Synopsis

Civil Engineering Materials explains why construction materials behave the way they do. It covers the construction materials content for undergraduate courses in Civil Engineering and related subjects and serves as a valuable reference for professionals working in the construction industry. The book concentrates on demonstrating methods to obtain, analyse and use information rather than focusing on presenting large amounts of data. The topics are relevant to all the different stages of the course, starting with basic properties of materials and leading to more complex areas such as the theory of concrete durability and corrosion of steel. The text is supported by a large number of worked examples of exam-style questions in both MKS and US customary units.

* Discusses the broad scope of traditional, emerging and non-structural materials

* Rather than packing the book with facts that assume a prior knowledge of material properties like other texts do, this book starts from the beginning by explaining what specific heat, thermal conductivity and electrical resistivity are and how they can be used to calculate the performance of construction materials.

* Contains numerous worked examples with detailed solutions that provide precise references to the relevant equations in the text.

* Includes a detailed section on how to write reports as well as a full section on how to use and interpret publications, giving students and early career professionals valuable practical guidance.

* Based on over 20 years of experience by the author teaching Civil Engineering Materials to undergraduates.
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About the Author

Peter A. Claisse is an emeritus professor at Coventry University and the author of more than 100 publications construction materials. He graduated with a degree in Physics from Oxford University and then spent the next 9 years working as a Civil Engineer on major UK construction sites including four years on the Torness nuclear power station. He has been at Coventry University for the last 20 years teaching Civil Engineering Materials and researching transport processes in concrete and the use of secondary materials in cement. He is a Fellow of the Institution of Civil Engineers.

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