

73rd ABM International Congress 2018

Sao Paulo, Brazil
2 - 4 October 2018

Volume 1 of 5

ISBN: 978-1-5108-9029-9

Original material in electronic media. Printed material created by authorization of ABM to

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.

Copyright© (2018) by Associação Brasileira de Metalurgia Materiais e Mineração (ABM)
All rights reserved.

Printed by with permission Curran Associates, Inc. (2019)

For permission requests, please contact Associação Brasileira de Metalurgia Materiais e Mineração (ABM)
at the address below.

Associação Brasileira de Metalurgia Materiais e Mineração (ABM)
Rua Antonio Comparator 218
04605 Sao Paulo-SP Brazil

Phone: (11) 5534-4333

Fax: (11) 5534-4330

abm@abmbrasil.com.br

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

VOLUME 1

MICROSTRUCTURAL CHARACTERIZATION BY SEM/EDS/EBSD OF AISI-SAE 430 STAINLESS STEEL SUBJECTED TO DIFFERENT CONDITIONS OF HEAT TREATMENT	1
<i>Barbosa, Cássio; Cunha, Rachel Pereira Carneiro da; Correa, Davi de Almeida Lyra; Gonzaga, Arthur Costa; Centeno, Robson Oliveira</i>	
CHEMICAL CHARACTERIZATION OF BRAZILIAN CONIAL COINS BY SEM/EDS	10
<i>Barbosa, Cássio; Cunha, Rachel Pereira Carneiro da; Correa, Davi de Almeida Lyra; Centeno, Robson de Oliveira</i>	
EVALUATION OF CHARACTERISTICS MICROSTRUCTURAL OF COOPER ALLOY, BRASS 260, AFTER HEAT TREATMENT	19
<i>Souza, Luis Felipe de; Cavalcante, Nicolas do Nascimento; Barbosa, Cássio; Nascimento, Joneo Lopes do</i>	
COMPARATIVE STUDY OF METALLURGICAL TRANSFORMATIONS OF THE MELT ZONE OF WELDED JOINTS OF AISI 316L STEEL BY THE GMAW AND AUTOGENOUS GTAW PROCESS	29
<i>Demarque, Rudineli; Santos, Ellem P. dos; Castro, José Adilson de; Silva, Rafaela dos Santos</i>	
TECHNOLOGY OF THREADED AND COUPLED CONNECTIONS IN CASING PIPES - ANALYSIS	42
<i>Porcaro, Rodrigo Rangel; Cândido, Luiz Cláudio; Trindade, Vicente Braz; Godefroid, Leonardo Barbosa; Faria, Geraldo Lúcio de; Batalha, Rodolfo Lisboa</i>	
TECHNOLOGY OF THREADED AND COUPLED CONNECTIONS IN CASING PIPES - REVIEW	53
<i>Porcaro, Rodrigo Rangel; Cândido, Luiz Cláudio; Trindade, Vicente Braz; Godefroid, Leonardo Barbosa; Faria, Geraldo Lúcio de; Batalha, Rodolfo Lisboa</i>	
EFFECT OF SOLUBILIZATION AND AGING HEAT TREATMENT ON MICROSTRUCTURE OF NICKEL-BASED ALLOY INCONEL 713C	65
<i>Galizoni, Breno Boretti; Reis, Danieli Aparecida Pereira</i>	
MODIFICATIONS OCCURRING IN AISI 316L AUSTENIC STAINLESS STEEL PIPE AFTER 100,700 HOURS OF EXPOSURE AT 640°C IN THE PETROCHEMICAL INDUSTRY	76
<i>Moraes, Flavio Pereira de; Padilha, Angelo Fernando; Alves Junior, Sandro Francisco</i>	
CHARACTERIZATION OF ISOTHERMAL TRANSFORMATIONS OF AUSTENITE DECOMPOSITION IN THREE STEELS OF RAILWAY APPLICATION	86
<i>Rodrigues, Karine Fernandes; Mourão, Gabriel Marques Magalhães; Faria, Geraldo Lúcio de</i>	
EFFECT OF THE COOLING RATE ON THE KINETICS OF MARTENSITE TRANSFORMATION IN THE MICROALLOYED USISAR 80T STEEL	98
<i>Souza, Samuel da Silva de; Cota, André Barros; Faria, Geraldo Lúcio de</i>	
KINETICS OF PHASE TRANSFORMATIONS OF A C-MN STEEL USED IN THE MANUFACTURE OF SEAMLESS PIPE	109
<i>Lima, Ana Paula da Silva; Faria, Geraldo Lúcio de; Cândido, Luiz Cláudio; Trindade Filho, Vicente Braz</i>	
STUDY OF CORROSIVE PROCESS AND SERVICE LIFE PROSPECTION OF API 5L X70 STEEL WITH AND WITHOUT NIOBIUM COATING IN CHEMICALLY TREATED SOIL	121
<i>Guedes, Fabricia Nunes de Jesus; França, Fernanda Menezes; Souza, Gustavo Victor</i>	
DURABILITY STUDY OF CLAY MORTARS	127
<i>Marvila, Markssuel Teixeira; Goulart, Melissa de Almeida; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez de; Zanelato, Euzébio Bernabé; Xavier, Gustavo de Castro; Monteiro, Sergio Neves</i>	
HIGH SPALLING RESISTANT BASIC BRICK FOR STEEL CASTING SLIDE VALVE PLATE	134
<i>Hamamoto, Naohide; Moriwaki, Koji; Iida, Masakazu</i>	
CHARACTERIZATION OF CONCRETE STRUCTURAL BLOCKS FROM NORTE FLUMINENSE	144
<i>Lima, Thuany Espirito Santo de; Alexandre, Jonas; Pinheiro, Valber Domingos; Paes, Ana Luiza Campinho; Azevedo, Afonso Rangel Garcez de; Monteiro, Sergio Neves; Aguiar, Niander Cerqueira</i>	
EFFECT OF GRANITE WASTE ADDITION ON MORTAR RHEOLOGY	152
<i>Barroso, Laimara da Silva; Zanelato, Euzébio Bernabé; Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Alexandre, Jonas; Monteiro, Sergio Neves; Mendes, Beatryz Cardoso; Xavier, Gustavo de Castro</i>	

MODELING IN METHOD OF FINITE ELEMENTS FOR STUDY OF RESISTANCE TO COMPRESSION OF MULTIPLE USE MORTARS.	161
<i>Marvila, Markssuel Teixeira; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez de; Zanelato, Euzébio Bernabé; Goulart, Melissa de Almeida; Xavier, Gustavo de Castro; Monteiro, Sergio Neves</i>	
CHARACTERIZATION OF THE MECHANICAL PROPERTIES OF POROSO CONCRETE WITH ADDED RUBBER TIRE RUBBER	171
<i>Silva, Luana Celeste; Fernandes, Fernando Antonio da Silva</i>	
EFFECT OF THE MANGANESE CONTENT AND THE AUSTENITIZING TEMPERATURE ON PHASE TRANSFORMATIONS IN MEDIUM CARBON STRUCTURAL STEELS	183
<i>Faria, Geraldo Lúcio de; Pereira, Darliene Aparecida de Souza; Gaspar, Lorena Teixeira</i>	
ELLIPSOMETRIC CHARACTERIZATION OF ALUMINUM OXIDE	194
<i>Caldeira, Marcus Vinícius; Gomes, Bhetina Cunha; Santos, Ramona Rodrigues; Almeida, Gerson Chaves de; Ferreira, Elivelton Alves; Silva, Ladário da</i>	
EVALUATION OF THE DEGRADING EFFECT OF SALT SPRAY IN CERAMIC PARTS	201
<i>Azevedo, Afonso Rangel Garcez de; Alexandre, Jonas; Xavier, Gustavo de Castro; Monteiro, Sergio Neves; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé; Cerqueira, Niander Aguiar</i>	
USES OF POLYMERIC CHELATING RESINS TO OBTAIN NICKEL FROM SULFURIC SOLUTION	210
<i>Botelho Junior, Amilton Barbosa; Espinosa, Denise Croce Romano; Tenório, Jorge Alberto Soares</i>	
STRUCTURAL ANALYSIS OF MIXTURES OF METALLIC POWDERS - ELEMENTARY AND PRE-ALLOYING - USED IN THE MANUFACTURE OF DIAMOND TOOLS	217
<i>Oliveira, Hellen Cristine Prata de; Aguiar, Amanda Maia; Batista, Adriano Corrêa; Assis, Paulo Santos</i>	
COMPUTATIONAL SIMULATION OF HEAT EXCHANGER TUBES BY EDDY CURRENT INSPECTION	229
<i>Corte, Joaquim Smiderle; Arenas, Mônica P.; Rebello, João Marcos A.; Pereira, Gabriela Ribeiro</i>	
INFLUENCE OF SORBITOL ON ZN-CO ALLOY ELECTRODEPOSY ABOUT LOW CARBON STEEL (NBR6665)	238
<i>Ribeiro, Pedro Henrique Galvani; Bertagnolli, Denise de Castro</i>	
STUDY OF FIRST PRINCIPLES OF 2-METHYL IMIDAZOLINE DERIVATIVES: CORROSION INHIBITOR MODEL	250
<i>Arantes, Vitor de Oliveira; Paes, Lilian Weitzel Coelho</i>	
INFLUENCE OF INCORPORATION OF RESIDUES IN MORTARS	262
<i>Botelho, Larissa Campos Granato; Alexandre, Jonas; Paes, Ana Luíza Campinho; Marvila, Markssuel Teixeira; Azevedo, Afonso Rangel Garcez de; Zanelato, Euzébio Bernabé; Monteiro, Sergio Neves</i>	
UTILIZATION OF LD SLAG FOR PORTLAND CEMENT	271
<i>Solimani, Luciana Cerqueira Souza; Lima, Mônica Marques Caetano de; Araújo, Wilton Pacheco de</i>	
COMPARISON OF CONVENTIONAL AND LIGHT GRATING FOR FILLING OF STRUCTURAL MASONRY BEAMS	283
<i>Pinheiro, Valber Domingos; Alexandre, Jonas; Lima, Thuany Espirito Santo de; Azevedo, Afonso Rangel Garcez; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé; Monteiro, Sergio Neves</i>	
INCORPORATION OF THE PRIMARY SLUDGE OF THE PAPER EFFLUENT TREATMENT STATION IN RED CERAMIC	292
<i>Pessanha, Luís Sérgio Peixoto; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez de; Monteiro, Sergio Neves; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé; Soares Junior, Milton Pereira</i>	
RECOVER OF METALS AND SULFURIC ACID FROM A SYNTHETIC SOLUTION OF LATERITE ORE PROCESSING WITH ELECTRODIALYSIS	305
<i>Feijoo, Gustavo Coelho; Scarazzato, Tatiana; Tenório, Jorge Alberto Soares; Espinosa, Denise Croce Romano</i>	
COLUMN BIOLEACHING FOR COPPER EXTRACTION FROM AN ORE OF THE AMAZON REGION	318
<i>Nascimento, Dryelle Nazaré Oliveira do; Lucheta, Adriano Reis; Palmieri, Maurício César; Carmo, Andre Luiz Vilaça do; Silva, Patrícia Magalhães Pereira; Ferreira, Rafael Vicente de Pádua; Ferreira Filho, Hélio Raymundo; Alves, Joner Oliveira</i>	
CORRELATION OF THERMAL COMPOUND WITH THE RSEW WELDING PARAMETERS APPLIED IN LOW CARBON STEEL	330
<i>Deus, Vinícius Santos de; Corrêa, Sandro Rosa; Castro, José Adilson de</i>	
STUDY OF THE INFLUENCE OF THE WASTE STEEL BALLOON POWDER ON THE PRODUCTION OF RED CERAMICS	341
<i>Gomes, César Augusto de Oliveira; Candido, Verônica Scarpini; Silva, Alisson Clay Rios da; Monteiro, Sérgio Neves</i>	
VALUE IN USE OF MINERALS CHARGES OF THE VALE MANGANESE ORES IN THE CHINESE MARKET	348
<i>Jannotti Júnior, Nelson; Dias, Wagner Pires</i>	

