MOSAIKON: Alternative Backing Methods and Materials Research

SURVEY RESULTS

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Survey Information

- This survey was prepared to support the ongoing research of a component of MOSAIKON Initiative investigating sustainable backing methods that are reversible, durable and which employ locally available and inexpensive materials to conserve detached mosaics in museums and storage.

- The survey aims to gather information on backing methods applied to date and local availability of materials in the Mediterranean countries of the MOSAIKON Initiative.

- It was distributed at the ICCM conference on 24-27 October 2011 in Meknes, Morocco.
Acknowledgements

We would like to thank Jeanne Marie Teutonico, Giacomo Chiari, Leslie Friedman and MOSAIKON Project partners, in particular Alison Sawdy Heritage of ICCROM for revising the questionnaire and helping to finalize the content and format.

Special thanks goes to Mary Awad and GCI intern Joyce Azzam for translating the questionnaire in Arabic, and to intern Juana Segura Escobar and Elsa Bourguignon for translating the French version. The completed questionnaires in Arabic were translated to English by Dina Abou Salem.
Participants

- 35 completed survey forms were collected.
- From the countries participating in the MOSAIKON Initiative Jordan, Cyprus and Greece were not represented.
- One form without location of work was excluded.
- An address book was prepared.

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<th>Lebanon</th>
<th>Libya</th>
<th>Morocco</th>
<th>Syria</th>
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- Algeria
- Egypt
- Lebanon
- Libya
- Morocco
- Syria
- Tunisia
- Turkey
- Europe
- USA
Results

- Results presented here include countries which are currently participating or possibly may participate in the MOSAIKON Initiative.

- Results are summarized under three titles:
  - Profession distribution (pages 7-8)
  - Backing methods (pages 9-19)
  - Material availability (pages 20-30)

- Only domestically produced materials are included in this presentation.
Profession Distribution

- Conservator: 32%
- Conservation technician: 7%
- Mosaic restorer: 32%
- Archaeologist: 12%
- Art historian: 3%
- Curator: 2%
- Other: 12%
- Architect: 0%
- Conservation technician: 7%
Conservation Profile Distribution

- 15 participants indicated more than one profession
- 11 participants selected conservator and/or conservation technician and/or mosaic restorer
Backing Methods: In the past

- Plaster of Paris with wooden armature
Backing Methods: Last 10 years

- Plaster of Paris with wooden armature
Backing Methods: In the past

- Steel reinforced concrete
Backing Methods: Last 10 years

Steel reinforced concrete
Backing Methods: In the past

- Aluminum honeycomb panels
Backing Methods: Last 10 years

- Aluminum honeycomb panels
Backling Methods: In the past

- Lime-based mortar with reinforcement
- Lime-based mortar (cement added) with reinforcement
Backing Methods: Last 10 years

- Lime-based mortar with reinforcement
- Lime-based mortar (cement added) with reinforcement
Backing Methods: Adhesive use

- **Intervention layer**
- **Bonding support panel**
Backing Methods: Mortar-based intervention layer

- Lime
- Cement
- Cement-Lime
- Hydraulic lime
- Synthetic mortar
Material Availability: Adhesives

- Natural glues
- Epoxy resins
- Acrylic resins
- Vinyl resins
- All
Material Availability: Quicklime, lime putty
Material Availability: Dry hydrated lime
Material Availability: Pozzolans

- Brick powder
- Metakaolin
- Pumice powder
- Pozzolana
- All
Material Availability: Natural hydraulic lime

- NHL 3.5
- NHL 6.0
- Not specified
- All

Map showing the availability of natural hydraulic lime across different regions.
Material Availability: Al honeycomb panels

In Syria, a new support panel is currently being tested for mosaic backings. Estimated cost: 300 Euros per m².
Material Availability: Other lightweight panels

Domestic or imported production is not specified for plastic grids in Tunisia.
Material Availability: Lightweight aggregates

- Pumice stone
- Volcanic Tuff
- Perlite (natural)
- Expanded perlite

Macedonia: Domestic or imported production is not specified for pumice stone, perlite and expanded perlite.
Material Availability: Fibers

- Hemp
- Straw
- Fiberglass
- Carbon

Morocco: Domestic or imported production is not specified for fiberglass.

Slovenia: Domestic or imported production is not specified for carbon.

Lebanon: Domestic or imported production is not specified for fiberglass.
Material Availability: Fiberglass

- Rod
- Both
- Mesh
Material Availability: Stainless steel

- Rod
- Both
- Mesh

The map shows the availability of stainless steel rod, mesh, and both across various regions in the Middle East.
Summary of Results: Participant Distribution

- Some countries were represented by only one participant in this survey. The limited number of participants from specific countries may have influenced the generalized results. In the future, it is planned to send the survey to more people in these countries.

- Some countries including Jordan, Greece and Cyprus were not represented in this survey. The survey will be sent out to the conservators working in these countries.

- It is also considered to target groups with other occupations such as engineers, architects, manufacturers, etc. in the countries currently involved in the MOSAIKON initiative.
Summary of Results: Backing Methods

- The use of plaster of Paris with wooden armature and steel reinforced concrete as backing system has been reduced significantly.

- Before 2001, the use of aluminum honeycomb panels for mosaic backings was already widespread. During the last 10 years, more countries began to use this material.

- The countries using Al honeycomb panel backings also use adhesives for bonding the support panel. Some of these countries use adhesives in the intervention layer as well. Usually acrylic adhesives are used in the mortars, while epoxy resins are applied for bonding the support panel.
Summary of Results: Backing Methods

- The use of reinforced lime-based mortars for mosaic backings have been, and still are, a popular method in the region. A few countries use lime-based mortars with a cement additive.

- While lime is the most common mortar-based intervention layer used in all participating countries, cement, cement-lime and hydraulic lime mortars are also used.
Summary of Results: Material Availability

- Quicklime, lime putty and dry hydrated lime are widely available in the region.

- Domestic production of natural hydraulic lime is limited to NHL 3.5 in Turkey, Egypt, Morocco and Serbia, and to NHL 6 in Tunisia.

- Pumice and brick powder are the most available pozzolans in the region. Man-made pozzolan is only available in European countries.

- One or more types of lightweight aggregates including volcanic tuff, pumice stone and perlite are available in the participated countries. Man-made lightweight aggregates such as expanded perlite, shale, etc. are only produced in European countries.
Summary of Results: Material Availability

- Regarding fiber materials, hemp and/or straw is available in all the participating countries. In addition to these, carbon fiber is produced in Tunisia, fiberglass fiber is produced in Italy and Bulgaria, and both types of fibers are produced in Algeria, Egypt, Syria, Turkey, Serbia and Spain.

- Spain, Italy, Turkey and Syria have domestically produced honeycomb panels. Plastic grids are available in Spain, Italy, Serbia, Macedonia, Syria, Algeria and Morocco.

- Locally produced stainless steel mesh and/or rods are available in most of the participated countries while fewer countries produce fiberglass mesh and/or rods.
For more information on the MOSAIKON Initiative visit the Getty Conservation Institute website:  http://bit.ly/mosaikon

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