

Látkové složení pigmentů zlaté tiskařské barvy použité na podstavcích minerálů v historické mineralogické expozici Národního muzea v Praze

Composition of pigments of gold printing-ink used on pedestals of mineralogical specimens in historical mineralogical exposition of the National Museum in Prague

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Abstract

Material composition of pigments of gold printing-ink used on pedestals of mineralogical specimens in historical mineralogical exposition of the National Museum in Prague has been determined by means of electron microprobe and microRaman analyses. Three types of pedestals originating from distinct periods of evolution of the mineralogical exposition were investigated. The oldest pedestals from the beginning of 20th century contain printing-ink based on finely powdered gold alloy composed of 90 wt. % Au, 7 wt. % Ag and 2 wt. % Cu. The printing-ink from pedestals from the 30's of the 20th century contains high contents of iron (20 wt. % Fe₂O₃), aluminium (7 wt. % Al₂O₃), chlorine (14 wt. % Cl) and sulphur (2 wt. % SO₃). The Raman spectrometry proved the presence of iron(III) hydroxide. We hypothesize that the pigment was probably based on Fe-Al hydroxides coloured by a sorbed yellow organic stain in this case. The youngest printing-ink used on pedestals from 80's of the 20th century contains relatively coarsely powdered alloy with composition equal to tombac (85 wt. % Cu and 15 wt. % Zn). The results show that distinctly different pigment compositions as well as different printing techniques were used in various stages of evolution of mineralogical exposition.

Key words: gold printing-ink, gold-coloured pigments, chemical composition, Raman spectrometry, historical mineralogical exposition, National Museum

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