INFLUENCE OF TEMPERATURE IN THE BEHAVIOR OF BLAST FURNACE PLATES AT TERNIUM BRAZIL	359
<i>Silva, Alexandre Augusto Andrade da; Damasio, Alexander da Silva; Silveira, Alexandre Patricio Vieira da; Vieira Junior, Eustaquio; Sousa, Pedro Lima de; Larrubia, Sandro Valerio Maia</i>	
EFFECT OF CARBONATION AND SULFATE ATTACK ON DURABILITY OF CONCRETE WITH DIFFERENT WATER/CEMENT RATIOS	372
<i>Mendes, Beatryz Cardoso; Pedroti, Leonardo Gonçalves; Silva, Bruno José Quintão; Soares, Jaime Carlos da Costa; Brito, Tomás Braga de; Lima, Gustavo Emilio</i>	
INFLUENCE OF SAND GRANULOMETRY IN THE ADHERENCE OF ADHESIVE MORTARS	380
<i>Miguel, Thais Pirovane; Alexandre, Jonas; Zanelato, Euzébio Bernabé; Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Xavier, Gustavo de Castro; Cerqueira, Niander Aguiar; Monteiro, Sergio Neves</i>	
CREEP BEHAVIOR OF Ti6Al4V ALLOY WITH THERMAL BARRIER COATING TREATED BY AIR PLASMA SPRAYING	388
<i>Freitas, Filipe Estevão de; Reis, Adriano Gonçalves dos; Reis, Danieli Aparecida Pereira</i>	
LEAK DETECTION SYSTEM USING MACHINE LEARNING TECHNIQUES	398
<i>Ferreira, Pablo Parreiras Drumond; Kappes, Daniele Pereira; Oliveira, Eduardo Magalhães; Fonseca, Mário Lopes da; Medeiros, Arthur Parreira Silva</i>	
INCORPORATION OF WOOD WASTE IN VIBRATED HYDRAULIC TILE	407
<i>Reis, Alessandra Savazzini dos; Fagundes, Alana Franzin</i>	
METHODOLOGY OF SPHERES IN THE WASTE STUDY IN RED CERAMICS	418
<i>Reis, Alessandra Savazzini dos; Sangrillo, Viviana Possomai Della; Diaz, Francisco Rolando Valenzuela</i>	
MICROSTRUCTURAL CHARACTERIZATION OF CR-HF-NB AS-CAST ALLOYS	430
<i>Gigolotti, João Carlos Jânio; Joubert, Jean-Marc; Nunes, Carlos Angelo; Coelho, Gilberto Carvalho</i>	
CHARACTERIZATION OF MECHANICAL PROPERTIES FROM CONCRETE WITH PARTIAL REPLACEMENT OF PEBBLE POWDER IN CITY OF PALMAS, TO	439
<i>Moreira, Karla Cristina Bentes; Veronese, Renato Baiochi Alves; Lopes, Shara Carvalho; Carmo, Murilo Elias Rosa do; Fernandes, Fernando Antonio da Silva</i>	
PERFORMANCE ASSESSMENT OF 1 LITER STEEL CANS FOR BEER	446
<i>Pinto, Marcos Belchior Morete; Bertagnolli, Denise de Castro; Santos, João Luiz Câmara dos; Oliveira, Alessandro Dias de; Souza, Renato Gregio de</i>	
INFLUENCE OF BUCKLING ON CORROSION OF API 5L X65 IN SYNTHETIC SEA WATER	458
<i>Lima, Alexandre Pereira de; Figueredo, Rodrigo Monzon; Acciari, Heloisa Andréa; Codaro, Eduardo Norberto</i>	
CHARACTERIZATION OF UNIAXIAL COMPRESSION RESISTANCE OF CONCRETE WITH PARTIAL REPLACEMENT OF PORTLAND CEMENT BY SODA-LIME GLASS GROUND	465
<i>Carmo, Murilo Elias Rosa do; Fernandes, Fernando Antonio da Silva; Lopes, Shara Carvalho; Moreira, Karla Cristina Bentes; Veronese, Renato Baiochi Alves</i>	
GRANULOMETRIC STUDY AND PLASTICITY INDEX FOR EVALUATING THE INCORPORATION OF HIGH-OVEN IN CERAMIC MASS FOR TILES PRODUCTION	474
<i>Costa, Roberta Lima de Souza; Jesus, Geyna Evellyn Silva de; Silva, Allisson Clay Rios da; Monteiro, Sérgio Neves; Gomes, Laércio Gouvea; Candido, Verônica Scarpini</i>	
RESPONSE TO BALLISTIC IMPACT OF ALUMINA-ARAMID-UHMWPE COMPOSITES	481
<i>Figueiredo, André Ben-Hur da Silva; Carvalho, Danúbia Bordim de; Aguilera, Letícia dos Santos; Melo, Gabriel Burlandy Mota de; Biasi, Ronaldo Sergio de</i>	
MECHANICAL BEHAVIOUR OF CEMENTITIOUS GRAPHENE-BASED CEMENT NANOCOMPOSITE	490
<i>Tolentino, Evandro; Santos, Kesley Antônio; Oliveira, André Maurício de; Amaral, Erriston Campos; Silva Neto, Almir</i>	
AN INVESTIGATION OF FILMS FORMED BY SOUR CORROSION OF CARBON STEELS	499
<i>Lima, Alexandre Pereira de; Figueredo, Rodrigo Monzon; Macedo, Jonas Fernando; Acciari, Heloisa Andréa; Codaro, Eduardo Norberto</i>	
CHARACTERIZATION OF ARGILLOUS SOIL FROM THE MUNICIPALITY OF SÃO FIDELIS - RJ	511
<i>Azevedo, Afonso Rangel Garcez de; Alexandre, Jonas; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé; Goulart, Melissa de Almeida; Xavier, Gustavo de Castro; Monteiro, Sergio Neves; Aguiar, Niander Cerqueira</i>	
INFLUENCE OF DIFFERENTS HEAT TREATMENTS IN THE MICROSTRUCTURE OF A STEEL SAE 1035	520
<i>Meneses, Aline Dias; Vieira, Matheus de Lima; Sarquis, Ivna Nazlé Cavalcante</i>	
CHARACTERIZATION BY ANALYSIS OF IMAGES OF ACTIVATED FLUX EFFECT ON TIG WELDING	527
<i>Rodrigues, Felipe Gabriel Pinheiro; Gonçalves, Caroline Nazaré; Modenesi, Paulo José; Santos, Neice Ferreira dos</i>	
THE DEW POINT INFLUENCE IN SELECTIVE OXIDATION OF AHSS	539
<i>Farias, Rafael Costa; Correia, Mylena Inaiê; Miranda, Fabiano José Fabri; Martins, Laura Pires Ribeiro; Costa, Cesar Edil da</i>	

MODIFICATIONS IN OPTICAL PROPERTIES OF POLYCARBONATE INDUCED BY GAMMA AND ULTRAVIOLET RADIATION	548
<i>Oliveira, Celio Jorge Vasques de; Weber, Ricardo Ponde</i>	
INTERPRETATION OF INITIAL MAGNETIZATION CURVES IN MELT SPUN NDFEB MAGNETS	560
<i>Campos, Marcos Flavio de; Rodrigues, Daniel; Almeida, Affonso Henrique Ferreira Lobo de; Janasi, Suzilene Real; Silva, Fernanda Aparecida Sampaio da; Castro, Jose Adilson de</i>	
CONVERGENCE BETWEEN SIX SIGMA AND LEAN MANUFACTURING AT ARCELORMITTAL - FC LATAM	569
<i>Santos, Daniel Paulo</i>	
MAPPING BRAZILIAN AND FOREIGN ORGANIZATIONS INTERESETED ON METALLIC GLASSES	579
<i>Milanez, Douglas Henrique; Oliveira, Bráulio Salumão; Leiva, Daniel Rodrigo; Botta, Walter José; Kiminami, Cláudio Shyinti</i>	
BALLISTIC IMPACT OF ALUMINA-PEUAPM HIGH CONCENTRATION COMPOSITES	592
<i>Figueiredo, André Ben-Hur da Silva; Carvalho, Danúbia Bordim de; Aguilera, Letícia dos Santos; Lima, Monique Vital de; Biasi, Ronaldo Sergio de</i>	
NIOBIUM ORE AS CATALYST FOR PRODUCTION BIODIESEL.....	599
<i>Rocha, Bárbara Gonçalves; Fabris, José Domingos; Cavalcante, Luiz Carlos Duarte</i>	
METHODOLOGY FOR INSPECTION OF REFRACTORY ANCHORS USING THE ULTRASOUND TECHNIQUE	607
<i>Orsini, Lucas Antunes; Silva, Danilson Gonçalves de Melo e; Duarte, Alamar Kasan</i>	
METHODOLOGY FOR REFRACTORY CERAMIC ANCHORS LIFE TIME PREDICTION BY USING ULTRASOUND TECHNIQUE.....	617
<i>Orsini, Lucas Antunes; Silva, Danilson Gonçalves de Melo e; Duarte, Alamar Kasan</i>	
HOT REPAIR TECHNIQUES AND REFRACTORY MATERIALS EVALUATION FOR ROTARY HEARTH FURNACES	626
<i>Orsini, Lucas Antunes; Silva, Danilson Gonçalves de Melo e</i>	
PERFORMANCE VERIFICATION OF COMMERCIAL ADHESIVE MORTARS OF THE NORTH FLUMINENSE REGION	638
<i>Guarçoni, Giovanni Bruzzi; Alexandre, Jonas; Zanelato, Euzébio Bernabé; Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Xavier, Gustavo de Castro; Petrucci, Lúcio José Terra; Monteiro, Sergio Neves</i>	
EVALUATION OF PRECIPITATE OBTAINED BY BIOSULFIDOGENESIS OF ACID MINE DRAINAGE	646
<i>Silva, Patricia Magalhães Pereira; Lucheta, Adriano Reis; Carmo, Andre Luiz Vilaça do; Bitencourt, José Augusto Pires; Santos, Wérica Colaço Barros; Frederico, Tayná Diniz; Oliveira, Guilherme Corrêa de; Cuevas, Ivan Patricio Nanucho; Siqueira, José Oswaldo; Alves, Joner Oliveira</i>	
GUIDE SERIES – INTELLIGENT ONLINE-ROLLING.....	656
<i>Sahlin, Carl; Capra, Salvatore; Ferreira, Nilson</i>	
DETERMINATION OF REVERTED AUSTENITE AMOUNT IN AGED MARAGING 350 STEEL.....	663
<i>Feitosa, Ana Larissa Melo; Carvalho, Leandro Gomes de; Lima, Nelson Batista de; Padilha, Angelo Fernando</i>	

VOLUME 2

MECHANICAL AND MICROSTRUCTURAL ANALYSIS OF EPOXY MATRIX COMPOSITES REINFORCED WITH GUARUMÁ FIBERS.....	675
<i>Pinheiro, Miriane Alexandrino; Monteiro, Sérgio Neves; Gomes, Laércio Gouvêa; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini</i>	
MECHANICAL PROPERTIES EVALUATION OF COLD DRAWN TUBES ON VANADIUM MICROALLOYED STEEL USING DIFFERENT HEAT TREATMENT ROUTES	685
<i>Cardoso, Gabriela Deslandes; Spindola, Mirelle Oliveira; Antunes, Ronaldo de Faria</i>	
CHARACTERIZATION OF INDUSTRIAL SOLID WASTES AS RAW MATERIAL FOR RED CERAMIC DEVELOPMENT.....	694
<i>Rodrigues, Lorena Raphael; Rodrigues, Elias Rudio; Reis, Alessandra Savazzini dos; Louzada, Desilvia Machado; Sagrillo, Viviana Possamai Della</i>	
DETERMINATION OF PHASE TRANSFORMATION TEMPERATURE IN ORIENTED GRAIN ELECTRIC STEEL.....	702
<i>Rocha, Débora Moreira; Oliveira Junior, José Rogério de; Paolinelli, Sebastião da Costa; Cunha, Marco Antônio da</i>	

ANALYSIS OF RHEOLOGICAL BEHAVIOR BY THE METHOD SQUEEZE FLOW IN MORTARS INCORPORATED WITH RESIDUE OF ORNAMENTAL ROCK	713
<i>Azevedo, Gabrielly Carvalho Martins; Moreira, Pamela Inacio; Ciribelli, Leticia Freitas; Xavier, Gustavo de Castro; Azevedo, Afonso Rangel Garcez de; Alexandre, Jonas; Monteiro, Sergio Neves</i>	
STUDY OF DYNAMIC BEHAVIOR OF POLY WAVE ARMOR IN BALLISTIC PROTECTION.....	722
<i>Gomes, Alaelson Vieira; Cunha, Daniel Fonseca da; Bassi, Achille Arantes; Caria, Egydio Carvalho Souza; Silva, Fábio Lima da; Oliveira, Julio Cesar Soares de; Guimarães, Guilherme Pinto; Chagas, Carlos Frederico de Matos; Brandão, Luiz Paulo Mendonça; Cardoso, Rodrigo Felix de Araujo</i>	
IZOD IMPACT TEST IN EPOXY COMPOSITES REINFORCED WITH FIBERS MALVA	732
<i>Costa, Ulisses Oliveira; Nascimento, Lucio Fabio Cassiano; Monteiro, Sérgio Neves; Demosthenes, Luana Cristyne da Cruz</i>	
MAINTAINING CONTROL OF PROCESSES IN REGENERATORS AND BLOWN AIR SYSTEMS THROUGH THERMOGRAPHIC FOLLOW-UP.....	740
<i>Fonseca, Marcelo de Souza; Larrubia, Sandro Valério Maia; Oliveira, Robson da Silva</i>	
HOLAPPA'S 'LIQUID WINDOW' REVISITED	752
<i>Silva, Aline Lima da; Heck, Nestor Cezar</i>	
CHARACTERIZATION AND DETERMINATION OF THE TECHNOLOGICAL PROPERTIES OF ARGILOUS MASSES FOR THE MANUFACTURE OF SEALING BLOCKS.....	762
<i>Gonçalves, Camilly Peres; Racanelli, Lêda de Azevedo; Souza, José Antônio da Silva; Candido, Verônica Scarpini; Silva, Alisson Clay Rios da</i>	
POTENTIALITIES OF RESIDUE OF THE FGD SYSTEM USED IN DESULFURATION GASES FROM A COQUERIA	773
<i>Mohaupt, Alexandre Ferreira; Sagrillo, Viviana Possamai Della; Reis, Alessandra Savazzini dos</i>	
EVALUATION OF THE MECHANICAL PROPERTIES OF A COLD-ROLLED STEEL DURING THE BATCH ANNEALING PROCESS	780
<i>Marinho, Marcos Natanael; Costa, Fernando de Souza; Domingues, Nissandro; Santos, Dagoberto Brandão</i>	
EVALUATION OF MICROHARDNESS AND MICROSTRUCTRE OF GLASS-CERAMICS BASED ON THE NIOBO-PHOSPHATE SYSTEM	790
<i>Domingos, Matheus da Silva; Santos, Jheison Lopes dos; Júnior, Édio Pereira Lima; Silva, Ladário da; Abreu, Renato Martins; Silva, Gustavo Otranto; Lago, Ariel José Assayag do; Tommasini, Flávio James Humberto; Silva, Camila Ferreira da; Silva, Marcelo Henrique Prado da</i>	
DEVELOPMENT OF TRIVALENT CHROME PASSIVATION FOR ELECTROGALVANIZED STEELS	801
<i>Guimarães, Juliana Porto; Carvalhido, Carlos Augusto; Faria, Cristiane Brasil Magalhães; Andrade, Rodrigo Luiz Dornelas de</i>	
INTEGRATED PROJECT: INNOVATION IN THE OPERATIONAL MODEL OF THE PELLETTIZING PLANTS OF VALE S.A. - METHODOLOGY D.A.C.....	808
<i>Oliveira, Andre Souza de; Godoy, Everson Rodrigo Ornelas de; Pin, Livia; Coelho, Paula; Piltz, Rodrigo Domingos</i>	
MICRO-STRUCTURAL CHARACTERIZATION OF A POLYURETHANE FILM FOR USE AS A BIOMATERIAL.....	819
<i>Vasconcelos, Esleane Vilela; Passos, Marcele Fonseca; Dias, Carmen Gilda Barroso Tavares; Monteiro, Sérgio Neves; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini; Belo, Francilene da Luz</i>	
EFFECT OF THE SURFACTANT ON THE LIMIT OF RESISTANCE TO THE DRAINAGE OF AN EPOXY COMPOSITE REINFORCED WITH STANDARD FIBERS	826
<i>Silva, Luís Carlos da; Monteiro, Sérgio Neves; Oliveira, Michelle Souza; Demosthenes, Luana Cristyne da Cruz</i>	
ANALYSIS OF METALLOGRAPHIC PROPERTIES OF THE SAE 1045 STEEL IN THERMICAL TREATMENTS OF NORMALIZING, TEMPERING, AND QUENCHING.....	833
<i>Mori, Gabryella Neres De; Cesconeti, Lorena Bertranda; Villela, Marcella Minchio</i>	
MORPHOLOGICAL AND MICROSTRUCTURAL CHARACTERIZATION OF CARBOXYMETHHELELOSE WITH SILVER FOR APPLICATION IN HEALING	844
<i>Ferreira, Elisângela da Silva; Dias, Carmem Gilda Barroso Tavares; Passos, Marcele Fonseca; Silva, Alisson Clay Rios da; Monteiro, Sérgio Neves; Candido, Veronica Scarpin</i>	
STUDY OF THERMOMECHANICAL PROPERTIES OF GEOPOLYMERS PRODUCED FROM METACAULIM.....	851
<i>Porto, Ana Beatriz Rodrigues; Candido, Veronica Scarpini; Monteiro, Sergio Neves; Silva, Alisson Clay Rios</i>	
INTEGRATED INSPECTION SYSTEM FOR ASSET MANAGEMENT AT ARCELORMITTAL TUBARÃO	860
<i>Magalhaes, Alexandre Magno Ferreira de; Gagno Junior, Antonio Carlos Aguiar; Costa, Geisa Moura</i>	
SYNTHESIS AND CHARACTERIZATION OF CO_{1-x}ZN_xFE₂O₄ NANOPARTICLES USING THE COMBUSTION METHOD	872
<i>Figueiredo, André Ben-Hur da Silva; Carvalho, Danúbia Bordim de; Aguilera, Letícia dos Santos; Biasi, Ronaldo Sergio de</i>	

