9th International Scientific Conference on Building Defects (Building Defects 2017)

MATEC Web of Conferences Volume 146 (2018)

Ceske Budejovice, Czech Republic 23 - 24 November 2017

Editor:

Ingrid Juhasova Senitkova

ISBN: 978-1-5108-5613-4

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.

This work is licensed under a Creative Commons Attribution license: http://creativecommons.org/licenses/by/2.0/

You are free to:

Share – copy and redistribute the material in any medium or format.

Adapt – remix, transform, and build upon the material for any purpose, even commercial.

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. The copyright is retained by the corresponding authors.

Printed by Curran Associates, Inc. (2018)

For additional information, please contact EDP Sciences – Web of Conferences at the address below.

EDP Sciences – Web of Conferences 17, Avenue du Hoggar Parc d'Activité de Courtabœuf BP 112 F-91944 Les Ulis Cedex A France

Phone: +33 (0) 1 69 18 75 75 Fax: +33 (0) 1 69 28 84 91

contact-edps@webofconferences.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: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

TABLE OF CONTENTS

IMPLEMENTATION OF BIM-TECHNOLOGIES IN THE EDUCATIONAL PROGRAM OF THE ARCHITECTURAL UNIVERSITY	1
Krivonogov Alexandr, Zakharova Galina, Kruglikov Sergey, Plotnikov Sergey	
NEW APPROACH TO DECISION MAKING BY MULTIPLE CRITERIA ANALYSIS	8
Vanicek Tomas, Kucerova Jana	
THE ROLE OF MANAGING KNOWLEDGE AND INFORMATION IN BIM IMPLEMENTATION	
PROCESSES IN THE CZECH REPUBLIC	13
Nývlt Vladimír	13
DETECTING, MODELING AND QUANTIFYING DIFFERENCES IN TERMS MEANING, IN	
BIM ENVIRONMENT	10
Sura Miroslav	19
BUILDING DEFECTS AND METHODOLOGY OF PARTIAL RISK ASSESSMENT AS A STEP	25
TOWARDS IMPROVING QUALITY	25
Synek Jaroslav, Popenková Miloslava	22
BUILDING RENOVATIONS IN BIM SYSTEMS	32
Smutný Marian	
DEFECTS SEARCH DURING THE INSPECTION OF CIVIL AND INDUSTRIAL BUILDINGS	
AND STRUCTURES ON THE BASIS OF LASER SCANNING TECHNOLOGY AND	
INFORMATION MODELING APPROACH (BIM)	37
Galieva Anna B., Alekhin Vladimir N., Antipin Alexey A., Gorodilov Sergey N.	
ENERGY CONSUMPTION DURING THE BUILDING LIFE CYCLE – INFLUENCE OF	
INVESTMENT ACTIVITIES AND OPERATIONS	43
Vytlacil Dalibor	
REDUCING FAILURES RATE WITHIN THE PROJECT DOCUMENTATION USING BUILDING	
INFORMATION MODELLING, ESPECIALLY LEVEL OF DEVELOPMENT	49
Prušková Kristýna	
DYNAMIC MODEL OF IMPLEMENTATION EFFICIENCY OF BUILDING INFORMATION	
MODELLING (BIM) IN RELATION TO THE COMPLEXITY OF BUILDINGS AND THE LEVEL	
OF THEIR SAFETY	55
Hotový Martin	
SYSTEM DESCRIPTION OF THE DEFECT CREATION AND ELIMINATION IN THE	
BUILDINGS.	61
Vytlacil Dalibor	
USING BIM MODEL FOR FIRE EMERGENCY EVACUATION PLAN	66
Stancík Adam, Machácek Roman, Horák Jirí	
DEVELOPMENT THE TOOL FOR DEMAND CONTROL VENTILATION SYSTEMS	
ELEMENTS DESIGN AND THEIR IMPACT TO BUILDING LIFE-CYCLE ASSESSMENT: A	
REVIEW	72
Pinka Richard	12
ELASTIC-PLASTIC LOAD-CARRYING CAPACITY OF STEEL MEMBERS	01
	81
Juhas Pavol	
CRACKED REINFORCED CONCRETE WALLS OF CHIMNEYS, SILOS AND COOLING	07
TOWERS AS RESULT OF USING FORMWORKS	87
Maj Marek, Ubysz Andrzej	
EVALUATION OF THE CARRYING CAPACITY OF THE BUILDING STRUCTURES IN THE	
INDUSTRIAL HERITAGE FOR ITS ADAPTATION	94
Kudrjavtsev Sergej	
COMPARISON OF ENGINEERED CEMENTITIOUS COMPOSITES AND CONCRETE FOR	
STRENGTHENING OF CONCRETE STRUCTURAL DETAILS USING RBSM	100
Khmurovska Yuliia, Štemberk Petr	
INTERACTION OF COLLAR ROOF WITH THE BOTTOM SUPPORT STRUCTURE OF A	
BUILDING	106
Musilek Josef	
LIMITATIONS AND RISK RELATED TO STATIC CAPACITY TESTING OF PILES –	
"UNFORTUNATE CASE" STUDIES	112
Rybak Jaroslaw, Król Maciej	

