

CONTENTS

VICTORIEN BIENVENU ABANDA WELL, MATTIA GIOVINI, FRANCESCO GENUA, ISABELLA LANCELLOTTI, CRISTINA LEONELLI	1
AN EXPERIMENTAL APPROACH TO THE REACTIVITY EVALUATION OF WASTES FOR ALKALI-ACTIVATED CEMENTITIOUS MATERIALS	
HAKIM S. ABDELGADER	2
SELF-COMPACTING GROUT AND CONCRETE: MANUFACTURING PROCESSES AND ENGINEERING BENEFITS	
FABIANA ALTIMARI, LUISA BARBIERI, ANDREA SACCANI, ISABELLA LANCELLOTTI	3
RECYCLING VOLCANIC LAPILLUS AS A SUPPLEMENTARY CEMENTITIOUS MATERIAL IN SUSTAINABLE MORTARS	
FARSHAD AMERI, BAYRAM TUTKUN, LUKAS HAUSNER, ILDIKO MERTA	4
PERFORMANCE OF XC1 CONCRETE INCORPORATING RECYCLED AGGREGATE WITH INCREASED FINE CONTENT	
F. N. ANDREOLA, L. BARBIERI, I. LANCELLOTTI, C. LEONELLI, I. DJOBOV, G. GERGOVA, A. KARAMANOV, A. NIKOLOV, I. BOSEV, K. ILIEVA, M. MIHAILOVA, E. TANEVA, L. GANOZLIEV	5
PRIMI PROJECT: PILOTING RESEARCH AND INNOVATION AT MARITSA IZTOK USING WASTED CLAYS EXTRACTED DURING LIGNITE MINING FOR TRADITIONAL AND ALTERNATIVE CONSTRUCTION MATERIALS	
ALIMA CARLOS AVERU, PIERRE BLANCHET, JOÃO VÍTOR FELIPPE SILVA	6
MECHANICAL AND PHYSICAL BEHAVIOR OF HEMPCRETE COMPOSITES UNDER DUAL CURING CONDITIONS	
ANILCAN AYGUN, FLORENT GAUVIN, JOS BROUWERS	7
CLAY-FIBER INTERACTIONS IN EARTHEN COMPOSITES: A COMPARATIVE STUDY OF NATURAL DUTCH CLAYS AND KAOLINITE-RICH CLAYS	
PATRYCJA BANCERZ, JACEK KATZER, PETR KONEČNÝ	8
STRENGTH AND FROST RESISTANCE OF STRUCTURAL LIGHTWEIGHT CONCRETE SEALED WITH A CRYSTALLINE ADMIXTURE	
VLASTIMIL BÍLEK JR., RADOSLAV NOVOTNÝ, JAN KOPLÍK, VLADISLAV CÁBA, EVA BARTONÍČKOVÁ, FRANTIŠEK ŠOUKAL.....	9
NANO-SEEDING IN HYBRID CEMENTS: ALL THAT GLITTERS IS NOT GOLD	
JANA BOHÁČOVÁ, LUKÁŠ PROCHÁZKA, JOBIN JOSH	10
LONG-TERM OUTDOOR PERFORMANCE OF ALKALI-ACTIVATED MATERIALS	
MARINA BORZOVA, FLORENT GAUVIN, KATRIN SCHOLLBACH, JOS BROUWERS	11

SUSTAINABLE SILICA AEROGELS AS BUILDING INSULATION	
ALICIA CASTRO FANJUL, MARINA BORZOVA, MARVIN LIEDTKE, KATRIN SCHOLLBACH, JOS BROUWERS	12
SYSTEMATIC ASSESSMENT OF EXPERIMENTAL PARAMETERS INFLUENCING QUANTITATIVE XRD ACCURACY IN EAF SLAGS	
YILU CHEN, YAN LUO, JOS BROUWERS	14
SYNERGISTIC TANNIC ACID–ASSISTED CARBONATION FOR ENHANCING HYDRATION REACTIVITY AND STRENGTH OF RECYCLED CONCRETE FINES	
