

MQC/MQA AND CQC/CQA OF GEOSYNTHETICS

Edited by

R. M. Koerner

and

Y. G. Hsuan

*Geosynthetic Research Institute, Drexel University,
Philadelphia, Pennsylvania, USA*

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FOREWARD

The general need for manufacturing quality control (MQC) and manufacturing quality assurance (MQA) of various products is apparent in almost every aspect of materials and services in our daily lives. It should be no surprise that geosynthetics require the same, or even more, concern as many other products due to the critical nature of their use. Yet, over and beyond the manufactured geosynthetic product is the care and concern of its field installation. This aspect is handled under the concepts of construction quality control (CQC) and construction quality assurance (CQA). The former are actions taken by the installation contractor, the latter by the inspection firm. These aspects of quality control and quality assurance are of critical importance to owner/operators, regulator/permit writers and indeed to the general public itself.

The first section of this book presents papers on perspectives by several regulators and owner/operators as to the significance of the inter-related topics of MQC/MQA and CQC/CQA.

The second section of this book focuses on the manufactured geosynthetic products themselves. Manufacturers present papers on the idiosyncrasies of quality control insofar as geomembranes, geotextiles, geogrids and geosynthetic clay liners are concerned. Many new, and innovative, techniques have recently been developed and are presented for the first time. It is felt that these papers establish a new state-of-the-art in the manufacturing quality control (MQC) of geosynthetic materials. Selected aspects of MQA are also addressed.

The third section of this book is devoted entirely to the construction and installation of geosynthetics. As such, papers from consulting and testing firms have presented their techniques insofar as CQA are concerned, as counterpointed to CQC. As with the previous papers, geomembranes, geotextiles, geogrids and geoappurtenances are described as well as an overall critique and a model program.

The fourth, and concluding, section of this book is devoted to advanced laboratory testing—sometimes referred to as analytical (or thermal) test methods. These powerful techniques are described and critiqued on a method-by-method basis. Papers on each topic have developed test data on geosynthetic materials insofar as the advantages and disadvantages of the particular method they are describing. This important part of the total program previews what will be the future state-of-the-art on the topic that some refer to as "fingerprinting of geosynthetics."

The papers within this book were presented at the 6th annual Geosynthetic Research Institute Conference held December 10-11, 1992 in Philadelphia, Pennsylvania, USA.

*Robert M. Koerner
Yick (Grace) Hsuan*
Co-Editors
December 13, 1992

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The Geosynthetic Research Institute (GRI) was founded on November 28, 1986. One charge is to do generic research on geosynthetic materials and related applications. Within its study are geotextiles, geogrids, geomembranes, geonets, geocomposites, geosynthetic clay liners and geopipes. Approximately 22 projects are currently ongoing. The education role of GRI is also a major thrust. In addition to training students by formal coursework and thesis projects, continuing education for a broad audience utilizing professional courses and seminars is presented. It is in this latter role that the conference series exists.

GRI is open to all organizations involved or interested in geosynthetics. This includes government agencies, facility owners, designers, consultants, testing laboratories, resin and additive suppliers, manufacturers and manufacturers representatives. We wish to acknowledge and thank the GRI members for their support. The current organizations and their GRI Board Members are as follows:

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