

Treatment and conservation of an antique stone block

In the exhibition hall of Al-Qantara east

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Abstract

An archaeological stone block dating back to the era of new kingdom and displayed in the exhibition hall in Al Qantara East, registered with No. 930 and as a result of its display in an inappropriate display as a result of the use of natural lighting in the display, Represented in sunlight through windows opened day and night. The danger of these daily changes between the temperature degrees of night and day both daily and seasonally, which lead to the expansion and contraction of the rocks and then weakening their cohesion causing fragmentation. This is indeed the current situation of this block displayed in the hall, in addition to the fading of colors, as well as the use of a high-viscosity restoration material in the reinforcement that led to the attraction of dust and dirt and its adhesion to the surface. The color faded as a result of the lack of lighting control inside the exhibition hall, the remnants of the existing colors were blurred as a result of applying a reinforcement material with a high viscosity, which led to the attraction of dust and dirt, and then blurring the colors on the inscription. Examinations and analyzes were carried out on the block, and the results of the examination with a polarized microscope showed that it is of primitive limestone, which contains fossils and microorganisms, which helps to damage. The analysis using the Raman device also showed that the high viscosity material used in restoration in the past is Paraloid B72. The stone block was reinforced by using two materials; Nano calcium hydroxide with Nano silica in the form of (Core shell) at a concentration of 10% and it was applied using the brush.

Keywords

Al Qantara East; stone block, Treatment; Nano Materials; Nano Silica.