

A Fracture Approach for FRP-Concrete Structures 2012

Held at the ACI Spring 2012 Convention ACI SP 286

**Dallas, Texas, USA
18-22 March 2012**

Editors:

**Maria Lopez
Christian Carloni**

ISBN: 978-1-62276-638-3

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© (2012) by the American Concrete Institute
All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact the American Concrete Institute
at the address below.

American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48333 USA

Phone: (248) 848-3700

Fax: (248) 848-3701

BKStore@concrete.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

SP-286—1	Prediction of Frp Debonding Using the Global-Energy-Balance Approach Authors: Chris J. Burgoyne, Mithila Achintha, Garfield X. Guan	1
SP-286—2	Fracture Approaches to Debonding in FRP Systems for Double Sided Flexural Upgrade Authors: Oded Rabinovitch	19
SP-286—3	Fracture Characteristics of Notched Concrete Beams Shear-Strengthened with CFRP Sheets Subjected to High Temperature Authors: Yail J. Kim, Amer Hmidan, Kyoung-Kyu Choi, and Siamak Yazdani	39
SP-286—4	Effect of the Fracture Energy of the FRP/Concrete Interfacial Behavior on Beams Strengthened in Shear with EB-FRP Authors: Ahmed Godat, Omar Chaallal	59
SP-286—5	Shear Behavior of RC Structural Members Strengthened with FRP Materials: a Three Dimensional Numerical Approach Authors: Tommaso D'Antino, Carlo Pellegrino, Valentina Salomoni, Gianluca Mazzucco	69
SP-286—6	Shear Strength of FRP Reinforced Concrete Beams without Stirrups: Verification of Fracture Mechanics Formulation Authors: Fabio Matta, Paolo Mazzoleni, Emanuele Zappa, Michael A. Sutton, Mohamed ElBatanouny, Aaron K. Larosche, Paul H. Ziehl	85
SP-286—7	Fracture Mechanics Approaches to Debonding Behavior of Reinforced Concrete Members with Externally-Bonded Fiber Reinforced Polymer Laminates Authors: Corey Grace, Yang Yang, and Lesley Sneed	99
SP-286—8	SRG Application for Structural Strengthening of RC Beams Authors: F. da Porto, E. Stievanin, E. Gabin, M.R. Valluzzi	119
SP-286—9	Material Characterization of the Concrete-Epoxy Interface under FRP Wraps Authors: JaeHa Lee, Maria M. Lopez	133
SP-286—10	Application of Fracture Mechanics to Debonding of FRP from RC Members Authors: Christian Carloni, Kolluru V. Subramaniam	145