STUDY OF THE MICROSTRUCTURE AND SUSCEPTIBILITY TO INTERGRANULAR CORROSION OF COMMERCIAL FERRITIC STAINLESS STEEL AISI 430, AISI 430TI, AISI 430NB AND AISI 430 (TI + NB) WELDED BY GTAW PROCESS	878
<i>Gonçalves, Caroline Nazaré; Modenesi, Paulo José; Esteves, Luíza; Santos, Neice Ferreira dos</i>	
EFFECT OF THERMAL AGING IN THE MICROSTRUCTURE AND MECHANICAL PROPERTIES OF STAINLESS STEEL UNS S31803	890
<i>Costa, Junia Maria Gândara; Lacerda, José Carlos de; Godefroid, Leonardo Barbosa; Cândido, Luiz Cláudio</i>	
EVALUATION OF THE INFLUENCE OF QUENCHING AND TEMPERING ON MICROSTRUCTURE AND MECHANICAL PROPERTIES OF API 5L STEEL	900
<i>Nunes, Larissa Fernandes; Oliveira, Marcelly Quintão; Oliveira, Michelle Souza; Reis, Raphael Henrique Moraes; Paula, Anderson dos Santos; Baêta Júnior, Eustáquio de Souza</i>	
INFLUENCE OF PORE FORMER MORPHOLOGY IN THE MICROSTRUCTURE OF A FUNCTIONAL CERAMIC	911
<i>Garcia Filho, Fabio da Costa; Souza, Michelle Oliveira; Demosthenes, Luana Cristyne Da Cruz; Monteiro, Sergio Neves</i>	
EFFECT OF NB ADDITION ON THE QUENCH TEMPERATURE ON STEELS HEAT TREATED THROUGH QUENCHING AND PARTITIONING	922
<i>Aparecido, Lucas Ferrara Barbosa; Escobar, Diana Pérez; Bueno, Karelina Vaz; Bolota, José Roberto; Andrade, Margareth Spangler; Araújo, Fernando Gabriel da Silva</i>	
PERFORMANCE OF EPOXY MATRIX COMPOSITES REINFORCED WITH PIASSAVA FIBERS AS A STAND-ALONE BALLISTIC ARMOR AGAINST HIGH ENERGY AMMUNITION	932
<i>Garcia Filho, Fabio da Costa; Demosthenes, Luana Cristyne Da Cruz; Souza, Michelle Oliveira; Pereira, Artur Camposo; Luz, Fernanda Santos da; Braga, Fábio Oliveira; Monteiro, Sergio Neves</i>	
PRODUCTION AND CHARACTERIZATION OF CONCRETE BEAMS WITH ADDITIONS OF WASTE FROM CIVIL WORKS	942
<i>Cabral, Ricardo de Freitas; Costa, Adriano Ricardo Borges da; Fernandes, Jäder Cristian; Cardoso, Rafael Camargo</i>	
CHARACTERIZATION OF FLAT GLASS LAPPING RESIDUE FOR A SOIL-CEMENT BRICK PRODUCTION	952
<i>Scardua, Suzana Souza da Silva; Reis, Alessandra Savazzini dos; Sagrillo, Viviana Possamai Della; Teixeira, Gabriel Miranda</i>	
CHARACTERIZATION OF PIRARUCU SCALES (ARAPAIMA GIGAS) AND COMPOSITES REINFORCED WITH PIRARUCU SCALES BY XRD, EDS AND SEM	957
<i>Bezerra, Wendell Bruno Almeida; Oliveira, Michelle Souza; Garcia Filho, Fábio Da Costa; Demosthenes, Luana Cristyne Da Cruz; Silva, Luís Carlos da; Monteiro, Sérgio Neves</i>	
LASER METAL DEPOSITION IN AISI 4130 PINS EMPLOYING INCONEL 625 POWDER ABSTRACT	965
<i>Gomes, Bianca Ferreira; Fontes, Carlos Henrique Menezes; Rezende, Monica Costa; Maximo, Arthur; Almeida, Luiz Henrique de</i>	
EVALUATION OF RESIDUAL SPEED OF PROJECTS IN EPOXY COMPOSITES REINFORCED WITH PIRARUCU SCALES	977
<i>Silva, Luís Carlos da; Oliveira, Michelle Souza; Garcia Filho, Fábio da Costa; Demosthenes, Luana Cristyne da Cruz; Bezerra, Wendell Bruno Almeida; Monteiro, Sergio Neves</i>	
PHASE-FIELD MODEL IN EQUIAXIAL SOLIDIFICATION OF PURE METAL UNDER HIGH SURFACE ENERGY AND KINECT COEFFICIENT ANISOTROPIES	983
<i>Maciel, Rodrigo Ramalho; Martorano, Marcelo Aquino</i>	
PERFORMANCE OF MORTARS PRODUCED WITH LIME MUD FROM CELLULOSE INDUSTRY	996
<i>Tolentino, Evandro; Souza, Romário Silva; Oliveira, André Maurício de; Amaral, Erriston Campos; Silva Neto, Almir</i>	
PERFORMANCE OF FIQUE FIBER REINFORCED POLYESTER MATRIX COMPOSITE IN MULTILAYERED BALLISTIC	1009
<i>Pereira, Artur Camposo; Monteiro, Sergio Neves; Assis, Foluke Salgado de; Garcia Filho, Fábio da Costa; Reis, Raphael Henrique Moraes; Oliveira, Michelle Souza</i>	
VISCOSITY PREDICTION OF C-A-S AND C-A-S-M-SLAG SYSTEMS BY MEANS OF AN ARTIFICIAL NEURAL NETWORK	1021
<i>Heck, Guilherme Carvalho; Silva, Aline Lima da; Heck, Nestor Cezar</i>	
INFRA-RED SPECTROSCOPY ANALYSIS OF FIQUE FIBERS	1029
<i>Oliveira, Michelle Souza; Garcia Filho, Fábio Da Costa; Demosthenes, Luana Cristyne Da Cruz; Pereira, Artur Camposo; Luz, Fernanda Santos da; Monteiro, Sergio Neves</i>	
APPLICATION OF THE EXPECTED MONETARY VALUE – EMV FOCUSED ON CONTRACT MANAGEMENT	1036
<i>Luz, Felipe Charles Coutinho da</i>	

BALLISTIC EFFICIENCY OF MULTILAYERED ARMOR SYSTEM WITH EPOXY COMPOSITES REINFORCED WITH FIQUE FABRIC	1043
<i>Oliveira, Michelle Souza; Garcia Filho, Fábio Da Costa; Demosthenes, Luana Cristyne Da Cruz; Braga, Fábio Oliveira; Pereira, Artur Camposo; Monteiro, Sergio Neves</i>	
PERFORMANCE OF FIQUE FABRIC REINFORCED EPOXY COMPOSITES UNDER 7,62 MM BULLET IMPACT AS A STAND-ALONE BALLISTIC ARMOR	1052
<i>Oliveira, Michelle Souza; Garcia Filho, Fabio Da Costa; Demosthenes, Luana Cristyne Da Cruz; Braga, Fábio Oliveira; Pereira, Artur Camposo; Lima Jr, Édio Pereira; Monteiro, Sergio Neves</i>	
EFFECTS OF CURRENT DENSITY ON THE MORPHOLOGY OF ZIRCONIA COATINGS ELECTRODEPOSITED ON NITI	1062
<i>Pagotto, Barbara Moreno; Lopes, Natália Isabel de Azevedo; Silva, Laís Ávila de Oliveira; Resende, Pedro Damas; Santos, Caio Martins dos; Almeida, Maria Luiza Andrade; Buono, Vicente Tadeu Lopes</i>	
COMPARATIVE STUDY FOR DIFFERENT COLD ROLLING AND REVERSION ANNEALING CONDITIONS OF 201LN AUSTENITIC STAINLESS STEEL.....	1074
<i>Souza, Camila Oliveira de; Silva, Carolline Serafim da; Alves, Juciane Maria; Paula, Anderson dos Santos; Brandão, Luiz Paulo Mendonça; Casanova, Andrey de Moraes Barcelos; Oliveira, Isabela Santana de</i>	
EFFECTS OF HIGH ACCELERATION ON EUTECTIC PB-SN ALLOY SOLIDIFICATION	1086
<i>Tenorio, Plinio Ivo Gama; Mineiro, Sergio Luiz; Bandeira, Iraja Newton; Toledo, Rafael Cardoso; An, Chen Ying</i>	
DETERMINATION OF THE STANDARD CONSISTENCY OF MORTARS BASED ON FLY ASH ALKALI-ACTIVATED BY LIME	1093
<i>Pandini, Nathalia Toffoli; Dias, Dylmar Penteado; Alexandre, Jonas</i>	
SYNTHESIS AND CHARACTERIZATION OF HYDROXYAPATITE-BIOMINERALIZED SILICA	1099
<i>Ribeiro, Suzana Barreto Noronha; Silva, Marcelo Henrique Prado da; Santos, Jheison Lopes dos; Vasconcellos, Vitor Hugo Gomes de; Veiga Junior, Valdir Florêncio da</i>	
INFLUENCE OF ULTRAVIOLET RADIATION IN THE PHYSICO-CHEMICAL PROPERTIES OF A NATURAL LIGNOCELLULOSE FIBER: CURAUÁ	1106
<i>Silva, Anderson Oliveira da; Monsorens, Karollyne Gomes de Castro; Oliveira, Suzane de Sant'Ana; Weber, Ricardo Pondé; Monteiro, Sergio Neves</i>	
CHARACTERIZATION OF POLYMERIC COMPOSITES REINFORCED WITH PIRARUCU SCALES	1115
<i>Simonassi, Noan Tonini; Bezerra, Wendell Bruno Almeida; Oliveira, Michelle Souza; Garcia Filho, Fábio Da Costa; Demosthenes, Luana Cristyne da Cruz; Silva, Luis Carlos da; Monteiro, Sergio Neves</i>	
MECHANICAL CHARACTERIZATION OF WC COATING DEPOSITED BY HVOF THERMAL SPRAYING AND CO₂ LASER TREATMENT	1121
<i>Panziera, Renato Camponogara; Oliveira, Ana Claudia Costa de</i>	
RESIDUAL STRESSES CHARACTERISATION IN HSLA BLANKS, WELDED BY CO₂ LASER, UTILISING THE HOLE-DRILLING METHOD	1130
<i>Peres, Rafael de Andrade; Castro, José Adilson de</i>	
EVALUATION OF A POTENTIAL FOR THE NITI ALLOY FORMATION FROM NI AND TI HDH POWDERS BY POWDER METALURGY PROCESSES IN COMPARISON WITH THE VACUUM ARC REMELTING	1141
<i>Ferrão, Thiago Henrique Fernandes Dias; Teixeira, Rodolfo da Silva; Oliveira, Rebeca Vieira de; Paula, Anderson dos Santos</i>	
CHEMICAL, MINERALOGICAL AND THERMAL CHARACTERIZATION OF CLAYS AND BLAST FURNACE SLAG IN THE STATE OF PARÁ AIMING TO USE IN RED CERAMICS.....	1153
<i>Silva, Clara Giovana Souza; Monteiro, Sérgio Neves; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini</i>	
MAINTENANCE TECHNOLOGY FOR PERFORMANCE OF CONTINUOUS CASTER EQUIPMENT - PRIMETALS TECHNOLOGIES.....	1160
<i>Pereira, Rodrigo de Oliveira; Junior, Janir de Almeida; Furtado, Alexsandro de Oliveira; Veiga, Hugo Teixeira</i>	
MICROSTRUCTURAL CHARACTERIZATION OF REGENERATED OXIDIZED CELLULOSE FOR USE AS A BIOMATERIAL	1173
<i>Belo, Francilene da Luz; Cândido, Verônica Scarpini; Cavaleiro, Rosely Maria dos Santos; Dias, Carmem Gilda Barroso Tavares; Silva, Alisson Clay Rios da; Monteiro, Sérgio Neves; Vasconcelos, Esleane Vilela</i>	
INFLUENCE OF THE SOLUTION HEAT TREATMENT ON THE AGING CURVES OF AA2618 WITH CERIUM AND ZIRCONIUM.....	1179
<i>Simoes, Nicoli dos Santos; Rreguly, Afonso; Stadlander, Antonio Ricardo; Froelich, Andre Ronaldo</i>	
INCORPORATION OF MILL SCALE POWDER IN RED CLAYEY CERAMIC.....	1190
<i>Vieira, Carlos Maurício Fontes; Lopes Júnior, Henrique; Delaqua, Geovana Carla Girondi; Amaral, Lucas Fonseca; Monteiro, Sérgio Neves</i>	
ANOMALINE OXIDE GROWTH STUDY IN 0.4M H₃PO₄ SOLUTION BY ELIPSOMETRY	1200
<i>Moura, Sebastião Jucivaldo Oliveira; Caldeira, Marcus Vinícius; Santos, Ramona Rodrigues; Gomes, Bhetina Cunha; Ferreira, Elivelton Alves; Silva, Ladário da</i>	