DEPENDENCE BETWEEN THE WIDTH OF STRIP OVERLAP AND THE STRENGTH OF	
JOINTS OF ONE-LAYER BITUMEN SHEETS	118
Petrícek Tomáš, Kacálek Petr	
FAILURE OF PILLAR OF SPORTS AND ENTERTAINMENT HALL STRUCTURE	123
Trapko Tomasz, Musial Michal, Ubysz Andrzej	100
APPLICATION OF RECYCLED PLASTIC IN FLAT ROOFS	129
Smolka Radim, Sobotka Jindrich	105
MONITORING OF UNDERGROUND SUBSURFACE STRUCTURES IN EKATERINBURG	135
Galieva Anna B., Alekhin Vladimir N., Pastukhova Liliya G.	
INFLUENCE OF THE FRONTAL JOINT OF THE BITUMEN SHEET ON THE FINAL	1.41
STRENGTH OF THE JOINT	141
Plachý Jan, Vysoká Jana, Vejmelka Radek	
DEEP EXCAVATION IN URBAN AREAS – DEFECTS OF SURROUNDING BUILDINGS AT	146
VARIOUS STAGES OF CONSTRUCTION	140
Rybak Jaroslaw, Ivannikov Alexander, Kulikova Elena, Zyrek Tomasz	150
COMPLEX METHOD OF DEFECTS DIAGNOSTICS IN UNDERGROUND STRUCTURES	152
Beskopylny Alexey, Lyapin Alexander, Kadomtsev Maxim, Veremeenko Andrey INCLUENCIA DI MENCIONALI STA DIL LTV OF DICTIMEN CHEETE ACLA COLID CE OF ELAT	
INSUFFICIENT DIMENSIONAL STABILITY OF BITUMEN SHEETS AS A SOURCE OF FLAT	150
ROOF DEFECTS	159
PERFORMANCE OF SELECTED POLYURETHANE JOINT SEALANTS IN CONCRETE	
STRUCTURES	165
Necasová Barbora, Liška Pavel, Šlanhof Jirí	103
INTERIOR SURFACE MATERIALS AS SOURCES OF INDOOR HYGIENE DEFECTS	171
Juhasova Senitkova Ingrid	1/1
DESIGN WITHOUT THERMAL BRIDGES	177
Maltseva Irina, Elokhov Aleksandr, Tkachuk Konstantin, Maltceva Kseniia	1 / /
ANALYSIS OF INTERACTION OF THE SOIL TEMPERATURE FIELD AND STRUCTURES AT	
THE LEVEL OF THE BASEMENT OF THE BUILDING	102
Kacálek Petr, Petrícek Tomáš	163
RISK ASSESSMENTS OF CONTEMPORARY ACCIDENTS IN CONSTRUCTION INDUSTRY	100
Kraus Michal	100
ENVIRONMENTALLY SAFE SYSTEM FOR TREATMENT OF BIO CORROSION OF ETICS	10/
Minarovicová Katarína, Dlhý Dušan	174
BUILDING OBJECTIVES AND INCORRECT USE OF REGULATORY STANDARDS	100
Sura Miroslav	1))
SOLUTION OF PROBLEMS OF ETICS WITH BIOCORROSION	205
Belániová Barbora, Antošová Nada, Šupejová Lucia	203
THE TEMPERATURE DISTRIBUTION DURING THE MICROWAVE DRYING OF WOODEN	
ELEMENTS FOR STRUCTURAL DEFECTS IN BUILDINGS	213
Sobotka Jindrich, Smolka Radim	213
MODERN WOOD WINDOWS NOW AND TRENDS AFTER THE YEAR 2020	219
Palko Milan, Palková Adela, Buday Peter	217
SOURCE DATA FOR MODELING OF THERMAL ENGINEERING CALCULATIONS	227
Charvátová Pavlína, Šubrt Roman	
USE OF TECHNICAL HEMP IN THE CONSTRUCTION INDUSTRY	232
Nováková Petra	232
HANDLING CONSTRUCTION WASTE OF BUILDING DEMOLITION	240
Vondrácková Terezie, Podolka Luboš, Voštová Vera	2.0
FACADE RENOVATION - REPLACEMENT AND RESTORATION OF THE PANELS IN A	
MONUMENT PROTECTED OBJECT	246
Novotný Michal, Necasová Barbora	2.0
POINT THERMAL BRIDGES OF INSULATED PITCHED ROOF STRUCTURES	252
Šál Jirí, Štroufová Daniela, Bednárová Petra	
MOISTURE PROBLEMS OF FUNCTIONAL JOINTS OF WOODEN WINDOWS - CAUSES	
ANALYSIS	258
Palková Adela, Palko Milan, Buday Peter	
COMPARISON OF INFORMATIONS FROM THE BROWNFIELD CATALOG AND THE DATA	
NEEDED TO EVALUATE REAL ESTATE	264
Kramárová Zuzana	
Author Index	