



Cover: MECHANICAL SHEAR CONNECTOR IN
CONCRETE FILLED STEEL TUBE COLUMN

Courtesy: J. G. RIBEIRO NETO, GOIÂNIA, BRAZIL
A. M. SARMANHO, OURO PRETO, BRAZIL



IBRACON

**Ibracon Structures
and Materials Journal**

is published bimonthly
(February, April, June, August, October
and December) by IBRACON.

IBRACON

Instituto Brasileiro do Concreto
Founded in 1972

R. Julieta do Espírito Santo Pinheiro, 68
Jardim Olímpia, São Paulo – SP
Brasil – 05542-120
Phone: +55 11 3735-0202
Fax: +55 11 3733-2190
E-mail: arlene@ibracon.org.br
Website: http://www.ibracon.org.br

Editors

Américo Campos Filho
(Brazil)

José Luiz Antunes de O. e Sousa
(Brazil)

José Márcio Fonseca Calixto
(Brazil)

Leandro Francisco Moretti Sanchez
(Canada)

Mauro Vasconcelos Real
(Brazil)

Rafael Giuliano Pileggi
(Brazil)

Roberto Caldas de Andrade Pinto
(Brazil)

Ronaldo Barros Gomes
(Brazil)

Túlio Nogueira Bittencourt
(Brazil)

Cover design & Layout:
Ellementto-Arte
www.ellementto-arte.com

Volume 10, Number 3

June, 2017

ISSN: 1983-4195

REVISTA IBRACON DE ESTRUTURAS E MATERIAIS

IBRACON STRUCTURES AND MATERIALS JOURNAL

Contents

Stress-strain curve of concretes with recycled concrete aggregates: analysis of the NBR 8522 methodology

D. A. GUJEL, C. S. KAZMIERCZAK and J. R. MASUERO

547

Investigation of the influence of different surface regularization methods for cylindrical concrete specimens in axial compression tests

R. MEDEIROS, B. A. PEREIRA, G. SIPP and T. DELFINO

568

Experimental analysis of a mechanical shear connector in concrete filled steel tube column

J. G. R. NETO and A. M. SARMANHO

592

Port structures – the distribution of forces on infrastructure due to mooring and berthing of vessels

C. COMIN and R. M. DE SOUZA

626

Monitoring the carbonation front progress in a cementitious composite having its pore structure analyzed through μ -CT imaging

E. LACERDA, A.G. MAGALHÃES, E. E. BERNARDES, E. H. M. NUNES and W. L. VASCONCELOS

653

Study of blast wave overpressures using the computational fluid dynamics

M. L. COSTA NETO and G. N. DOZ

669

The effect of the failure of the steel roof on the facade concrete columns of a warehouse in fire. A study case

I. PIERIN, V. P. SILVA and M. R. VARGAS

687

The influence of deck flexibility on the dynamic response of road bridges

E. P. SCHMIDT and C. E. N. MAZZILLI

706

Experimental study of the mechanical behavior of self-compacting concrete based on fracture mechanics

G. O. RIBEIRO, P. C. GUETTI and P. SERNA

744

Variation analysis effects of square and rectangular columns section with different longitudinal reinforcement rates in the main reinforcement two pile caps analysis

F. S. MUNHOZ and J. S. GIONGO

760