STUDY ON DIELECTRIC STRENGTH OF EPOXY/ALUMINA NANOCOMPOSITES IN FUNCTION OF NANOPARTICLES LOAD SIZE AND DISPERSION	1208
<i>Carvalho, Paulo Sergio da Silva; Polasek, Alexander; Jardim, Paula Mendes; Ribeiro, Arthur de Castro</i>	
OBTAINING AND CHARACTERIZING HYDROXYPATITA OBTAINED FROM SHELL EGG SHELL FOR BIOCERAMIC APPLICATION	1218
<i>Santos, Avener Gleidson Andrade; Cândido, Verônica Scarpini; Silva, Alisson Clay Rios da; Monteiro, Sérgio Neves</i>	
EFFECT OF TEMPERATURE IN THE INTERCRITICAL REGION OF A MICROALLOYED STEEL CONTAINING NIOBIUM AFTER FORGING.....	1227
<i>Itman Filho, André; Silva, Rosana Vilarim da; Oliveira, Pedro Gabriel Bonella de</i>	
REPARO DE VASO E ANEL DE CONVERTEDORES COM DIAGNOSE FINAL.....	1234
<i>Barbosa, Luis Antonio</i>	
USE OF EXPERIMENTAL DESIGN IN THE MECHANICAL RESISTANCE STUDY OF RED CERAMICS INCORPORATED WITH RED LAMA	1242
<i>Babisk, Michelle Pereira; Amaral, Lucas Fonseca; Ribeiro, Larissa da Silva; Prado, Ulisses Soares do; Monteiro, Sérgio Neves; Vieira, Carlos Maurício Fontes; Burock, Katherine Pereira</i>	
PHYSICAL AND MECHANICAL PARAMETERS OF PRESSED AND BURNED BLOCKS OF RED CERAMICS FOR USE AS A STRUCTURAL MASONRY.....	1252
<i>Coutinho, Guilherme Moura Reis; Silva, Lucas Xavier Pereira da; Souza, Victor Barbosa de; Cerqueira, Niander Aguiar</i>	
METHODOLOGY FOR THE OPTIMIZATION OF THE STOCK OF MATERIALS USED IN GENERAL CARGO WAGONS.....	1261
<i>Almeida, Clayton Guimarães de; Oliveira, Breno Carvalho de; Santos, Jesus Jonatan Souza; Castro, Gustavo Barros; Carrano, Eduardo Gontijo; Lima, Gustavo Elói de Sá</i>	
EVALUATION OF DYNAMIC HARDNESS TEST PARAMETERS IN DENTAL STRUCTURES AND RESIN RESTORATIVE COMPOSITE	1275
<i>Teixeira, Agatha Borges; Melo-Silva, Tereza Cristina Favieri; Melo-Silva, Cláudio Luís de; Carvalho, Eric Costa; Nunes, Adriana Marques; Gouvêa, Jayme Pereira</i>	
EVALUATION OF HARDNESS VARIATION AFTER NATURAL AGING IN AL-CU ALLOY OBTAINED FROM BEVERAGE CANS AND COPPER WIRE	1281
<i>Moura, Isaque Alan de Brito; Sarquis, Ivna Nazle Cvalcante; Ferreira, Gabriel Melo</i>	
BULK METALLIC GLASSES: WHAT ARE AND WHAT THEY SERVE FOR?.....	1289
<i>Monteiro, Sergio Neves; Garcia Filho, Fabio da Costa</i>	
INCORPORATION OF ROCK POWDER IN COATING MORTARS	1298
<i>Marvila, Markssuel Teixeira; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez; Zanelato, Euzébio Bernabé; Goulart, Melissa de Almeida; Miguel, Thais Pirovane; Guarçoni, Giovanni Bruzzi; Monteiro, Sergio Neves</i>	
QUALITY OF ENERGY AND CONSUMER PARALYSIS. WHAT CAN BE DONE IN THE INDUSTRY?	1305
<i>Santos, Ildeu Marques dos; Costa, Paulo Fernandes</i>	
COATING OF AGRICULTURAL HELICIDAL THREADS BASED ON CRC DE-POSITED VIA HVOF POSTERIORLY IRRADIATED WITH LASER ND YAG AND CO₂.....	1314
<i>Santos, Hortencia Noronha dos; Gehrke, Gabriel Angelo; Oliveira, Ana Claudia Costa de; Rosendo, Tonilson de Souza</i>	
INFLUENCE OF THE CAO/SIO₂ RATIO IN THE MORTARS WORKABILITY BASED ON FLY ASH ALKALI-ACTIVATED BY HYDRATED LIME.....	1325
<i>Santos, Maria Camila Lopes; Dias, Dylmar Penteado; Alexandre, Jonas; Pandini, Nathalia Toffoli</i>	
EFFECT OF MOLYBDENUM, BORON AND NIOBIUM ON CONTINUOUS COOLING BAINITIC TRANSFORMATION	1331
<i>Carvalho, Felipe Moreno Siqueira Borges de; Braga, Ana Paola Villalva; Nishikawa, Arthur Seiji; Goldenstein, Hélio</i>	
FREEZE CASTING TECHNIQUE APPLIED TO MNFE₂O₄ NANOPARTICLES	1343
<i>Aguilera, Letícia dos Santos; Santos, Jheison Lopes dos; Santos, Clara Luz de Souza; Ribeiro, Suzana Barreto Noronha; Dias, Ricardo Leite; Biasi, Ronaldo Sérgio de; Silva, Marcelo Henrique Prado da; Figueiredo, André Ben-Hur da Silva</i>	

VOLUME 3

POROUS CERAMICS PRODUCED BY COFE₂O₄ NANOPARTICLES USING FREEZE CASTING	1352
<i>Aguilera, Letícia dos Santos; Biasi, Ronaldo Sergio de; Silva, Marcelo Henrique Prado da; Figueiredo, André Ben-Hur da Silva</i>	

MECHANICAL AND FATIGUE RESISTANCE CHARACTERIZATION OF HEAT-TREATED NITI WIRES	1359
<i>Almeida, Maria Luiza Andrade; Resende, Pedro Damas; Silva, Jéssica Dornelas; Pagotto, Bárbara Moreno; Santos, Caio Martins dos; Lopes, Natália Isabel de Azevedo; Buono, Vicente Tadeu Lopes</i>	
USE OF LIME WASTE IN DESSULFURANT SYNTHETIC SLINGS IN PIG IRON	1369
<i>Silva, Daniel dos Santos; Coleti, Jorge Luis; Telles, Victor Bridi; Junca, Eduardo, Espinosa, Denise Crocce Romano; Tenorio, Jorge Alberto Soares</i>	
NUMERICAL PLASTIC WORK ESTIMATES UNTIL CRACK TEARING.....	1377
<i>Marques, Luiz Fernando Nazaré; Cota, Eduardo Enes; Castro, Jaime Tupiassú Pinho de; Martha, Luiz Fernando; Meggiolaro, Marco Antonio</i>	
COMPUTATIONAL SIMULATION OF THE DISSOLUTION OF PRECIPITATES DURING MICROALLOYED STEELS REHEATING	1389
<i>Borba, Elenice Cavichioli; Reis, Thompson Junior Ávila; Silva, André Luis Vasconcellos Costa e; Camey, Kenji; Taiss, Ed Juarez Mendes; Andrade, Margareth Spangler</i>	
ANALYSIS OF MARAGING 300 STEEL TEXTURE SOLUTION ANNEALING IN HIGH TEMPERATURES.....	1398
<i>Vieira, Regina Coeli Araújo; Muniz, Leticia Rabelo; Abreu, Hamilton Ferreira Gomes de</i>	
OEE CALCULATION METHODOLOGY USING PIMS IN ARCELORMITTAL TUBARÃO.....	1410
<i>Costa, Geisa Moura; Magalhães, Alexandre Magno Ferreira de; Gagno Junior, Antonio Carlos Aguiar</i>	
INFLUENCE OF THE SECOND PHASE INCUBATION TIME ON GRAIN SIZE THROUGH COMPUTER SIMULATION.....	1420
<i>Siqueira, Felipe da Silva; Lyrio, Mariana Sizenando; Martins, Lucas Reis; Cotrim, Francisco de Assis Diniz; Santos, Júlia Mendes dos; Alves, André Luiz Moraes; Fonseca, Guilherme Dias da; Assis, Wesley Luiz da Silva; Rios, Paulo Rangel</i>	
ADHESION EVALUATION OF MORTAR APPLIED ON CERAMIC BLOCKS.....	1432
<i>Zanelato, Euzébio Bernabe; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Monteiro, Sergio Neves</i>	
STUDY AND CHARACTERIZATION OF AN ALUMINUM MATRIX ALLOY.....	1439
<i>Domingos, Matheus da Silva; Esteves, Paulo Davi Borges; Sallet, Eduardo Hoisler; Salgado, João Vitor Baptista; Andrade, Ana Carolina Goulart de; Paula, Andersan dos Santos; Silva, Marcelo Henrique Prado da</i>	
MICROHARDNESS EVALUATION IN FE-CU-NB ALLOYS OBTAINED BY HOT PRESSING	1448
<i>Oliveira, Hellen Cristine Prata de; Silveira, Raissa Capanema Mendes da; Assis, Paulo Santos</i>	
SYNTHESIS AND STRUCTURE OF THE METAL-CERAMIC COMPOSITE 316L / SYCRO	1458
<i>Salvador, José Firmino; Alves, Haimon Diniz Lopes; Cavichini, Arthur Sant'Ana; Orlando, Marcos Tadeu D'Azeredo</i>	
BIOHYDROMETALLURGY: RECOVERY OF COPPER FROM WEEE BY BACTERIAL LEACHING *	1467
<i>Utamura, Solange Kazue; Botelho Junior, Amilton Barbosa; Tenório, Jorge Alberto Soares; Espinosa, Denise Crocce Romano</i>	
BEHAVIOR EVALUATION OF BALLISTIC MULTILAYER ARMOR WITH EPOXY COMPOSITE REINFORCED WITH BURITI FABRIC.....	1476
<i>Demosthenes, Luana Cristyne da Cruz; Nascimento, Lucio Fabio Cassiano; Garcia Filho, Fabio da Costa; Oliveira, Michelle Souza; Luz, Fernanda Santos da; Monteiro, Sérgio Neves; Demosthenes, Leandro Alberto da Cruz</i>	
SUCCESS OF MAINTENANCE SHUTDOWN IN THE STEEL INDUSTRY: HOW TO MEASURE THE EFFICIENCY OF THE MANAGEMENT AND THE RESULT.....	1486
<i>Corrêa, Reubber Vinícius; Cunha, Fabiano Carneiro da; Nascimento, Oton Kin Gerheim do</i>	
ELECTROMAGNETIC TEST FOR FOLLOW-UP OF FRAGILIZING PHASE FORMATION IN DUPLEX STAINLESS STEEL	1496
<i>Silva, Edgard de Macedo; Santos, Neilor Cesar dos; Silva, Francisco Eduardo Mendes da; Rodrigues, Amanda Medeiros; Barreto, José Hernado Bezerra; Leite, João Pereira; Leite, Josinaldo Pereira</i>	
CHARACTERISTICS OF OXIDE SCALE FORMED ON STAINLESS STEEL 410D AFTER ISOTHERMAL TREATMENTS IN AN OXIDANT ATMOSPHERE	1508
<i>Arruda, Amanda Aparecida Fátima; Carvalho, Ana Cecília de; Moreira, Paulo Sérgio; Queiróz, Rhelman Rossano Urzêdo; Faria, Geraldo Lúcio de</i>	
EFFECT OF HEAT TREATMENTS ON THE PHYSICAL PROPERTIES IN UNS S32304 DUPLEX STAINLESS STEEL WELDED PLATES.....	1520
<i>Caetano, Gabriela Aksascki; Luz, Temístocles de Souza; Coelho, Lucas Mirandola; Ross, Jesualdo Luiz; Orlando, Marcos Tadeu D\Azeredo</i>	
STUDY OF THERMAL PROPERTIES OF GEOPOLYMERS BASED ON CAULINS AND BLAST FURNACE SLAG.....	1532
<i>Silva, Alan Rodrigo Palheta; Monteiro, Sergio Neves; Silva, Alisson Clay Rios da; Cândido, Verônica Scarpini</i>	
INFLUENCE OF PREHEATING IN THE WELDABILITY OF NICKEL BASE SUPERALLOYS.....	1541
<i>Pires, Wellington Mattos; Oliveira, Mariana Anastácia de; Marinho Junior, Adeir</i>	

