

## **ANALYSIS OF BRONZE ARTIFICIAL PATINATION BY MEANS OF SECONDARY IONS MASS-SPECTROMETRY**

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The protective properties of artificial patinas on bronzes depend on their chemical composition and physical properties including patina layer thickness and its uniformity, the degree of metal adherence, the presence of metal exfoliation and any other localised attack, and also on smoothness of texture and presence of uniform colour. The artificial patinas produced by using three popular recipes were investigated by means FIB-SIMS 200 instrument. The FIB-images of the patinas showed that the patinas which were produced as a result of application of chemical solutions had a highly porous structures and very weak adhesion to the surface of the bronze while the patina produced as a result of the high temperature treatment had a solid, amorphous and uniform structure. Analysis of the chemical composition of patina layer showed signs of surface enrichment with different elements of bronze alloy depending on the recipe of patination.