

Materials, Technologies and Practice in Historic Heritage Structures

One distinct feature of human society since the dawn of civilization is the systematic use of inorganic building materials, such as natural stone, unburnt and burnt soil, adobe and brick, inorganic binders like lime and cement, and reinforced concrete. Our heritage has cultural, architectural and technological value and preserving such structures is a key issue today. Planners and conservation scientists need detailed site surveys and analyses to create a database that will serve to guide subsequent actions. One factor in this knowledge base is an understanding of how historic materials were prepared and the crucial properties that influence their long-term behaviour. Any assessment of the way such materials perform must crucially be based on an understanding of the methods used for their analysis.

The editors here add to the knowledge base treating the materials used in historic structures, their properties, technology of use and conservation, and their performance in a changing environment. The book draws together 18 chapters dealing with the inorganic materials used in historic structures, such as adobe, brick, stone, mortars, concrete and plasters. The approach is complex, covering material characterisation as well as several case studies of historic structures from Europe, including Germany, Ireland, Italy, Poland, Portugal, Scotland, Slovenia and Spain, and the My Sön Temples in Vietnam. An equally important component of the book covers the analysis of materials, together with a treatment of sustainable development, such as the protection of monuments from earthquakes and climate change.

The authors are all leading international experts, drawn from a variety of backgrounds: architecture, civil engineering, conservation science, geology and material science, with close links to professional organisations such as ICOMOS or universities and research centres throughout Europe.

: This book will be of interest to geologists, engineers, restorers, consulting engineers, designers and other professionals dealing with cultural heritage and sustainable development. Also graduate students in applied geo-science (mineralogy, geochemistry, petrology), architecture and civil engineering will find interesting information in this book.

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