MICROSTRUCTURAL FEATURES, FAILURE MODES AND MECHANICAL PROPERTIES OF RESISTANCE SPOT WELDED TWIP STEELS	1554
<i>Colombo, Tiago Cristofer Aguzzoli; Santos, Guilherme José dos; Otubo, Jorge; Faria, Alfredo Rocha de</i>	
METALLOGRAPHIC ANALYSIS AND QUANTIFICATION OF FERRITA IN A HIGH HARD STEEL, AFTER THERMAL TREATMENT OF QUENCHING AND TEMPERING	1566
<i>Oliveira, Suzane de Sant' ana; Monsore, Karollyne Gomes de Castro; Silva, Anderson Oliveira da; Rodrigues, João Gabriel Passos; Weber, Ricardo Pondé</i>	
INTEGRATION OF MAINTENANCE AND OPERATION PLANNING AND PROGRAMING PROCESSES IN PELLETIZING PLANTS.....	1572
<i>Barbosa, Elias Vinícius Gonçalves; Machado, Marcos Meyer; Queiroz, Daniel Antônio Oliveira; Vidal, Gabriela Ferreira Soares; Delunardo, Maxwel; Fernandes Filho, Jorge José; Tibério, Fabricio da Silva; Junqueira, Vinícius Gouveia; Pereira, Wesley Vicente; Godoy, Everson Rodrigo Ornelas; Reis, Cleston Meneses</i>	
DETERMINATION OF THE PROCESS WINDOW OF AUSTEMPER TREATMENT TO OBTAIN ADI THROUGH NEURAL NETWORK SIMULATION	1582
<i>Pereira, Leonardo; Belle, Matheus Roberto; Pasini, Willian Martins; Barcellos, Vinicius Karlinski de</i>	
TENSILE RESISTANCE OF COMPOSITION OF POLYESTER MATRIX REINFORCED WITH NATURAL FABRIC FROM FIQUE.....	1589
<i>Pereira, Artur Camposo; Monteiro, Sergio Neves; Oliveira, Michelle Souza; Simonassi, Noan Tonini; Souza, Brendon Bruno Bezerra de</i>	
NEW MODEL FOR NUCLEATION ON PARTICLES APPLIED TO NON-METALLIC INCLUSIONS IN STEELS	1595
<i>Alves, André Luiz Moraes; Fonseca, Guilherme Dias da; Siqueira, Felipe da Silva; Duarte, Aline Cristine Lemos; Ventura, Harison da Silva; Assis, Wesley Luiz da Silva; Rios, Paulo Rangel</i>	
CORROSION EVALUATION ON STEEL 10B22 FOR FASTERNERS	1608
<i>Fernandes, Loyslene Rabelo; Sousa, Gustavo Henrique</i>	
GEPOLYMERIZATION PROCESS IN BLAST FURNACE SLAG AND STEEL SLAG	1619
<i>Pereira, Ana Paula dos Santos; Ramos, Flavio James Humberto Tomassini Vieira; Silva, Marcelo Henrique Prado da</i>	
STUDY OF WELDED JOINT WITH GRADE 1 TITANIUM ALLOY AFTER AUTOGENOUS ORBITAL GTAW USED ON TUBE TO TUBESHEET WELDING OF NUCLEAR EQUIPMENT.....	1629
<i>Oliveira, Luiz Carlos Chaves de; Carneiro, Gerson Ronelli Ferreira</i>	
INDICADORES SOBRE DESENVOLVIMENTOS RECENTES EM AÇOS A PARTIR DA ANÁLISE DE DOCUMENTOS DE PATENTE	1641
<i>Oliveira, Bráulio Salumão de; Milanez, Douglas Henrique; Leiva, Daniel Rodrigo</i>	
INFLUENCE OF VARIABLE PARAMETERS OF PROCESSES IN THE MECHANICAL PROPERTIES OF POLYMERIC MATRIX COMPOSITES.....	1651
<i>Maciel Junior, Renardir Peixoto; Chimendes, Nilis Cunha; Deus, Enio Pontes de</i>	
MICROHARDNESS AND MICROSTRUCTURE ANALYSIS OF UFG TI AND TI-6AL-4V ALLOYS.....	1663
<i>Monteiro, Emília dos Santos; Soares, Francielly Moura de Souza; Santos, Luíza Braga Ferreira dos; Gomes, Paula Anastácia Moraes Cairo; Elias, Carlos Nelson</i>	
PHOSPHATIZATION OF MANGANESE IN TUBE SLEEVE P110 DEGREE IN LOW CARBON STEEL AS AN EFFECT OF CORROSIVE AND ABRASIVE PROTECTION	1671
<i>Dias, Ana Cláudia Azevedo; Costa Junior, Elexander da; Vieira, David Hebert; Bartulici, Eric</i>	
COMPUTER SIMULATION OF CONSTANT NUCLEATION RATE ON A KELVIN POLYEDRAL NETWORK.....	1682
<i>Fonseca, Guilherme Dias da; Alves, André Luiz Moreira; Ventura, Harison da Silva; Lyrio, Mariana Sizenando; Toledo, Paulo Vinícius Vieira; Siqueira, Felipe da Silva; Santos, Júlia Mendes dos; Assis, Wesley Luiz da Silva; Rios, Paulo Rangel</i>	
DETERMINATION OF THERMAL PROPERTIES OF RAW MATERIALS USED IN THE MANUFACTURE OF REFRACTORY CERAMICS.....	1690
<i>Monteiro, Maria Luiza da Silva; Monteiro, Sérgio Neves; Silva, Alison Clay Rios da; Candido, Verônica Scarpini</i>	
OCCURRANCE OF THERMAL FATIGUE CRACKS AND THEIR RELATION WITH OXIDATION.....	1698
<i>Braga, Ana Paola Villalva; Lima, Luiz Gustavo Del Bianchi da Silva</i>	
EVALUATION OF EFFICIENCY OF ALUMINA-COATED P92 STEEL TO HIGH TEMPERATURE CORROSION.....	1713
<i>Gallo, Gerson Ortiz; Assunção, Fernando Cosme Rizzo; Monteiro, Maurício de Jesus; Kranzmann, Axel; Schulz, Wencke; Nofz, Marianne; Sojref, Regine</i>	
MANAGEMENT OF MAINTENANCE SHUTDOWNS IN THE STEEL INDUSTRY: A METHODOLOGY FOCUSED ON STANDARDIZATION OF PROCESSES.....	1726
<i>Cunha, Fabiano Carneiro da; Corrêa, Reubber Vinícius</i>	

CONSTRUCTION OF A CONTINUOUS COOLING TRANSFORMATION DIAGRAM FOR TRIP780 STEEL THROUGH THE USAGE HIGH-TEMPERATURE LASER-SCANNING CONFOCAL MICROSCOPY	1739
<i>Paula, Marconi Rabelo de; Cândido, Luiz Cláudio; Santos, Henrique Meckler; Melo, Vinícius Santos; Silva, Amanda de Paiva</i>	
MAPPING OF TECHNOLOGICAL ADVANCE OF METALLIC POWDER'S PRODUCTION TROUGH THE ANALISYS OF PATENT INDICATORS	1750
<i>Falsetti, Luís Otávio Zaparoli; Milanez, Douglas Henrique; Leiva, Daniel Rodrigo</i>	
EVALUATION OF THE MICROSTRUCTURE AND HARDNESS OF FERRITIC STAINLESS STEELS AISI 430 AND	1762
<i>Magalhães, Hugo Rodrigues; Gonçalves, Caroline Nazaré; Santos, Neice Ferreira dos; Carvalho, Gabriel Mendes Almeida</i>	
SUSTAINABLE DESTINATION FOR THE CSP BLAST FURNACE SLUDGE	1771
<i>Mazzei, Umberto Sales; Mathias, Leonardo Luiz Siqueira; Macedo, Paulo de Melo; Bertoncini, Bruno Vieira; Goes, George Vasconcelos</i>	
MECHANISTIC MODEL FOR SPECIFIC CUTTING PRESSURE OF THE SUPERDUPLEX STAINLESS STEEL	1779
<i>Arydes, Felipe Oliveira; Fonseca, Marina Nogueira da; Mouro, Adriane Lopes</i>	
DEGRADATION OF SURFACTANT USED IN THE FLOTATION OF MINERALS AIDED BY H₂O₂ AND UV RADIATION	1791
<i>Alves, Isabela Falconi Brandolis; Tenório, Jorge Alberto Soares; Baltazar, Marcela dos Passos Galluzi</i>	
EFFECT OF THE INITIAL MICROSTRUCTURE ON THE PROPERTIES OF DUAL PHASE STEEL WITH HE REQUIREMENT	1799
<i>Arruda, Marcus Vinícius Pereira; Melo, Túlio Magno Fuzessy de; Costa, Fernando de Souza; Santos, Dagoberto Brandão</i>	
PLASMA CUTTING QUALITY STUDY AUTOMATED IN AISI 304 STAINLESS STEEL	1811
<i>Mouro, Adriane Lopes; Campos, Guilherme Amaral do Prado; Silva, Juan Carlos Assis da; Arydes, Felipe Oliveira</i>	
PHYSICAL-CHEMICAL CHARACTERIZATION OF THE GRANULOMETRIC FRACTIONS OF THE GRANULATED BLAST FURNACES SLAG OF ARCELORMITTAL TUBARÃO	1822
<i>Silva, Marllon Fraga; Orlando, Marcos Tadeu D.; Ramos, Rogério; Galvão, Elson Silva; Dieguez, Ana Carolina de Oliveira; Magalhães, Diego Corrêa; Martins, João Batista Ribeiro</i>	
SAE 1020 STEEL BOX CARBURAZING	1831
<i>Pinto, João Vitor da Silva; Maia, Pedro Paulo Nunes; Silva, Soraia Karolinne Castro; Silva, Marcelo José Gomes da</i>	
SILICATES GLASSES PRODUCTION WITH FINE QUARTZITE WASTE	1842
<i>Gomes, Vinícius Rodrigues; Vidal, Francisco Wilson Hollanda; Vieira, Carlos Mauricio Fontes; Sampaio, Juraci Aparecido; Babisk, Michelle Pereira</i>	
STUDY OF INCORPORATION OF FUEL AND FLUXING WASTES IN RED CERAMICS	1850
<i>Barreto, Gabriela Nunes Sales; Delaqua, Geovana Carla Girondi; Gadioli, Monica Castoldi Borlini; Vieira, Carlos Mauricio Fontes; Babisk, Michelle Pereira</i>	
MICROSTRUCTURAL ANALYSIS IN SUPERDUPLEX STAINLESS STEEL PIPES WITH INCONEL CLADDING AS REPAIR FOR LOCAL CORROSION PERFORATIONS	1860
<i>Kugizaki, Marcos Lessa; Drago, Cristina Perim; Souza, Juliana Prates; Rosa Neto, Carlos Alberto; Macêdo, Marcelo Camargo Severo de; Luz, Temístocles de Sousa</i>	
INCORPORATION OF DRY BIOMASS OF EICHHORNIA CRASSIPES IN RED CERAMICS	1873
<i>Babisk, Michelle Pereira; Barreto, Gabriela Nunes Sales; Delaqua, Geovana Carla Girondi; Gadioli, Monica Castoldi Borlini; Vieira, Carlos Mauricio Fontes</i>	
OXINITROL® - LIFE INCREASE AND REPAIR FOR HOT WORKING MOLDS AND DIE	1884
<i>Yoshida, Shun</i>	
USE OF THE INDUSTRIAL ULTRASOUND TECHNIQUE AS A POTENTIAL INFERENCE FOR THE MICROSTRUCTURAL CHARACTERIZATION OF STEELS WITH DIFFERENT CARBON CONTENTS	1891
<i>Costa Junior, Elexander da; Dias, Ana Cláudia Azevedo; Bartulici, Eric; Vieira, David Hebert; Rocha, Antônio Marcos da; Moreira Neto, Antenor Soares; Borges, Alex Rodrigues</i>	
ISOFTÁLICOS POLYESTER MATRIX COMPOSITIONS WITH INDUSTRIAL WASTE LOADING AND STRENGTHENING OF SHORT NATURAL FIBERS	1901
<i>Barbosa, Karla Suellen Lino; Mendes, Bruno Henrique Alves; Santos, Alessandro José Gomes dos; Costa, Deibson Silva da; Souza, Jose Antonio da Silva</i>	
THERMOGRAVIMETRIC MORPHOLOGICAL CHARACTERIZATION OF CLAYS AND BLAST FURNACE SLUDGE FROM THE STATE OF PARÁ	1912
<i>Jesus, Geyna Evellyn Silva de; Costa, Roberta Lima de Souza; Cruz Junior, Roberto de Sousa; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini; Monteiro, Sérgio Neves</i>	

STUDY OF MORPHOLOGY OF BURNING RED CERAMICS INCORPORATED WITH CHAMOTE FOR MANUFACTURE OF REFRACTORY PARTS	1922
<i>Cruz Junior, Roberto de Sousa; Jesus, Geyna Evellyn Silva de; Monteiro, Sérgio Neves; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini</i>	
EFFICIENT ENERGETIC UTILIZATION OF GLYCEROL – STEADY STATE MODELING OF HYBRID SOLID OXIDE FUEL CELL (SOFC) AND GAS TURBINE (GT) SYSTEM	1929
<i>Silva, Aline Lima da</i>	
SYNTHESIS AND CHARACTERIZATION OF PMMA/MNFE₂O₄ NANOCOMPOSITES	1944
<i>Pereira, Ana Paula dos Santos; Ramos, Flavio James Humberto Tomassini Vieira; Ferreira, Leonardo da Cunha; Vieira, Matheus A R; Soares, Rodrigo M de B; Albuquerque, Pedro P L de; Neves, Edson C P; Silva, Renan R. M. R da; Monteiro, Sergio Neves; Silva, Marcelo Henrique Prado da</i>	
ANALYSIS OF PHASE TRANSFORMATION AFTER AGING OF NITI ALLOY	1950
<i>Santos, Luiz Alberto dos; Otubo, Jorge; Lima, Nelson Batista de; Santos, Osmar de Sousa; Reis, Danieli Aparecida Pereira</i>	
STUDY OF THE BENEFITS OF POLYMERIC COATING ON CARBON STEEL TANKS FOR STORAGE OF LIQUID PRODUCTS	1962
<i>Freire, Larissa Gomes; Bernardo, Manuella Vitaliano; Bittencourt, Alexandre de Araujo; Cavalcanti, Marcus Vinicius; Feitosa, Ana Lucia; Bagger, Karl Kristian</i>	
THE USE OF FAULT ANALYSIS AS A COST REDUCTION TOOL ON OFF-ROAD TRUCKS	1971
<i>Silva, Elifas Levi da; Nogueira, Paulo Roberto Dutra; Melo, Guilherme Sousa; Teles, Ladir Antunes; Souza, Silvio Diniz</i>	
RECOVERY OF METAL IONS USING CHELATING RESIN DOWEX XUS43605 UNDER INFLUENCE OF INITIAL CONCENTRATION OF CU²⁺, FE³⁺ AND NI²⁺	1983
<i>Perez, Isadora Dias; Correa, Mónica Maria Jimenez; Tenório, Jorge Alberto Soares; Espinosa, Denise Crocce Romano</i>	
PRAXAIR'S OPTVIEW IMAGE ANALYSIS SYSTEM FOR ENHANCED COMBUSTION CONTROL™	1990
<i>Costa, Tiago Ribeiro; Zagury, Pedro Athias; Gama, Pablo Pacheco da; Gomes, Enderson Silva; Silva, Joao Paulo; Zanotelli, Vitor</i>	
INCREASING THE ENERGY EFFICIENCY OF THE CONSTEEL®	1999
<i>Castro, Marice Aparecida Ferreira de; Marques, Willbrynnner Pereira</i>	
RISK ANALYSIS APPLIED TO HYDRICAL ASPECTS OF STEEL PLANTS USING THE ANALYTIC HIERARCHY PROCESS (AHP) AND BAYESIAN BELIEF NETWORKS (BBN).....	2008
<i>Fayer, Geane Cristina; Pereira, José Cristiano; Ribeiro, Leonardo Guimarães; Ferreira, Paloma Molina; Bolotari Junior, Nelson</i>	

