

# CALCITE ENCRUSTATION

## Sample

Limestone (bioclastic calcarenite)

Horse from the sculptural group "Birth of Venus". Fountain of Ciutadella Park. Barcelona. Spain. Sculptors: Hermanos Vallmitjana.

Project of Josep Fontseré (1875-1888).

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## Pathology Causes

Carbonate deposition and precipitation from the fountain water and the rock dissolution.

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## Visual Image



**Author:** Cetec-patrimoni

**Description:** Dark brown encrustation in contrast with the ochre stone colour. High adherence to substrate; compact and hard. It has a rough and opaque texture on dry surfaces and a smooth texture and translucent crystalline aspect on wet surfaces.

(Images during the encrustation removal process).

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## Image detail / macro



**Author:** Cetec-patrimoni

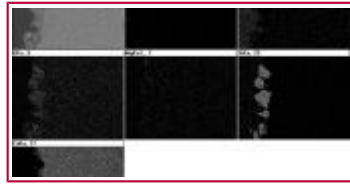
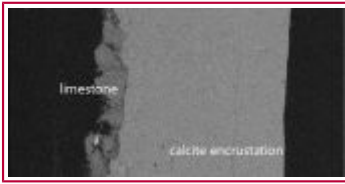
**Magnification:** x40

**Description:** Figure 1. Sample taken from the horse's tail (wet area): deposition of different brown layers with smooth texture (concretion) on an ochre layer (stone) and a green one (algae).

Figure 2. Sample taken from the horse's chest: different strata of brown deposition with nodular texture (concretion) on an ochre layer (stone).

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## Microscope Image



**Author:** Cetec-patrimoni

**Magnification:**

**Description:** The structure of the sample can be clearly seen.

The stone is very porous, with siliceous aggregates surrounded by a calcite and dolomite microcrystals (with presence of algae structures). Above, there is a thick layer of deposition of microcrystalline texture with highly developed calcite aggregates.

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### Associated Pathologies

Endolithic algae.

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### Bibliography

ICOMOS-ICS (2008). Illustrated glossary on stone deterioration pattern.

[http://international.icomos.org/publications/monuments\\_and\\_sites/15/pdf/Monuments\\_and\\_Sites\\_15\\_ISCS\\_Glossary\\_Stone.pdf](http://international.icomos.org/publications/monuments_and_sites/15/pdf/Monuments_and_Sites_15_ISCS_Glossary_Stone.pdf)

ORDAZ, J., & ESBERT, R. (1988). Glosario de términos relacionados con el deterioro de las piedras de construcción. *Materiales de Construcción*, 38 (209): 39-45. doi: 10.3989/mc.1988.v38.i209.847

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Restorer

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### Institution or Company

Universitat de Barcelona

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