae or detached tesserae of a re-laid mosaic" /></td>
<td>Re-detached tesserae or detached tesserae of a re-laid mosaic</td>
</tr>
<tr>
<td><img src="image4" alt="Deformed mosaic support panels" /></td>
<td>Deformed mosaic support panels</td>
</tr>
<tr>
<td><img src="image5" alt="Bulging areas in support panels" /></td>
<td>Bulging areas in support panels</td>
</tr>
<tr>
<td><img src="image6" alt="Visible deterioration of metal reinforcements in support panels" /></td>
<td>Visible deterioration of metal reinforcements in support panels</td>
</tr>
<tr>
<td><img src="image7" alt="Detachment between tessellatum and support panels" /></td>
<td>Detachment between tessellatum and support panels</td>
</tr>
<tr>
<td><img src="image8" alt="Cracks in mosaic support panels" /></td>
<td>Cracks in mosaic support panels</td>
</tr>
<tr>
<td><img src="image9" alt="Detached fragments" /></td>
<td>Detached fragments</td>
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</tbody>
</table>

**ID:** HE1H2P12  
**BASE MADE ON:** 06/12/2010  
**PREPARED BY:** Ermanno Carbonara  
**DATE:** 05/31/2010
Current Interventions (Phase 1)

**DATA FORM NO. 5—CURRENT INTERVENTIONS**

**INTERVENTION PHASE**

**MOSAIC: HE_H2P_12**

**INTERVENTION TYPE**

- Initial intervention
- Maintenance cycle

**DATE OF PREVIOUS TREATMENT**

Construction of the panels 1999

**DATE OF PREVIOUS INSPECTION**

31 May – 12 June 2010

**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
- Retouching tesserae
- Filling interstices between tesserae

**LEGEND—CURRENT INTERVENTIONS MAP**

- Vegetation removal
- Cleaning of part of the surface
- Retouching tesserae
- Mortar composition: Extra fine
  - 1 NNI 6
  - 1 white cement
  - 1 sand, 0.5
  - 1 lime powder, 0.5
- Mortar composition: Fine
  - 1 NNI 6
  - 1 white cement
  - 2 sand, 0.5
  - 1 lime powder, 0.5
- Filling interstices between tesserae
- Mortar composition
- Grouting voids between preparatory layers
- Mortar composition
- Infilling of lacunae and/or edging repair
  - Mortar composition: Medium size
    - 1 NNI 6
    - 1 white cement
    - 2 sand, 0.5
    - 1 lime gravel, 0.5
  - Mortar composition: Large size
    - 1 NNI 6
    - 1 white cement
    - 2 sand, 0.5
    - 1 lime gravel, 0.5
- Infilling of lacunae and/or edging repair
  - Mortar composition
- Facing with adhesive: Vinyl adhesive "SISTOL 794"

**PREPARED BY:**

Ermanno Carbonara

**DATE:**

June 2010
Current Interventions (Phase 2)

**Data Form No. 5—Current Interventions**

**Mosaic ID:** HE_HDP_12

**Intervention Phase:**

**Intervention Type:**
- Initial intervention
- Maintenance cycle

**Date of Previous Intervention:**
11-29 October 2010 and 16-22 November 2010

**Date and Length of Current Work:**
Before 2012

**Treatments Carried Out on the Mosaic:**
- Vegetation removal
- Cleaning of the entire surface
- Removal of modern repair mortars
- Reversing tesserae
- Drying interstices between tesserae

**Legend—Map**

**Current Interventions**

**Additional Sheet**

**Mosaic ID:** HE_HDP_12

**Legend:**
- Red: Reinstalled mosaic sections
- Yellow: Sections reinstalled with bedding mortar set
  - Mortar composition:
    - 1 NHE 6 white cement
    - 1 lime putty
    - 1 mortar powder (MF)...
    - 1 lime putty (MF)...

**ID:** HE_HDP12

**Base Made On:** 05/12/2010

**Prepared By:** Ermanno Carbonara

**Title:** Current Interventions Map (Additional Map)

**Date:** October/2010

**Prepared By:** Ermanno Carbonara

**Date:** October 2010

**Scale:** 0 50 100 cm

**North Arrow:**
Current Interventions (Phase 2)

**DATA FORM NO. 5—CURRENT INTERVENTIONS**

<table>
<thead>
<tr>
<th>Mosaic ID: HE/H2P/12</th>
<th>Intervention Type</th>
<th>Date of Previous Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial intervention</td>
<td>11-29 October 2010 and 16-22 November 2010</td>
</tr>
<tr>
<td></td>
<td>Maintenance cycle</td>
<td>Before 2012</td>
</tr>
</tbody>
</table>

**TREATMENTS CARRIED OUT ON THE MOSAIC**
- Vegetation removal (with glyphosate around the southern part of the mosaic)

**CURRENT INTERVENTIONS MAP**

**LEGEND—CURRENT INTERVENTIONS MAP**

- Vegetation removal
- Cleaning of part of the surface
- Repairing tesserae
  - Mortar composition: 1 NTL 6:
    - sand: 0.5
    - stone powder: 0.5
  - 1 NTL 6:
    - sand: 0.5
    - stone powder: 0.5

- Filling interstices between tesserae
  - Mortar composition: 1 NTL 6:
    - sand: 0.5
    - granit: 0.5

- Grouting voids between preparatory layers
  - Mortar composition:

- Infilling of lacuna and/or edging repair
  - Mortar composition: 1 NTL 6:
    - white cement: 0.5
    - lime putty: 0.5

- Reinforcing elements
  - Mortar composition:

- Filling and infilling with lime putty
  - Mortar composition: lime putty: 0.5

- Facing with adhesive:

**PREPARED BY:** Ermanno Carbonara

**ID:** HE/H2P/12 / North area

**TITLE:** Current Interventions Map

**DATE:** 16-22 November, 2010

**BASE MADE ON:** 06/12/2010

**PREPARED BY:** Ermanno Carbonara
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.