VOLUME 4

OBTAINING THE SPECIFIC MASS OF SPONGE GOURD FIBERS IN THE FUNCTION OF THE DIAMETER	2021
<i>Pereira, Artur Camposo; Monteiro, Sergio Neves</i>	
EVALUATION OF THE MECHANICAL BEHAVIOR OF POLYMERIC COMPOSITES REINFORCED WITH NATURAL FIBERS OF THE AMAZON.....	2029
<i>Oliveira Filho, Edwillson Gonçalves de; Fujiyama, Roberto Tetsuo; Candido, Veronica Scarpini; Silva, lisson Clay Rios da; Monteiro, Sérgio Neves</i>	
EVALUATION OF THE INTERFERENCE OF THE TEST GEOMETRY IN THE RESISTANCE TO COMPRESSION IN MORTARS.	2043
<i>Marvila, Markssuel Teixeira; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez; Zanelato, Euzébio Bernabé; Monteiro, Sergio Neves; Delaqua, Geovana Carla Girondi; Amaral Lucas Fonseca</i>	
COLD AGGLOMERATION OF BOF DUST FROM THE PRIMARY DRY DEDUSTING SYSTEM.....	2049
<i>Oliveira, Luiz Claudio Pinto; Quintanilla, Jerson Edwin Alvarado; D'Abreu, José Carlos</i>	
COMPARISON OF THE RESISTANCE TO THE COMPRESSION OF A DESTRUCTIVE TEST WITH THE ULTRASOUND TEST FOR A STRUCTURAL CERAMIC BLOCK.....	2061
<i>Marvila, Markssuel Teixeira; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez; Zanelato, Euzébio Bernabé; Monteiro, Sergio Neves; Azeredo, Neila Gondim de</i>	
DETERMINATION OF TENACITY TO THE IZOD IMPACT OF POLYESTER MATRIX COMPOSITIONS REINFORCED WITH BUCKFIBERS	2071
<i>Lima, Rodolfo Moura de Souza; Oliveira, Michel Picanço; Pinheiro, Miriane Alexandrino; Monteiro, Sérgio Neves; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini</i>	
REFRACTORIES FOR ELETRIC ARC FURNACE OF PIROMETALURGY OF NIOBIUM CONCENTRATE.	2077
<i>Vieira, Alaércio Salvador Martins</i>	

CORROSION RESISTENCE 22MNB5 STEEL COATED WITH ZN-FE AFTER HOT STAMPING	2089
<i>Pimenta, Egnalda Pereira da Silva; Barbosa, Aldo Henrique de Almeida; Pereira, João Francisco Batista</i>	
MECHANICAL PERFORMANCE OF STEEL AND ALUMINUM FOAMS AT HIGH TEMPERATURES	2101
<i>Tavares, Miguel de Moraes; Vieira Junior, Luiz Carlos Marcos; Almeida, Saulo José de Castro; Szyniszewski, Stefan</i>	
HISTORY AND PROCESSING OF HIGH-ENTROPY METALLIC ALLOYS	2113
<i>Garcia Filho, Fabio Da Costa; Monteiro, Sergio Neves</i>	
PROPERTIES AND APPLICATION OF HIGH-ENTROPY METALLIC ALLOYS	2122
<i>Garcia Filho, Fabio Da Costa; Monteiro, Sergio Neves</i>	
ANALYSIS OF FAILURES OF AN INDUSTRIAL EQUIPMENT BY THE USE OF QUALITY TOOLS WITH FOCUS ON QC-STORY AND PDCA METHODS	2130
<i>Morais, Willy Ank de; Godoso, Lucas Acquaviva Carrano de; Cruz, Leonardo Carvalho da; Santos, Pedro Alves dos; Lima, João Paulo Reis; Farah, Juliana</i>	
LUBRICATION MANAGEMENT: FAILURE ANALYSIS ABOUT INFLUENCE OF LUBRICATING OILS IN THE PERFORMANCE OF OFF-ROADS TRUCKS IN THE MINING INDUSTRY	2141
<i>Santos, Zirlene Alves da Silva; Gouveia, Luiz Felipe</i>	
EFFECT OF TEMPERING TEMPERATURE IN HARDNESS AND STRENGTH OF AN AISI 5160 STEEL	2153
<i>Dias, Leonardo Viana; Sá, Samuel Kleber Mota; Freitas Filho, Aderci de; Santos, Carlos Eduardo dos; Santana, Ivan José de</i>	
EFFECTS OF TEMPERING TEMPERATURE IN THE MICROSTRUCTURE AND HARDNESS OF AISI 5160 STEEL	2165
<i>Dias, Leonardo Viana; Raydan, Daniel Meira; Freitas Filho, Aderci de; Santana, Ivan José de</i>	
EFFECTS OF TEMPERING TEMPERATURE IN THE IMPACT ABSORBED ENERGY AND HARDNESS OF AISI 5160 STEEL	2176
<i>Dias, Leonardo Viana; Freitas Filho, Aderci de; Santana, Ivan José de</i>	
EFFECT OF THE RATE CONTROL METHOD ON THE TENSILE TEST BEHAVIOR OF COLD ROLLED IF AND DUAL PHASE STEELS	2188
<i>Melo, Túlio Magno Fuzessy de; Araújo, André de Almeida; Torres, Cleydson Fernando Gomes</i>	
STUDY OF THE PARTIAL REPLACEMENT OF THE CLAY FOR ADDITION OF MIXTURE OF INDUSTRIAL REJECTS IN THE PRODUCTION OF CERAMICS	2200
<i>Celestino, Stephane Paula; Freitas, Priscila Soares; Chilque, Angel Rafael Arce</i>	
EFFECT OF THE EMPLOYMENT OF SILVER NANOAGAGED IN CONCRETE	2212
<i>Morais, Willy Ank de; Coelho, Rodrigo Roberto; Daniel, Jennifer Araújo</i>	
EVALUATION OF FRESH STATE MORTARS INCORPORATED WITH CHAMOTE	2224
<i>Azevedo, Afonso Rangel Garcez de; Alexandre, Jonas; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé; Xavier, Gustavo de Castro; Monteiro, Sergio Neves</i>	
EVALUATION OF MORTARS IN THE HARDENED STATE INCORPORATED WITH CHAMOTE	2233
<i>Azevedo, Afonso Rangel Garcez de; Alexandre, Jonas; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé; Xavier, Gustavo de Castro; Monteiro, Sergio Neves; Pirovane, Thais Miguel</i>	
COMPARATIVE BEHAVIOR OF MAGNESIUM ALLOY AZ31 BY CYCLIC POLARIZATION TEST	2240
<i>Fernandes, Camila Queiroz Correia; Almeida, Darlene Souza da Silva; Ferreira, Elivelton Alves; Castro, José Adilson de; Silva, Leonardo Martins da</i>	
CHARACTERIZATION OF LIMESTONE POWDER FOR PRODUCTION OF FITTING BLOCKS	2252
<i>Azevedo, Afonso Rangel Garcez de; Alexandre, Jonas; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé; Xavier, Gustavo de Castro; Monteiro, Sergio Neves</i>	
APPLICATION OF RELIABILITY ENGINEERING IN THE LIFE CYCLE COST ANALYSIS IN AN AUTOMATIC COIL TRANSPORT SYSTEM	2262
<i>Grecco, Bruno Brunoro</i>	
ANALYSIS OF CONFORMITY OF STRUCTURAL CONCRETE BLOCKS	2274
<i>Lopes, Daniele; Rocha, Cynthia de Oliveira; Souza, Victor Barbosa; Cerqueira, Niander Aguiar; Azevedo, Afonso Rangel Garcez de; Barreto, Marcelo Neves; Gallo, Daniel Passos; Monteiro, Sergio Neves; Alexandre, Jonas</i>	
FEASIBILITY STUDY OF THE PRODUCTION OF MODULAR BRICKS OF SOIL-CEMENT FOR POPULAR HOUSING	2281
<i>Lopes, Daniele; Rocha, Cynthia de Oliveira; Souza, Victor Barbosa; Cerqueira, Niander Aguiar; Azevedo, Afonso Rangel Garcez de; Barreto, Marcelo Neves; Gallo, Daniel Passos; Monteiro, Sergio Neves; Alexandre, Jonas</i>	

STUDY OF SUBSTITUTION OF THE SAND BY THE RESIDUE OF THE GRANITE OF THE CITY OF CACHOEIRO-ES, IN THE ARGAMASSA CONFECTIONATION	2288
<i>Pirovane, Thais Miguel; Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Alexandre, Jonas; Zanelato, Euzébio Bernabé; Monteiro, Sergio Neves</i>	
MICROSTRUCTURAL CHARACTERIZATION OF A HIGH HARD BALLISTIC STEEL	2295
<i>Oliveira, Suzane de Sant' ana; Monsorez, Karollyne Gomes de Castro; Silva, Anderson Oliveira da; Rodrigues, João Gabriel Passos; Weber, Ricardo Pondé</i>	
CASE STUDY: EVALUATION OF PERFORMANCE OF CONCRETE BLOCKS FOR PAVING THE FEDERAL FLUMINENSE INSTITUTE	2302
<i>Zanelato, Euzébio Bernabé; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Xavier, Gustavo de Castro; Cerqueira, Niander de Aguiar; Monteiro, Sergio Neves; Petrucci, Lúcio José Terra</i>	
WATER CONTAMINATION MANAGEMENT IN HOT ROLLING MILLS FOR IMPROVED PRODUCTIVITY	2310
<i>Wojtkowski, Thomas; Hurley, Timothy; Hlade, Toby</i>	
DEVELOPMENT OF ALUMINUM FOAMS	2324
<i>Esteves, Cristina Aparecida; Silva, Sidney Nicodemos da; Abreu, Arthur Henrique Izumi de</i>	
CHARACTERIZATION OF THE CLAYS OF THE MUNICIPALITY OF CASTELO	2332
<i>Zanelato, Euzébio Bernabé; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Pereira, Luiz Carlos Kifer Maia; Machado, Raíza de Oliveira; Monteiro, Sergio Neves; Petrucci, Lúcio José Terra</i>	
INCREASING THE FUNCTIONALITY OF THE WALKERS TO ELDERLY THROUGH A HEIGHT ADJUSTMENT MECHANISM	2341
<i>Rosa, Bruno de Paula; Miranda, Rodrigo Antonio; Mendes, Raphael Flores; Braga, José Nildo Dos Santos; Barbosa, Fernando Montanare; Laporte, Daniel José; Branco, Fabiano Pagliosa</i>	
MECHANISM OF THE CURSOR-HANDLE TYPE FOR FLUID CONTROL IN BIODIGESTORES	2350
<i>Rosa, Bruno de Paula; Furmigare, Guilherme Lucio; Loureiro, Samuel Felipe; Ramos, Welliton Cunha; Zuqui, Willian Pires Sabadini; Barbosa, Fernando Montanare; Laporte, Daniel José; Branco, Fabiano Pagliosa</i>	
METHODOLOGY FOR ACICULAR FERRITE MEASUREMENT ON A HTP STEEL BY ELECTRON BACKSCATTER DIFFRACTION (EBSD)	2360
<i>Tomaz, Raphael Fialho; Escobar, Diana Perez; Andrade, Margareth Spangler; Barbosa, Ronaldo Antônio Neves Marques; Camey, Kenji; Santos, Dagoberto Brandão; Araújo, Fernando Gabriel Silva</i>	
OBTAINING DIAMONDS USING NI-MG ALLOYS AS A SOLVENT CATALYST	2371
<i>Oliveira, Michelle Souza; Garcia Filho, Fábio da Costa; Demosthenes, Luana Cristyne da Cruz; Monteiro, Sergio Neves</i>	
DOE METHODOLOGY FOR COMPARISON BETWEEN COMPOSITE ARMORS WITH DIFFERENT LAYER'S THICKNESS	2381
<i>Braga, Fábio de Oliveira; Oliveira, Michelle Souza; Monteiro, Sergio Neves; Lima Jr., Edio Pereira</i>	
ANALYSIS OF CHROME COATING OF RESISTENCE SPOT WELDING ELECTRODES IN ZIRCONIUM ALLOYS	2392
<i>Meireles, João Batista; Castro, José Adilson de</i>	
MICRO-STRUCTURAL CHARACTERIZATION OF AÇAÍ CAROÇO FOR APPLICATION WITH POLYMERIC MATRIX COMPOSITE MATERIAL	2402
<i>Coelho, Dayse Natalia Matos; Monteiro, Sérgio Neves; Cândido, Verônica Scarpini; Silva, Alisson Clay Rios da</i>	
THE EFFECTS OF THE PRESENCE OF THE EXTERNAL MAGNETIC FIELD IN THE PLASMA ARC ON THE MICROSTRUCTURE OF THE WELD POOL OF AISI 304L WELDED STEEL IN THE TIG WELDING PROCESS	2410
<i>Queiroz, Anderson Vergílio de; Fernandes, Marcio Teodoro; Silva, Leonardo Martins da; Mota, Izabel de Oliveira da; Oliveira, Elizabeth Mendes; Castro, José Adilson de</i>	
INFLUENCE OF SLURRY MORTAR ON THE ADHERENCE OF MORTAR COATING ONTO CERAMIC BRICK WALL	2420
<i>Assis, Foluke Salgado de; Monteiro, Sergio Neves</i>	
ANALYSIS OF THE PRESENCE OF THE EXTERNAL MAGNETIC FIELD IN THE PLASMA ARC ON THE MICROSTRUCTURE OF THE WELD POOL OF AISI 304L WELDED STEEL IN THE TIG WELDING PROCESS	2426
<i>Queiroz, Anderson Vergílio de; Fernandes, Marcio Teodoro; Silva, Leonardo Martins da; Mota, Izabel de Oliveira da; Oliveira, Elizabeth Mendes; Castro, José Adilson de</i>	
CHARACTERIZATION OF MAGNESIUM-ZINC ALLOY OBTAINED BY INDUCTIVE FUSION IN COVER OF ALKALINE SALTS	2437
<i>Fernandes, Márcio Teodoro; Castro, José Adilson de; Queiroz, Anderson Vergilio de; Silva, Leonardo Martins da; Dias, Evaldo Diniz; Carvalho, Jorge Alberto de Medeiros; Santos, Mayara Lisboa; Nilo, Priscila Sousa</i>	
MODELING OF MARTENSITIC HEAT-RESISTANT STEELS FOR APPLICATION AT 650° C WITH EQUILIBRIUM CALCULATION SUPPORT	2450
<i>Pasini, Willian Martins; Bellé, Matheus Roberto; Pereira, Leonardo; Barcellos, Vinicius Karlinski de</i>	