PETR ČMIEL, RADOSLAV GANDEL	15
NON-CONTACT DIAGNOSTIC METHODS FOR TESTING CONCRETE PROPERTIES	
M. CRIADO, A. PACHÓN-MONTAÑO, E. TORRES, I. GARCÍA- LODEIRO, I. GARCÍA-DÍAZ, J. PUENTES, M. C. ALONSO	16
PERFORMANCE OF “ONE-PART” ALKALI-ACTIVATED AND CEM III CEMENTITIOUS MATRICES FOR CONFINING ION-EXCHANGE RESINS	
WOUTER DE CORTE	17
INFILL PATTERNS GENERATED BY SELECTIVE PASTE INTRUSION PARTICLE-BED PRINTING: AN ANALYSIS	
JANNIE S. J. VAN DEVENTER	18
LOW-CO ₂ CONCRETE IN AUSTRALIA – THREE DECADES OF TECHNICAL DEVELOPMENT AND COMMERCIAL PROGRESS	
SHUOXUAN DING, FLORIAN HUCHET, LAURÉDAN LE GUEN	19
SUSTAINABLE POROUS BUILDING MATERIALS WITH ENHANCED WATER ABSORPTION DERIVED FROM LOW-CARBON FEEDSTOCKS	
YIYING DU, INA PUNDIENE, JOLANTA PRANCKEVICIENE	21
USE OF WOOD ASH AND PHOSPHOGYPSUM TO PRODUCE AN ECO-BINDER MATERIAL	
CEREN DUYAL-KULAK, MAELLE CHEVALIER, NATALIYA LUSHNIKOVA, FLORENT GAUVIN, JOS BROUWERS	23
INFLUENCE OF SHREDDED WIND TURBINE BLADE WASTE ON THE DURABILITY OF CEMENT-BASED COMPOSITES	
WINNIE FRANCO SANTOS, KATRIN SCHOLLBACH, SIEGER VAN DER LAAN, JOS BROUWERS	24
REACTIVITY OF BASIC OXYGEN FURNACE SLAG IN BLENDED CEMENT SYSTEMS COMPARED TO AN INERT MATERIAL	
ANDREA GAJDORUSOVA, JAN JERABEK	25
HIGH PERFORMANCE CONCRETE WITH RECYCLED AND ITS CONSTRUCTION APPLICATIONS	
TOBIAS HULLERUM, WINNIE FRANCO SANTOS, JOS BROUWERS	26



CHARACTERIZATION OF SMART-CRUSHED RECYCLED CONCRETE FINES FROM FRENCH INDUSTRIAL C&DW	
NURIA HUSILLOS-RODRÍGUEZ, QUERALT MARZAL GARCÍA, ANA FERNÁNDEZ-JIMENEZ, MARTA TORRES-CARRASCO, INÉS GARCÍA-LODEIRO	27
ALKALINE CEMENTS MANUFACTURED WITH BIOMASS ASHES: LEACHING BEHAVIOUR	
ONDREJ JANKOVSKY	28
HIGH-STRENGTH MAGNESIUM OXYCHLORIDE COMPOSITES WITH SECONDARY FILLERS: CONTRIBUTION OF CARBON-BASED NANOMATERIALS	
SHASHANK TUMKUR KARNICK, NATALIYA LUSHNIKOVA, FLORENT GAUVIN, JOS BROUWERS	29
EVALUATING THE BIO-SOLUBILITY OF RECYCLED MINERAL WOOL FROM CONSTRUCTION AND DEMOLITION (C&D) WASTE VS VIRGIN MINERAL WOOL	
RODRIGUE CYRIAQUE KAZE, ABDOLHOSSEIN NAGHIZADEH	30
EFFECT OF CALCINATION TEMPERATURE ON PROPERTIES OF ACID-ACTIVATED TERMITE SOIL-BASED GEOPOLYMER BINDER	
