

Contents and abstracts

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CONTENTS AND ABSTRACTS

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Tom 53(67), Fascicola 1, 2008, ISSN 1224-6026

A. I. Dogariu¹ “Masonry Shear Walls Strengthened with Metal Sheathing: FEM Modelling” **5**

1. Assistant profesor, “Politehnica” University of Timisoara – Romania. e-mail: adrian.dogariu@ct.upt.ro

Abstract – *In this paper, numerical investigations of an innovative retrofitting system for masonry shear walls are presented. In order to set up an appropriate and reliable design tool, a numerical model has been developed by the authors by using the non-linear software Abaqus. A good agreement between the experimental and the numerical results has been achieved.*

R. Radoslav¹ “The Necessity to Establish Objective Criteria in Urban Planning” **15**

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Abstract – *In the urban chaos created by the segmented application of the developers profit maximization concept and by some standard criteria it is necessary to clarify an urban space quality concept which would be accepted by all the participants who operate in this domain.*

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Abstract – *The common steel samples are tested on the axial tension stress. There are three types of specimens: smooth, ribbed specimen on longitudinal axis and specimen with weld seams on the longitudinal axis. The welding process endows the specimen with residual stresses that are superimposed on the dynamic actual ones. The stresses of peak values result. The fatigue crack nucleates at the location of the peak value stress.*

M. Lute¹ “Practical Method for Concrete Structures Integrity Estimation” **37**

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Abstract – *A major problem of the existing buildings is the assurance in time of their durability, service safety and quality. In order to fulfill this task, first step to do is finding an accurate description of the present state of the structure in terms of strength and durability. The present paper proposes a non-invasive method for reinforced concrete structures assessment, method that takes into account the variation of natural frequency of the structure during exploitation.*

N. Muntean¹, A. Stratan², D. Dubina³ “Experimental Evaluation of Strength and Ductility Performance of Weld Details and T-Stub Bolted Connections between High Strength and Mild Carbon Steel Components” **45**

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Abstract – *The paper summarizes an extensive experimental program aiming to evaluate strength and ductility performance of welded connections between high strength and mild carbon steel components. These connections are components of moment resisting beam-to-column joints in dual-steel building frames. Joint components, both bolted and welded, are of High Strength Steel (HSS) and Mild Carbon Steel (MCS). In this paper, test results on different weld details, used to connect HSS with MCS components and bolted T-stub specimens are presented and analyzed.*

A. Ciutina¹ "Cyclic Performances of Shear Connectors" 57

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Abstract – Natural cyclic loads such as strong winds and earthquakes can cause changes in bending moment signs in composite structural elements. In consequence, the connectors will be subjected to alternate shear forces. For this reason, the cyclic behavior of shear connectors is particularly important in these loading conditions. The research described in this paper refers to a set of 10 experimental tests on five different types of connectors (angle profiles, $\Phi 16\text{mm}$ and $\Phi 22\text{mm}$ shear connectors, perfobond connectors and reinforcement hooks), subjected to cyclic and monotonic loading, through push-out and respectively push-pull tests. The experimental results are discussed in terms of resistance, ductility and stiffness, and compared to analytical formulae used for strength determination.

F. Dinu¹, S. Bordea², D. Dubina³ "High Strength Steel Dual Frames With Buckling Restrained V Braces" 67

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Abstract – In the paper the performance of three different steel structural systems – eccentrically braced frame, centrally braced frame and buckling restrained braced frame were studied. Seismic performance of each structure was evaluated using non-linear incremental analysis and a set of seven time histories. Advantages of preventing the compressed diagonal to buckle are underlined.

Tom 53(67), Fascicola 2, 2008, ISSN 1224-6026C. Bocan¹ "Housing in Post War Romania and Communist Districts" 5

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Abstract – Most of the urban population of Romania used to live at the beginning of the '90s in standard blocks of collective dwellings. This was possible because of the housing politics applied by the communist state at the end of World War II and the direct influence / pressure exerted by the Soviet Union. The models taken from URSS are both architectural and urban. The presence in such great amount of prefabricated concrete panels blocks and the impossibility to replace them with something suited to the contemporary needs of comfort draws attention upon their importance in the current construction "industry".

D.F.Tudor¹, C Furdui², A. Tudor³, S. Ianca⁴, L. Nicolae⁵, D. Diaconu⁶ "Rehabilitation of the "Old Wing" of the Opera House - Timișoara" 13

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Abstract – The object of the present paper is the re-functioning and the rehabilitation of the wing A of the Opera House, situated in Timisoara, 3 Victory Square, in the continuation of the wing A2. The latter was built subsequently, from the street Marasesti and expanded on the street Alba Iulia. The edifice of the Opera House occupies position no. 78 code TM-II-m-A-06118 on the list of Historical Monuments of 2004 and in the Appendix 3 I-Cultural Heritage Values of National Interest (Historical monuments of exceptional value). Together with the other wings of the PALACE OF THE CULTURE of Timisoara, it houses four cultural institutions representative for the capital of the Timis County, Timisoara. These are: the Romanian Opera, the National Theatre, the German Theatre, and the Hungarian Theatre. The Wing A, also called "The old wing", was built from 1874 until 1875, initially being intended to serve as a theatre and as an inn. At the construction date there was an interior passage that made the connection between the streets Marasesti and Alba Iulia, but at present it is filled in and closed. In 2007, the City Hall of Timisoara decides to re-function and rehabilitate the buildings belonging to the Palace of the culture of Timisoara.

A. Cristea¹, R Mare² "Aspects Regarding the Designing of the Compressed Air Installation for the Dental Cabinets" 25

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Abstract – *The designing of the compressed air local installations used in dental cabinets has as base the idea that they must realize compressed air at the parameters assessed by the technological process, usually without oil and in some cases, sterile. Some theoretical and practical aspects regarding the design and the optimization of the compressed air installations for are presented.*

C.Grecea¹, S Herban², C. Muşat³ “*Research and Results in Developing Models for Constructions Deformation*” **33**

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Abstract – *A very important engineering domain of activity closely related to Land Measurements is defined by Civil Engineering. The quick development of technologies, new and modern ideas and also the existence of financial funds guided to a big diversification of constructions, meaning buildings, roads and works of art. In this context many technical problems occurred, in most of the cases being necessary the implication of the surveyors. Thus, a strong interdisciplinary connection between civil engineers and geodesists has been established. Also, the development of topographic measuring techniques has permitted and created the possibility to determine and distinguish even the finest movements of buildings and lands. Even so, the movements of some constructive elements of a building are difficult to establish because, while choosing the method or model to determine their movement and deformations, the aprioristic knowledge which refer to the type of movement, during the most probable moment when this happens, is not known or taken into consideration. In other cases, this can be even impossible.*

R. Zaharia¹, D. Pintea², D. Dubina³ “*Fire After Earthquake – Study Considering Natural Fire*” **43**

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Abstract – *Fire following earthquake can cause substantially loss of life and property, added to the destruction caused by the earthquake, and represents an important threat in seismic regions. Problems related to traffic congestion, water supply and to the possibility of a prompt intervention of the fire brigade in case of a fire arising after an earthquake are some of the aspects of the increased risk. The authors present a study on two multi-storey moment-resisting steel frame structures subjected to earthquake and fire subsequently. The design of the structures is made according to the Romanian seismic code (P100-1/2006). The study is done considering the “Two Zone” natural fire model.*