EVALUATION OF THE DEGRADING EFFECT OF SALT SPRAY IN CERAMIC PARTS	2455
<i>Aguiar, Níander Cerqueira; Alexandre, Jonas; Xavier, Gustavo de Castro; Souza, Victor Barbosa; Azevedo, Afonso Rangel Garcez de; Monteiro, Sergio Neves; Marvila, Markssuel Teixeira; Zanelato, Euzébio Bernabé</i>	
PARTIAL REPLACEMENT OF A DN1200 VALVE ROD FROM THE COG GAS EXHAUSTER AT ARCELORMITTAL TUBARÃO COKE PLANT	2467
<i>Martinelli, Luiz Alberto; Carmo, Adriano Bortolozo do</i>	
EVALUATION OF INERT GAS PROTECTION SYSTEM FOR AL-MG ALLOY CASTING IN A ELETRIC RESISTIVE FURNACE	2479
<i>Pasini, Willian Martins; Susin, Camila Hamden; Bellé, Matheus Roberto; Pereira, Leonardo; Amaral, Regis Fabiano do; Barcellos, Vinicius Karlinski de</i>	
BALANCE OF LOADS BETWEEN CAULINIQUE CLAY AND CALCARY FOR DOSAGE OF MORTARS	2486
<i>Marvila, Markssuel Teixeira; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez; Zanelato, Euzébio Bernabé; Monteiro, Sergio Neves; Goulart, Melissa de Almeida; Pirovane, Thais Miguel; Guarçoni, Giovanni Bruzzi; Silva, Luís Carlos da</i>	
STUDY OF PHYSICAL AND CHEMICAL PARAMETERS OF SOIL AND ROCK RESIDUE FOR THE PRODUCTION OF SOIL-CEMENT BRICKS	2494
<i>Cerqueira, Níander Aguiar; Souza, Victor Barbosa de; Silva, Alex Sandro de Paula; Azevedo, Afonso Rangel Garcez de; Monteiro, Sergio Neves</i>	
CHARACTERIZATION OF PRINTED CIRCUIT BOARD FROM OBSOLETS SMARTPHONES	2506
<i>Andrade, Lidiane Maria de; Botelho Junior, Amilton Barbosa; Rosario, Carlos Gonzalo Alvarez; Hashimoto, Hugo; Espinosa, Denise Crocce Romano; Tenório, Jorge Alberto Soares</i>	
USE OF LIMS AND LEAN MANUFACTORY PRODUCTION TOOLS FOR OPTIMIZATION OF RESULT DELIVERY AND MANAGEMENT OF THE VITÓRIA TO MINAS RAILROAD LUBRICANTS LABORATORY	2517
<i>Ferreira, João Paulo Dias; Veira, Elisabete Alves; Daniel, Virlei Almeida da Silva; Guachalla, Simomny; Ohnesorge, Vitor</i>	
ANALYSIS OF SURFACE FINISHING IN HARD TURNING OF AISI 52100 STEEL WITH PCBN AND CEMENTED COATED CARBIDE TOOLS	2529
<i>Campos, Clarianne Natali de; Muniz, João Vitor Rego</i>	
EVALUATION OF THE A-TIG WELDING PROCESS IN A LOW CARBON STEEL WITH MOLYBDEN MICROADCTION	2537
<i>Gurgel, Ailanderson José Magalhães; Silvestre, Vinicius Aleixo; Liberato, Frank de Mello; Gurgel, Mônica Aline Magalhães; Paula, Andersan dos Santos</i>	
CHARACTERIZATION OF THE MECHANICAL PROPERTIES OF CELLULAR CONCRETE PRODUCED IN PALMAS-TO	2547
<i>Peixoto, Jessica Batista; Lopes, Carlos Alberto; Fernandes, Fernando Antonio da Silva; Morais, Lidiane Batista de</i>	
IMPROVING REFRACTORY DESIGN THROUGH OPTIMIZATION TECHNIQUES AND NUMERICAL SIMULATION	2556
<i>Pinto, João Pedro Chaib de Toledo Alves; Freire, Rubens Alves</i>	
RECRYSTALLIZATION OF MARTENSITE LATHS DURING TEMPERING HEAT TREATMENT OF HIGH-STRENGTH LOW ALLOY STEELS	2566
<i>Trindade, Vicente Braz; Silva, Mauro Euclides Samuel da; Rivelli, Bruna Fernandes; Miranda, Raissa Santos; Garcia, Naiara Aparecida Martins; Bartulici, Eric</i>	
FRETTING-CORROSION ANALYSE IN THE TAPER TRUNION OF HIP PROSTHESIS MANUFACTURED IN WROUGHT STAINLESS STEEL ISO 5832-1 AND 5832-9	2575
<i>Santos, Vinicius Oliveira dos; Cubillos, Patricia Ortega; Pizzolatti, André Luís Almeida; Santos, Claudio Teodoro dos; Caminha, Ieda Maria Vieira; Monteiro, Maurício de Jesus; Roesler, Carlos Rodrigo de Melo</i>	
EVALUATION OF MICROSTRUCTURAL HOMOGENEITY IN HOT FORGED HIGH ALUMINUM STEELS WITH DIFFERENT ADDITIONS OF CARBON AND NIOBIUM	2587
<i>Gurgel, Mônica Aline Magalhães; Cruz, Renato Batista da; Botelho, Ramón Alves; Baêta Júnior, Eustáquio de Souza; Araújo, Leonardo Sales; Brandão, Luiz Paulo Mendonça; Paula, Andersan dos Santos</i>	
METHODOLOGY OF FAILURE ANALYSIS IN RAILWAY ROLLER BEARINGS	2597
<i>Castro, Gustavo Barros; Soares, Gleidson Costa; Santos, Jesus Jonatan Souza; Silva, Breno Delgado; Oliveira, Breno Carvalho de; Guimarães, Clayton Almeida; Castro, Thiago Nunes de</i>	
COMPARATIVE OF CHARPY IMPACT RESISTANCE OF EPOXY AND POLYESTER COMPOSITE MATRICES REINFORCED WITH HEMP FIBERS	2609
<i>Neves, Anna Carolina Cerqueira; Vieira, Carlos Maurício Fontes; Monteiro, Sergio Neves; Muylaert, Frederico Margem; Rohen, Lázaro de Araújo</i>	
PLASMA CUTTING: EVALUATION OF PROCESS VARIABLES IN CUTTING QUALITY, FORMED ZTA AND FINE PROPERTIES OF AISI 1045	2621
<i>Ferreira, Maria Mariana Simões; Lima, Victor Souza Esteves; Gonçalves, Vitor Canesso; Santana, Ivan José de</i>	

POLYETHYLENE AND POLYPROPYLENE COMPOSITES REINFORCED WITH BAMBOO FIBERS: COMPARATIVE MECHANICAL ANALYSIS	2632
<i>Sousa, Ana Beatriz Ferreira; Lima, Eric Fortunato Soares; Melo, Santino Loruan Silvestre de; Deus, Enio Pontes de</i>	
STRUCTURAL EVOLUTION DURING HOT DEFORMATION OF NITI ALLOY INVESTIGATED BY X-RAY SYNCHROTRON DIFFRACTION	2640
<i>Ferrão, Thiago Henrique Fernandes Dias; Rodrigues, Patrícia Freitas; Teixeira, Rodolfo da Silva; Santos, Fabiana da Silva; Sénéchal, Naiara Vieira Le; Casanova, Andrey de Moraes Barcelos; Paula, Anderson dos Santos; Fernandes, Francisco Manuel Braz</i>	
INFLUENCE OF NUCLEI DENSITY ON THE MICROSTRUCTURE AND TRANSFORMATION KINETICS WITH EXCLUSION ZONE IN 2D	2650
<i>Ventura, Harison da Silva; Duarte, Aline Cristine Lemos; Alves, André Luiz Moraes; Fonseca, Guilherme Dias da; Sá, Gabriella Maria Silveira de; Siqueira, Felipe da Silva; Assis, Wesley Luiz da Silva; Rios, Paulo Rangel</i>	
MICRO-STRUCTURAL ANALYSIS MICRODURE OF A NANOCOMPOSITION OF ALUMINUM MATRIX ENHANCED BY NTC VIA METALURGY OF POWDER	2660
<i>Mesquita Filho, Mauricio Matos de; Silva, Luiz Gabriel Nascimento da; Costa, Jessika Tatyane Dias da</i>	
RESISTANCE TO STATIC FLEXION AND MICROSTRUCTURAL ANALYSIS OF POLYESTER MATRIX COMPOSITE REINFORCED WITH SUGARCANE BAGASSE FIBERS	2671
<i>Pinheiro, Miriane Alexandrino; Monteiro, Sérgio Neves; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini</i>	
COMPARATIVE FLEXURAL STRENGTH IN EPOXY AND POLYESTER MATRICES COMPOSITES REINFORCED WITH HEMP FIBERS	2680
<i>Neves, Anna Carolina Cerqueira; Rohen, Lázaro Araújo; Vieira, Carlos Maurício Fontes; Muylaert, Frederico Margem; Monteiro, Sergio Neves; Mantovani, Dhyemila de Paula</i>	
TREATMENT AND VALORIZATION OF POST-CONSUMPTION COCONUT MATERIAL: ENERGY AND ENVIRONMENTAL QUESTION INVOLVED	2690
<i>Moraes, Carlos Alberto Mendes; Zaro, Janiel Rodrigo</i>	

VOLUME 5

RESISTANCE TO STATIC FLEXION OF EPOXY MATRIX COMPOSITE REINFORCED WITH SUGARCANE BAGASSE FIBERS	2699
<i>Pinheiro, Miriane Alexandrino; Gomes, Lanna Hannah de Sousa; Monteiro, Sérgio Neves; Silva, Alisson Clay Rios da; Candido, Verônica Scarpini</i>	
MARTENSITE TO AUSTENITE REVERSION KINETIC IN THE ANNEALING OF THE 201LN COLD ROLLED STAINLESS STEEL	2707
<i>Moraes, Náhrima Chambela; Cordeiro, Leandra Carla Aparecida; Oliveira, Amanda Sanae Maeno; Reimermendt, Raysa Riane Gevisiez; Souza, Camila Oliveira de; Silva, Carolline Serafim da; Paula, Anderson dos Santos</i>	
INFLUENCE OF AUSTENITIZATION AND COOLING ON MICROSTRUCTURE OF HIGH-CHROMIUM WHITE CAST IRON USED IN IRON ORE TRANSFER HOUSES	2719
<i>Rocha, Diego Loubach da; Martins, Anderson Pereira; Pinto, Flávio Antônio de Moraes; Carvalho, Cássio Santos de; Franco Jr., Adonias Ribeiro</i>	
ELECTROCHEMICAL EVALUATION OF FRETTING CORROSION IN THE HEAD-CONE MODULAR INTERFACE OF UNS S31673 STAINLESS STEEL HIP PROSTHESIS	2729
<i>Santos, Claudio Teodoro dos; Guimarães, Clarisse Ribeiro; Fernandes, Wellington Gilbert; Caminha, Ieda Maria Vieira; Monteiro, Maurício de Jesus; Cubillos, Patricia Ortega; Roesler, Carlos Rodrigo de Mello</i>	
IMPROVEMENT OF OPTICAL PROPERTIES OF GLASS SYNTHETIZED WITH TUNDISH SLAG	2742
<i>Silva, Camila Ferreira da; Santos, Denimara Dias dos; Araujo, Munique Eva Paiva de; Reis, Raphael Midea Cuccovia Vasconcelos; Ferreira, Elivelton Alves; Silva, Ladário da</i>	
BALISTIC ANALYSIS OF EPOXY MATRIX COMPOSITES REINFORCED WITH RAMI FABRIC UNDER VACUUM CONDITIONS	2753
<i>Deus, Janine Feitosa de; Rodriguez, Rubén Jesus Sanchez; Monteiro, Sérgio Neves</i>	
POLYETHYLENE COMPOSITES REINFORCED WITH LONG BAMBOO AND SISAL FIBERS: MECHANICAL AND STATISTICAL ANALYSES	2760
<i>Madeiro, Saymon Ariel Rodrigues; Sousa, Ana Beatriz Ferreira; Andrade, Leonardo Carneiro; Melo, Santino Loruan Silvestre de; Costa, Milene Muniz Eloy da; Deus, Enio Pontes de</i>	
COMPARATIVE ANALYSIS BETWEEN PHASE QUANTIFICATION METHODS IN STEELS USING XRD	2769
<i>Miranda, Mariane Gonçalves de; Orlando, Marcos Tadeu D'Azereido; Martins, João Batista Ribeiro; Rodrigues, Érica Simões; Lima, Luciana Xavier da Cruz</i>	
THE EVOLUTION OF ASSET MANAGEMENT AT ARCELORMITTAL FCLATAM	2778
<i>Albani Junior, Severino; Mileipe, Shaney; Neto, Ernesto; Santana, Fabiano Cândido; Fonseca, Laudelino</i>	