SAHAR KESHAVARZ, SIEGER VAN DER LAAN, KATRIN SCHOLLBACH, JOS BROUWERS	31
THE INFLUENCE OF TRI-POTASSIUM CITRATE AS AN ACTIVATOR ON THE REACTIVITY AND DISSOLUTION OF BOF SLAG IN POUR SOLUTION	
FILIP KHESTL, LUKÁŠ PROCHÁZKA, VLASTIMIL BÍLEK	32
EFFECT OF EXTENDED MIXING ON THE WORKABILITY AND STRENGTH DEVELOPMENT OF SODIUM METASILICATE-ACTIVATED MORTARS	
ALEXANDRA KIRÁLYOVÁ, ADRIANA EŠTOKOVÁ, NATÁLIA JUNÁKOVÁ	33
EARLY-AGE PROPERTIES OF CEMENT COMPOSITES WITH WATER TREATMENT SLUDGE REPLACEMENT	
PAVLO KRYVENKO, OLEKSANDR KONSTANTYNOVSKYI	34
UNDERSTANDING APPROACH TO INCREASE TEMPERATURE RESISTANCE BLENDED PORTLAND CEMENT: TO IMPACT OF ALKALINE ADDITIVES	
ISABELLA LANCELOTTI, FRANCESCO GENUA, GIAN MARCO MALAGOLI, CRISTINA LEONELLI	37
ALKALI ACTIVATION FOR SUSTAINABLE DEVELOPMENT: OPTIMIZING ACTIVATING SOLUTION CHEMISTRY FOR NON TRADITIONAL PRECURSORS	
M. LIEDTKE, K. SCHOLLBACH, S. R. VAN DER LAAN	38
REACTIVITY OF HYDROGEN BASED DRI-EAF SLAG	
SENYE LIU, BOHUMÍR STRNADEL, JIN YANG	39

UNLOCKING THE CARBONATION POTENTIAL OF PHOSPHORUS SLAG VIA WET GRINDING: A SURFACE RENEWAL MECHANISM REVEALED BY XPS	
TAO LIU, ANA TERESE LIMA	41
INTEGRATING WIND TURBINE BLADE WASTE INTO CEMENTITIOUS MATERIALS: A REVIEW OF PERFORMANCE AND POTENTIAL	
YANSHUO LIU, QINGLIANG YU, JOS BROUWERS	42
APPLICATION OF MSWI BOTTOM ASH IN CLASS F FLY ASH/LADLE SLAG BASED GEOPOLYMER: PORE STRUCTURE AND THERMAL BEHAVIOUR	
CRISTIANE LOPES, BRUNO PEDROSA, PAWEŁ ZIELONKA, SZYMON DUDA, GRZEGORZ LESIUK	43
NUMERICAL SIMULATION OF CONCRETE STRUCTURES REINFORCED WITH HYBRID FIBER REINFORCED POLYMER REBARS	
THEUN LUINENBURG, WINNIE FRANCO SANTOS, JOS BROUWERS	45
ACCELERATED CARBONATION OF RECYCLED CONCRETE FINES IN LC3 BINDER	
NATALIYA LUSHNIKOVA, VADIM ZHITKOVSKY, LEONID DVORKIN	46
RECYCLED CONCRETE FINES AS A SUPPLEMENTARY CEMENTITIOUS MATERIAL: EFFECTS ON MICROSTRUCTURE AND MINERALOGY	
STEFANIA MANZI, LUCA BALDAZZI, ANDREA SACCANI	47
ALKALI-ACTIVATED MATERIALS MODIFIED BY BIOCHAR	
VLASTIMIL MATĚJKA, KRYŠTOF FONIOK, BLANKA KOLINKEOVÁ, JIŘÍ ŠČUČKA	48
SELF-CLEANING BUILDING MATERIAL SURFACES VIA G-C ₃ N ₄ SURFACE MODIFICATION	
