



Cover: PULLOUT PERFORMANCE OF STEEL BARS PARTIALLY BONDED IN CONCRETE WITH EPOXY RESIN

Courtesy: R. H. SOUZA, RIO DE JANEIRO, 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)

Osvaldo Luís Manzoli
(Brazil)

Paulo César Correia Gomes
(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 11, Number 3

June, 2018

ISSN: 1983-4195

REVISTA IBRACON DE ESTRUTURAS E MATERIAIS

IBRACON STRUCTURES AND MATERIALS JOURNAL

Contents

Comparison between resistant load contours generated considering the parabolic-rectangular (DPR) and the rectangular (DR) stress-strain diagrams for rectangular sections under combined axial compression and biaxial bending

Y. F. FONSECA and A. S. C. SILVA

455

Effect of corrosion degree on mechanical properties of reinforcements buried for 60 years

C. E. T. BALESTRA, M. G. LIMA, A. Z. MENDES and R. A. MEDEIROS-JUNIOR

474

Influence of the placement rate on the fresh concrete lateral pressure in the design of formworks

M. O. SOUSA, N. S. SANTOS, R. L. PEREIRA, P. C. R. MARTINS and L. J. PEDROSO

499

Nonlinear analysis of concrete structures using GFEM enrichment strategy with a microplane constitutive model

A. R. V. WOLENSKI, A. B. MONTEIRO, S. S. PENNA, R. L. S. PITANGUEIRA and F. B. BARROS

523

Structural analysis of composite metakaolin-based geopolymers concrete

F. PELISSER, B. V. SILVA, M. H. MENGER, B. J. FRASSON, T. A. KELLER, A. J. TORII and R. H. LOPEZ

535

Evaluation of the chloride penetration and service life of self-healing concretes activated by crystalline catalyst

P. HELENE, G. GUIGNONE, G. VIEIRA, L. RONCETTI and F. MORONI

544

Soil-structure interaction analysis considering concrete creep and shrinkage

L. M. P. ROSA, B. R. DANZIGER and E. M. L. CARVALHO

564

Coding the “New Implicit Method” in MatLab for preliminary tunnel design

W. C. FERRÃO and D. BERNAUD

586

Pullout performance of steel bars partially bonded in concrete with epoxy resin

R. H. SOUZA, M. E. TAVARES and D. V. FERNANDES

598

Influence of transverse rebars on bond between steel reinforcement and cellular concrete with very low compressive strength

P. R. N. SOUDAIS, J. S. CAMACHO and G. A. PARSEKIAN

620

Fresh concrete consistency effect on thin-walled columns creep phenomenon

E. L. MADUREIRA and L. A. PAIVA

644