

Effectiveness of waterproofing protection coating on salt weathering experiment using building stones

*Chiaki T. Oguchi¹, Akimune Sasaki²

1. Institute for Environmental Science and Technology, Graduate School of Science and Engineering, Saitama University, 2. Department of Engineering, Saitama University

Salt damage impact on buildings and cultural properties and developing various coating materials on waterproofing protection were obtain investigated recently. However, there are few studies on its effectiveness under severe condition of saline solution immersion to building stones. In the present study, continuous partial immersion experiment were performed by using 4 types of specimens of Oya tuff and Savonierre sandstone blocks to be found the effectiveness of waterproofing protection coat. From the experiment, the following findings were obtained regarding the effectiveness of the protection coating for salt weathering: 1) preventing salt solution from absorbing water; 2) suppression of rock surface degradation by filling gaps in rock surface; 3) increase the strength of rock surface; and 4) causing a certain damage under conditions that allow water absorption.

Keywords: building stone, waterproofing protection coating, salt weathering