KALINA MATERAK	49
SILANE-BASED INTERNAL HYDROPHOBIZATION OF CEMENTITIOUS MATERIALS CONTAINING MINERAL ADDITIVES	
KATEŘINA MATÝSKOVÁ, VLASTIMIL BÍLEK	50
EFFECT OF WASTE FROM THE PRODUCTION OF CEMENT-BONDED PARTICLEBOARDS ON THE INTERNAL CURING OF ALKALI-ACTIVATED MATERIALS	
ABDOLHOSSEIN NAGHIZADEH	51
RECYCLABILITY OF FLY ASH GEOPOLYMER BINDER: TOWARD CIRCULAR CONSTRUCTION	
T. C. NEMUDIVHISO , M. WELMAN-PURCHASE, A. T. GEBREMARIAM, A. NAGHIZADEH	52
EFFECTIVENESS OF THERMO-MECHANICAL PROCESSING IN LIBERATING CEMENT PASTE FROM RECYCLED CONCRETE AGGREGATES	

MICHAEL PÁNEK, MARTINA DRDLOVÁ, ZDENKA FOHLEROVÁ, INGRID KHONGOVÁ, BOHUMÍR STRNADEL, PAVEL ŠTEFFAN	53
PHYSICOCHEMICAL CHARACTERIZATION OF CARBON ADDITIVES FOR CEMENT-BASED SUPERCAPACITORS: BET SURFACE AREA, SEM MORPHOLOGY, AND ZETA POTENTIAL AS PREDICTORS OF CAPACITIVE PERFORMANCE IN MULTIFUNCTIONAL STRUCTURAL COMPOSITES	
BO QU, YANBO ZHANG, KEMING, HAN, HUADONG ZHANG, OLGA MALTSEVA, ANGEL PALOMO	54
COAL GANGUE: AN ABUNDANT WASTE TO PRODUCE CEMENTITIOUS MATERIALS	
ALÍCIA ROJO, LUÍS TAMBARA, ANGEL PALOMO, ANA FERNÁNDEZ-JIMENEZ	55
INFLUENCE OF CALCINED CLAY TYPE ON THE PERFORMANCE OF ONE-PART HYBRID CEMENTS	
J. D. RUIZ-MARTÍNEZ, J. D. RÍOS, H. CIFUENTES, C. LEIVA	56
HYBRID STEEL–BASALT FIBRE REINFORCEMENT IN ULTRA-HIGH-STRENGTH CONCRETE: INFLUENCE ON FLEXURAL TENSILE BEHAVIOUR	
JAIME D. RUIZ-MARTÍNEZ, JOSÉ D. RÍOS, CARLOS J. CARRASCO, YOLANDA LUNA-GALIANO, CARLOS LEIVA, HÉCTOR CIFUENTES	57
EFFECT OF HIGH-PRESSURE AUTOCLAVE CURING ON THE MECHANICAL AND FRACTURE PERFORMANCE OF NANOSILICA-MODIFIED UHPC	
SAK SANCHINDAPONG, KORNNIKA WIANGLOR, MANOW PIYAWORAPAIBOON, SAKPRAYUT SINTHUPINYO, WILASINEE HANPONGPUN, ARNON CHAIPANICH	58
EFFECTS OF ALKALI-ACTIVATED FLY ASH CEMENT ON SHRINKAGE OF MORTARS	
STANISLAV SEITL, KAMILA KOZÁKOVÁ, MOHAMMAD SAMI AL KHAZALI, LUCIE MALÍKOVÁ, JACEK DOMSKI.....	59
MIXED MODE PROPERTIES OF COMPOSITES BASED ON POLYSTYRENE WASTE	
ALENA SIČÁKOVÁ, DOMINIK VERČIMÁK	61
LIGHTWEIGHT FINE-GRAINED CONCRETES WITH VARIABLE ALTERNATIVE FILLERS – COMPARISON OF QUALITATIVE AND QUANTITATIVE COMPOSITION PARAMETERS	
FHATUWANI SINNGU	62
