IN-LB	Inch-Pound Units
SI	International System of Units

Glass Fiber-Reinforced Concrete Premix—Report

Reported by ACI Committee 549

ACI PRC-549.3-22

American Concrete Institute
Always advancing

American Concrete Institute
Always advancing

First Printing
September 2022
ISBN: 978-1-64195-194-4

Glass Fiber-Reinforced Concrete Premix—Report

The technical committees responsible for ACI committee reports and standards strive to avoid ambiguities, omissions, and errors in these documents. In spite of these efforts, the users of ACI documents occasionally find information or requirements that may be subject to more than one interpretation or may be incomplete or incorrect. Users who have suggestions for the improvement of ACI documents are requested to contact ACI via the errata website at http://concrete.org/Publications/DocumentErrata.aspx. Proper use of this document includes periodically checking for errata for the most up-to-date revisions.

ACI committee documents are intended for the use of individuals who are competent to evaluate the significance and limitations of its content and recommendations and who will accept responsibility for the application of the material it contains. Individuals who use this publication in any way assume all risk and accept total responsibility for the application and use of this information.

All information in this publication is provided “as is” without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose or non-infringement.

ACI and its members disclaim liability for damages of any kind, including any special, indirect, incidental, or consequential damages, including without limitation, lost revenues or lost profits, which may result from the use of this publication.

It is the responsibility of the user of this document to establish health and safety practices appropriate to the specific circumstances involved with its use. ACI does not make any representations with regard to health and safety issues and the use of this document. The user must determine the applicability of all regulatory limitations before applying the document and must comply with all applicable laws and regulations, including but not limited to, United States Occupational Safety and Health Administration (OSHA) health and safety standards.

Participation by governmental representatives in the work of the American Concrete Institute and in the development of Institute standards does not constitute governmental endorsement of ACI or the standards that it develops.

Order information: ACI documents are available in print, by download, through electronic subscription, or reprint and may be obtained by contacting ACI.

Most ACI standards and committee reports are gathered together in the annually revised the ACI Collection of Concrete Codes, Specifications, and Practices.

American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48331
Phone: +1.248.848.3700
Fax: +1.248.848.3701

www.concrete.org

ACI PRC-549.3-22

Glass Fiber-Reinforced Concrete Premix—Report

Reported by ACI Committee 549

Antonio Nanni, Chair

Corina-Maria Aldea, Secretary

Nemkumar Banthia
Christian Carloni
Paolo Casadei
Gianmarco de Felice
Michael E. Driver
Ashish Dubey
Usama A. Ebead
Mahmut Ekenel
Garth J. Fallis
Houman Akbari Hadad
Ardalan Hosseini
Barzin Mobasher
Hani H. Nassif
Bekir Yilmaz Pekmezci
Alva Peled
Marco Quaini
Larry Rowland
Surendra P. Shah
Yixin Shao
Flavio de Andrade Silva
Lesley H. Sneed
J. Gustavo Tumialan

Consulting Members

Gordon B. Batson
James I. Daniel
John Jones
Antoine E. Naaman
Paul Nedwell
P. Paramasivam
Parviz Soroushian

Special acknowledgments to N. Sparrow for his contributions to this report.

Alkali-resistant (AR) glass fiber-reinforced concrete premix technology has become increasingly popular worldwide for manufacture of precast concrete products used in industrial, architectural, civil engineering, and construction applications. AR glass fiber-reinforced concrete premix products provide a useful balance of properties such as strength, toughness, durability, moisture resistance, dimensional stability, fire resistance, and aesthetics. This report summarizes the current knowledge of materials, manufacturing methods, engineering properties, and applications of AR glass fiber-reinforced concrete premix.

Keywords: cement-based composites; cement boards; composite materials; ductility; durability; fiber-reinforced cement-based materials; ferrocement; fibers; flexural strength; glass fiber-reinforced concrete; glass fibers; manufacturing methods; mesh reinforcement; panels; premix; toughness.

CONTENTS

ACI PRC-549.3-22 supersedes ACI 549.3R-09(17) and was adopted and published in September 2022.