

# Concrete Materials

Transportation Research Record: Journal of the Transportation  
Research Board Volume 2629 (2017)

ISBN: 978-1-5108-5432-1

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2017) by Transportation Research Board of the National Academies  
All rights reserved.

ISBN (Print) 978-1-5108-5432-1  
ISBN 2017 Printed Set (All Issues) 978-1-5108-5406-2

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact Transportation Research Board of the National Academies  
at the address below.

Transportation Research Board  
The National Academies of Sciences, Engineering, and Medicine  
500 Fifth Street, NW  
Washington, DC 20001

Phone: (202) 334-2934  
Fax: (202) 334-2519

trbsales@nas.edu

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: curran@proceedings.com  
Web: www.proceedings.com

# TABLE OF CONTENTS

<b>Should Minimum Cementitious Contents for Concrete Be Specified?</b> .....	1
<i>Obla, Karthik H.; Hong, Rongjin; Lobo, Colin L.; Kim, Haejin</i>	
<b>Effect of Specimen Size and Curing Condition on the Compressive Strength of Alkali-Activated Concrete</b> .....	9
<i>Thomas, Robert James; Peethamparan, Sulapha</i>	
<b>Mitigation of Alkali-Silica Reaction by Hydrated Alumina</b> .....	15
<i>Szeles, Tiffany; Wright, Jared; Rajabipour, Farshad; Stoffels, Shelley</i>	
<b>Use of Fly Ash to Minimize Deicing Salt Damage in Concrete Pavements</b> .....	24
<i>Suraneni, Prannoy; Azad, Vahid J.; Isgor, O. Burkan; Weiss, W. Jason</i>	
<b>Role of Ground Glass Fiber as a Pozzolan in Portland Cement Concrete</b> .....	33
<i>Rashidian-Dezfouli, Hassan; Rangaraju, Prasada Rao</i>	
<b>Risk of Thermal Cracking from Use of Lightweight Aggregate in Mass Concrete</b> .....	42
<i>Tankasala, Aravind; Schindler, Anton K.; Riding, Kyle A.</i>	
<b>Relationships Between Structural, Functional, and X-Ray Microcomputed Tomography Parameters of Pervious Concrete for Pavement Applications</b> .....	51
<i>Chandrappa, Anush Konayakanahalli; Biligiri, Krishna Prapoorna</i>	
<b>Evaluation of Self-Healing Efficiency of Reinforced Concrete Beams with Calcium Nitrate Microcapsules</b> .....	63
<i>Bonilla, Luis; Hassan, Marwa; Noorvand, Hassan; Rupnow, Tyson; Okeil, Ayman</i>	
<b>Investigation of Properties of High-Performance Fiber-Reinforced Concrete: Very Early Strength, Toughness, Permeability, and Fiber Distribution</b> .....	73
<i>Khakimova, Evelina; Ozyildirim, H. Celik; Harris, Devin K.</i>	
<b>Development of a Specification for Low-Cracking Bridge Deck Concrete in Virginia</b> .....	83
<i>Nair, Harikrishnan; Ozyildirim, H. Celik; Sprinkel, Michael M.</i>	
<b>Laboratory Evaluation of Sound Absorption Characteristics of Pervious Concrete Pavement Materials</b> .....	91
<i>Chu, Longjia; Fwa, Tien F.; Tan, Kiang H.</i>	
<b>Comparative Study of Rebound Hammer, Nitto Hammer, and Pullout Tests to Estimate Concrete In-Place Strength by Using Random Sampling Analysis</b> .....	104
<i>Spalvier, Agustin; Hall, Kerry; Popovics, John S.</i>	
<b>Author Index</b>	