ASSESSMENT OF SOUTH AFRICAN GOLD MINE TAILINGS AS FINE AGGREGATE IN CONCRETE: FRESH, MECHANICAL AND DURABILITY PERFORMANCE	
FHATUWANI SINNGU	63
PHOSPHOGYPSUM AS A NON-TRADITIONAL CEMENTITIOUS MATERIAL IN SOUTH AFRICA: A CRITICAL REVIEW	

MARTYNAS STATKAUSKAS, DANUTĖ VAIČIUKYNIENĖ, AUDRIUS GRINYS	64
EFFECT OF FINE AGGREGATE CONTENT ON THE MECHANICAL AND HIGH-TEMPERATURE PERFORMANCE OF GEOPOLYMER MORTARS MADE FROM CERAMIC BRICK AND METAKAOLIN WASTE	
BEIBEI SUN, LEO VAN CAUTER, MOUHAMADOU AMAR, VEERLE BOEL	65
PRECURSOR ASSESSMENT FOR AAM APPLIED ON METAKAOLIN IN COMBINATION WITH ALKALINE SILICATE SOLUTIONS	
MORTEZA TAYEBI, KATRIN SCHOLLBACH, J. C. O. ZEPPEL, STEFAN MELZER, JOS BROUWERS.....	66
REACTIVITY AND PERFORMANCE OF DRI-EAF SLAGS AS SUPPLEMENTARY CEMENTITIOUS MATERIAL	
JULSON AYMARD TCHIO, HANNA KOSKELA, ELIJAH ADESANYA, RAFAL SLIZ, BRANT WALKLEY, JUHO YLINIEMI	67
ELECTRICAL CONDUCTIVITY IN ALTERNATIVE CEMENTITIOUS SYSTEMS: ROLE OF ORGANIC LIGANDS AND SOURCE OF SLAG ON THE HYDRATION AND REACTION KINETICS	
Y. F. J. TSOI, Y. LUO, JOS BROUWERS	68
REACTIVATION OF RECYCLED CONCRETE WASTE: PERFORMANCE TEST OF RECYCLED CONCRETE FINES AS AN SCM USING DYNAMIC CARBONATION	
BAYRAM TUTKUN, FARSHAD AMERI, LUKAS HAUSNER, ILDIKO MERTA	70
TREATMENT OF RECYCLED CONCRETE AGGREGATES USING BIOASH AND METAKAOLIN SLURRIES	
VILMA VAIČEKAUSKIENĖ, VYGANTAS BAGOČIUS, NEDAS STAKUTIS, JURGITA DRIZGAITĖ	71
INFLUENCE OF DOLOMITE MINERAL ADMIXTURE AS PARTIAL CEMENT REPLACEMENT ON THE PHYSICAL AND MECHANICAL PROPERTIES OF CONCRETE	
ZIXIAO WANG, CHAOQUN LI, JIAFAN FANG, WEIQIANG WANG, WEIZHENG SHI, AMING XIE	72
DOUBLE-LAYER CEMENT-BASED STRUCTURE WITH HIGH ELECTROMAGNETIC WAVE ABSORPTION	
IMALKA WEERAWARDANA, DUSHAN FERNANDO, PATHMANATHAN RAJEEV, JANITHA MIGUNTHANNA	73
FIRE PERFORMANCE OF GLASS FIBRE REINFORCED CONCRETE FAÇADE PANELS INCORPORATING WASTE PAINT AS AN ADMIXTURE	
JIALE YUAN, JOS BROUWERS, QINGLIANG YU	74
FIRE RESISTANCE OF FLY ASH-LADLE SLAG BASED GEOPOLYMER: INSIGHTS ON RECRYSTALLIZATION OF WASTE GLASS AT HIGH TEMPERATURE	

XIAOWEN ZHANG, JUHO YLINIEMI	75
SOLUTION CHEMISTRY OF ORGANIC ADMIXTURES IN CEMENTITIOUS SYSTEMS	
AUTHOR INDEX	76
SUBJECT INDEX	79

