

Editor-in-chief:

Prof. György L. Balázs

Editors:

Dr. Herbert Träger[‡]

Editorial Board:

János Barta
Dr. Béla Csíki
Dr. Olivér Czoboly
Assoc. Prof. Attila Erdélyi
Prof. György Farkas
Gyula Kolozsi
Assoc. Prof. Katalin Kopecskó
Assoc. Prof. Kálmán Koris
Assoc. Prof. Imre Kovács
Dr. Károly Kovács
Assoc. Prof. Tamás Kovács
Ervin Lakatos
Assoc. Prof. Éva Lublói
László Mátyássy
Assoc. Prof. Balázs Móczár
Assoc. Prof. Salem G. Nehme
Assoc. Prof. Zoltán Orbán
Zsuzsa Pisch
László Polgár
Assoc. Prof. István Sajtos
Antonia Teleki
Attila Várdai
Assoc. Prof. István Völgyi
József Vörös

Board of Reviewers:

Prof. Endre Dulácska
Antónia Királyföldi[‡]
Botond Madaras
Dr. Gábor Madaras
Prof. Árpád Orosz[‡]
Prof. Kálmán Szalai
Dr. Ernő Tóth

Founded by: Hungarian Group of *fib*

Publisher: Hungarian Group of *fib*

(*fib* = International Federation for
Structural Concrete)

Editorial office:

Budapest University of Technology
and Economics (BME)
Department of Construction Materials
and Engineering Geology
Műegyetem rkp. 3., H-1111 Budapest
Phone: +36-1-463 4068
Fax: +36-1-463 3450
WEB <http://www.fib.bme.hu>
WEB editor: András Biró

Layout and print: Csaba Halmai,
Navigar Ltd.

Price: 10 EUR, Printed in 1000 copies

© Hungarian Group of *fib*

HU ISSN 2062-7904

online ISSN: 1586-0361

Cover photo:

Construction of Tisza bridge at M44
expressway between Lakitelek and
Tiszakürt

Photos by: Zoltán Kispéter

CONTENT

- 2** István Lakatos - Zoltán Kispéter
**CONSTRUCTION WORKS OF THE TISZA BRIDGE
IN THE M 44 EXPRESSWAY SECTION BETWEEN
LAKITELEK-TISZAKÜRT**
- 4** Andor Windisch
**EXTENDED RANKINE FAILURE CRITERIA FOR
CONCRETE**
- 11** Hon. Prof. Tibor Kausay
**APPLICATION OF THE WEIBULL DISTRIBUTION TO
THE DESCRIPTION OF THE SKEW DISTRIBUTION OF
CONCRETE COMPRESSIVE STRENGTH**
- 23** Josef Süßmilch - Lukáš Gric - Petr Fabián - Edit Tóth-Bodrogi -
Salem Nehme - Attila Baranyi - Katalin Kopecskó
**SOLIDIFICATION OF RADIOACTIVE EVAPORATOR
RESIDUES WITH HIGH BORATE CONTENT**
- 31** Asseel Al-Hijazeen - Muhammad Fawad - Kálmán Koris - Marek
Salamak
**STRENGTHENING AND SHM SYSTEM INSTALLATION
ON RC SLAB USING NON-LINEAR FE ANALYSIS**
- 41** Naser S. Alimrani - Marwah M. Thajeel - György L. Balázs
**STRUCTURAL ASPECTS OF TOPOLOGY
OPTIMIZATION IN 3D PRINTING OF CONCRETE**
- 47** Marwah M. Thajeel - Naser S. Alimrani - György L. Balázs
**3D CONCRETE PRINTING STRUCTURAL AND NON-
STRUCTURAL SOLUTIONS**
- 54** Abdelmelek Nabil - György L. Balázs
**3D CONCRETE PRINTING: VARIETY OF AGGREGATES,
ADMIXTURES AND SUPPLEMENTARY MATERIALS**
- 60** Marwah M. Thajeel – György L. Balázs
3D PRINTING TECHNOLOGY IN MEDICINE - REVIEW
- 64** Marwah M. Thajeel - György L. Balázs
**3D PRINTING FOR EARTH CONSTRUCTIONS -
REVIEW**
- 68** *fib* **BULLETIN 101, 102**

Sponsors:

Railway Bridges Foundation, ÉMI Nonprofit Ltd., HÍDÉPÍTŐ Co., Holcim Hungary Co.,
MÁV Co., MSC Consulting Co., Lábatlani Vasbetonipari Co., Pont-*TERV* Co.,
UVATERV Co., MÉLYÉPTEK KOMPLEX Engineering Co.,
SW Umwelttechnik Hungary Ltd., Betonmix Consulting Ltd., BVM Épelem Ltd.,
CAEC Ltd., Pannon Freyssinet Ltd., STABIL PLAN Ltd., UNION PLAN Ltd.,
DCB Consulting Ltd., BME Dept. of Structural Engineering,
BME Dept. of Construction Materials and Technologies