A47 - MIRROR



A47.1

Identification

Sample:	A47
Card reference:	C52
Origin:	Etruria
Location:	Musée du Louvre n. 1719

Description

White metal alloy with a very high tin content (about 25%). The metal has been melted and poured (cast), there is no evidence of superficial tinning. The object has undergone selective corrosion which has penetrated and attacked the Cu-rich phase, while the Sn-rich phase is substantially unaltered. A secondary deposit of a layer of metallic copper has been locally formed.

Figure captions

A47.1

General view showing pores and inclusions in the metallic area (light upper part) and the selective penetration of corrosion from the surface (middle part). A layer of metallic copper can be seen.

A47.2

Detail of the interface between an area of corrosion and the metal, some copper particles are visible inside the corroded area.

A47.3

The structure of the alloy consists of primary dendrites of a Cu-rich phase (matrix) surrounded by the eutectoid phase (blue grey) (etchant: aqueous FeCl₃).

A47.4

Interface between the metal (top light region) and a corrosion layer (lower dark area) showing the continuity of the structure and the preferential character of the corrosion (etchant: aqueous $FeCl_3$)

A47.5

SEM image showing the interface between corroded (left)and uncorroded (right) regions; it can be seen that particles of lead present in the matrix (white spots on the right) have been preferentially corroded in the surface layer (left).









A47.2



A47.4



A47.1

General view showing pores and inclusions in the metallic area (light upper part) and the selective penetration of corrosion from the surface (middle part). A layer of metallic copper can be seen.





A47.3 The structure of the alloy consists of primary dendrites of a Cu-rich phase (matrix) surrounded by the eutectoid phase (blue grey) (etchant: aqueous FeCl₃).



A47.4 Interface between the metal (top light region) and a corrosion layer (lower dark area) showing the continuity of the structure and the preferential character of the corrosion (etchant: aqueous FeCl₃)



A47.5

SEM image showing the interface between corroded (left)and uncorroded (right) regions; it can be seen that particles of lead present in the matrix (white spots on the right) have been preferentially corroded in the surface layer (left).