EVALUATION OF PREHEATING AND MULTIPASSES PROCEDURES ON A WELDED SAE 1070 STEEL JOINT	2787
<i>Gonçalves, Vitor Canesso; Ferreira, Maria Mariana S.; Freitas Filho, Aderci de; Santana, Ivan José de</i>	
GREEN COVERAGE AS A REUSE OF RAINWATER TO REUSE	2799
<i>Araújo, Nayla Evellyn Santos de; Bernardi, Juliane Carla; Curvello, Marcio Sena</i>	
EXTENSION OF THE LIFE CYCLE OF ALUMINUM CANS THROUGH THE ROTOMOULDING PROCESS	2810
<i>Mendes, Gleisson Amaral; Lopes, Carlos Eduardo Pinto; Silva, Edileia Pereira da; Santos, Eduardo de Jesus Silva dos; Mesquita, Suanny Quemel; Dias, Carmen Gilda Barros Tavares; Garcia, Antônio José Filo Creão</i>	
MAGNETIC ARC BLOW IN AUTOMATED PLASMA CUTTING	2817
<i>Mougo, Adriane Lopes; Campos, Guilherme Amaral do Prado; Arydes, Felipe Oliveira</i>	
ANALYSIS OF THE MANGANESE AND SULFUR RATIO IN THE MICROSTRUCTURE AND MECHANICAL PROPERTIES OF LOW CARBON STEELS	2829
<i>Guimaraes, Daniela Oliveira Mota; Fonseca, Glaucio Soares da</i>	
INFLUENCE OF HEAT INPUT ON THE PROPERTIES OF AISI 316 AND AISI 316L STEELS WELD JOINTS	2843
<i>Silva, Rafaela dos Santos; Demarque, Rudineli; Castro, José Adilson de; Santos, Ellem Patrícia dos</i>	
THE CORROSION TYPES IN A P2 BUILDING	2855
<i>Diniz, Juliana Castro; Santos, Amaro Francisco Codá dos</i>	
EVALUATION OF THE EFFECTS OF CIRCULAR NOTCHES IN A NATIONAL COMPLEX PHASE STEEL	2865
<i>Morais, Willy Ank de; Silva, Fábio dos Santos; Silva, Daniel Queiroz da; Santos, Tiago Lopes dos; Diniz, Patrícia Pala</i>	
ANALYSIS USING NTA/TGA/DSC TECHNIQUES OF THE COATING CHARACTERISTICS OF MAGNETITE NANOPARTICLES FOR MAGNETIC HIPERTHERMIA	2878
<i>Paresque, Mara Carolina do Carmo; Oliveira, Elizabeth Mendes de; Campos, Marcos Flavio de; Castro, Jose Adilson de</i>	
WELDING OF MICROALLOYED STEEL REBAR	2887
<i>Chilque, Angel Rafael Arce; Silva, Leticia Barbosa; Ramos, Wender Roger; Lino, Roney Eduardo</i>	
APPLICATION OF NON-DESTRUCTIVE TECHNIQUES IN THE RESTORATION OF OBLITERATED MARKS IN LOW CARBON STEEL AND ULTRALOW CARBON STEEL SAMPLES	2896
<i>Lima, Mariana Gaudencio Barbosa; Pacheco, Clara Johanna; Nóbrega, Maria Cecília de Souza; Pereira, Gabriela Ribeiro</i>	
DEFINITION OF A RECOVERY CYCLE FOR RAIL TRACK CHANGE DEVICES	2907
<i>Morais, Willy Ank de; Rodrigues, Raquel Martins; Figueiredo, Áureo Pasqualetto</i>	
SUITABILITY OF A GMAW WELDING PROCESS FOR A NATIONAL MANUFACTURING COMPLEX PHASE STAINLESS STEEL	2917
<i>Morais, Willy Ank de; Diniz, Patrícia Pala</i>	
USE OF THE THERMOGRAPHY AND COMPUTACIONAL SIMULATION TECHNIQUE FOR DETECTING DEFECTS IN CARBON FIBER COMPOSITES	2932
<i>Vilardo, Nicole Villalva; Lima, Marcella Grosso; Pereira, Gabriela Ribeiro</i>	
CONTROL OF THE REMAINING LIFE IN INDUSTRIAL EQUIPMENTS THAT WORK ON CREEP CONDITIONS	2940
<i>Santos, Jheison Lopes dos; Monteiro, Sérgio Neves</i>	
PTIMIZATION OF LIQUID PHASE EXFOLIATION FOR NANOSTRUCTURED GRAPHITE DISPERSION IN THERMOPLASTIC POLYURETHANE	2949
<i>Oliveira, Gustavo Peixoto de; Valim, Fernanda Cabrera Flores; Amurin, Leice Gonçalves; Andrade, Ricardo Jorge Espanhol; Donato, Ricardo Keitel</i>	
DETECTION OF DEFECTS IN STEEL WITH ANTICORROSIVE COMPOSITE COATINGS BY ACTIVE THERMOGRAPHY: COMPARISON BETWEEN PULSED, PULSED PHASE AND LOCKIN MODALITIES	2961
<i>Grosso, Marcella; Mattos, Isabel Cristina Pereira Margarit; Pereira, Gabriela Ribeiro; Soares, Sérgio Damasceno</i>	
DEVELOPMENT OF REFRACTORIES FOR TORPEDO LADLES	2971
<i>Couto, Ricardo Israel do; Hemétrio, Braulo Silvano; Magalhães, Roselaine Goncalves; Quintela, Marco Antônio</i>	
EFFECT OF HEAT INPUT ON HARDNESS OF GRAIN COARSENING HEAT AFFECTED ZONE OF HTP STEEL	2982
<i>Silva, Filipe Henrique Andrade; Reis, Thompson Junior Avila; Camey, Kenji; Barbosa, Ronaldo Antonio Neves Marques; Andrade, Margareth Spangler; Cândido, Luiz Claudio</i>	
STATISTICAL TESTS APLIED TO DETERMINATION OF RANDOMNESS GENERATION FOR SIMULATED POD CURVES	2992
<i>Guimarães, Mariana Burrowes Moreira; Pereira, Gabriela Ribeiro</i>	

DEVELOPMENT AND CHARACTERIZATION OF A THERMORRIGID BIOPOLYMER BASED ON SOYBEAN OIL	3000
<i>Rodrigues, João Gabriel Passos; Oliveira, Suzane de Sant'ana; Monsorens, Karollyne Gomes de Castro; Silva, Anderson Oliveira da; Weber, Ricardo Pondé</i>	
OPTIMIZATION OF MULTILAYERED ARMOR SYSTEM USING BOX-BEHNKEN DESIGN AND MULTIPLE REGRESSION ANALYSIS STATISTICAL TECHNIQUES	3007
<i>Garcia Filho, Fabio da Costa; Oliveira, Michelle Souza; Demosthenes, Luana Cristyne da Cruz; Lima Júnior, Édio; Luz, Fernanda Santos da; Braga, Fábio Oliveira; Monteiro, Sergio Neves</i>	
INFLUENCE OF THE SURFACTANT IN SOME MECHANICAL PROPERTIES OF COMPOSITES EPOXY / FIQUE FIB	3020
<i>Silva, Luís Carlos da; Monteiro, Sérgio Neves; Oliveira, Michelle Souza; Demosthenes, Luana Cristyne da Cruz</i>	
LINTELS AND SILLS IN MASONRY	3027
<i>Silva, Luís Carlos da; Monteiro, Sérgio Neves; Alexandre, Jonas; Azevedo, Afonso Rangel Garcez de</i>	
TENSILE STRENGTH OF EPOXY MATRIX COMPOSITES REINFORCED WITH CURAUÁ NATURAL FIBERS OF HIGH PERFORMANCE	3038
<i>Simonassi, Noan Tonini; Pereira, Artur Camposo; Monteiro, Sergio Neves</i>	
EFFECT OF THE THERMICALLY ACTIVATED MECHANISMS ON THE COMMERCIALY PURE COPPER AS FOR ITS DEFORMATION SUBSTRUCTURE	3045
<i>Reis, Raphael Henrique Moraes; Nunes, Larissa Fernandes; Monteiro, Sergio Neves</i>	
THERMOGRAVIMETRIC ANALYSIS OF GRAPHENE OXIDE WITH DIFFERENT OXIDATION LEVELS	3054
<i>Faria, Géssica Seara; Lima, Andreza Menezes; Pinheiro, Wagner Anacleto</i>	
PHYSICAL AND MORPHOLOGICAL CHARACTERIZATION OF COPPER-GRAPHENE COMPOSITES	3063
<i>Faria, Gessica Seara; Lima, Andreza Menezes; Brandão, Luiz Paulo Mendonça; Pinheiro, Wagner Anacleto</i>	
INFLUENCE OF SONICATION TIME ON THE GRAPHENE OXIDE DISPERSIONS	3068
<i>Lopes, Camila Cristine; Faria, Géssica Seara; Lima, Andreza Menezes; Miranda, Matheus de; Pontes, Camila Mendes; Pinheiro, Wagner Anacleto; Silva, Wesley Oliveira da</i>	
PHASED ARRAY INSPECTION OF GLASS FIBER REINFORCED POLYMERS PIPELINE JOINTS	3075
<i>Almeida, Priscila Duarte de; Pereira, Gabriela Ribeiro</i>	
EFFECT OF COMPACTION PRESSURE ON DENSIFICATION PROCESS OF ALUMINUM OXIDE (AL₂O₃) AND AL₂O₃ ADDED WITH 4.0 WT % NIOBIUM OXIDE (NB₂O₅) AND 0.5 WT % LITHIUM FLUORIDE (LIF) AS SINTERING AGENTS	3087
<i>Santos, Clara Luz de Souza; Santos, Jheison Lopes dos; Ribeiro, Suzana Barreto Noronha; Dias, Ricardo Leite; Silva, Marcelo Henrique Prado da</i>	
EVALUATION OF DISLOCATION DENSITY IN HIGHLY COMPACTED ARRANGEMENTS	3098
<i>Monteiro, Sergio Neves; Pinto, André Luiz; Brandão, Luiz Paulo; Sousa, Talita Gama de; Garcia Filho, Fabio da Costa</i>	
COMPARATIVE STUDY OF SURFACE DEGRADING TECHNIQUES OF POLYETHETRAFLUORETILEN	3106
<i>Gomes, Paula Anastacia Moraes Cairo; Santos, Luíza Braga Ferreira dos; Monteiro, Emília dos Santos; Soares, Francielly Moura de Souza; Elias, Carlos Nelson</i>	
EVALUATION OF THE INFLUENCE OF NITRIDING ON CRYSTALLOGRAPHIC TEXTURE AFTER PRIMARY RECRYSTALLIZATION IN A GRAIN ORIENTED ELECTRICAL STEEL	3115
<i>Oliveira, Marcelly Quintão; Cruz, Bruna Madeira Araújo da; Santana, Simone Izabel Vieira de; Brandão, Luiz Paulo Mendonça</i>	
INFLUENCE OF THE COOLING RATE ON THE OBTAINMENT OF THE MICROSTRUCTURE AND PROPERTIES OF A STEEL DUAL PHASE	3124
<i>Tolomelli, Flávia Tereza dos Santos Fernandes; Paula, Andersan dos Santos; Souza, Juan Carlos Sacramento de; Nogueira, Heitor João Bosco</i>	
EVALUATION OF THE INCORPORATION OF INDUSTRIAL CERAMIC WASTE CALCINATED AT DIFFERENT TEMPERATURES IN THE PROPERTIES OF MORTARS	3138
<i>Azevedo, Afonso Rangel Garcez de; Marvila, Markssuel Teixeira; Alexandre, Jonas; Zanelato, Euzébio Bernabé; Monteiro, Sergio Neves</i>	
EVALUATION OF QUALITY PARAMETERS OF CONCRETE BLOCKS FOR STRUCTURAL MASONRY	3146
<i>Azevedo, Afonso Rangel Garcez de; Lopes, Daniele; Rocha, Cyntia de Oliveira; Souza, Victor Barbosa; Cerqueira, Niander Aguiar; Barreto, Marcelo Neves; Gallo, Daniel Passos; Monteiro, Sergio Neves; Alexandre, Jonas; Silva, Leury de Oliveira</i>	

INFLUENCE OF THE POSITION OF INTERNAL DEFECTS ON THE PROPERTIES OF A AISI 1010 STEEL WELDED JOINT	3153
<i>Braga, Fábio de Oliveira; Carvalho, Márcio Ulysses Silva de; Santos, Carlos Vinícius Pinheiro dos; Conceição, Monique Osório Talarico da</i>	
CHARACTERIZATION OF EPOXIDE COMPOSITE WITH BURITI FABRICS BY XRD, EDS AND SEM	3162
<i>Garcia Filho, Fabio da Costa; Demosthenes, Luana Cristyne da Cruz; Nascimento, Lucio Fabio Cassiano; Oliveira, Michelle Souza; Monteiro, Sérgio Neves</i>	
EVALUATION OF RESIDUAL SPEED OF PROJECTS IN EPOXY COMPOSITES REINFORCED WITH PIRARUCU FLAKES	3170
<i>Garcia Filho, Fabio da Costa; Demosthenes, Luana Cristyne Da Cruz; Oliveira, Michelle Souza; Monteiro, Sergio Neves</i>	
INFRA-RED SPECTROSCOPY ANALYSIS OF FIQUE FIBERS	3175
<i>Garcia Filho, Fabio da Costa; Oliveira, Michelle Souza; Demosthenes, Luana Cristyne da Cruz; Monteiro, Sergio Neves</i>	
EVALUATION OF THE EFFICIENCY OF AN ADHESIVE JOINT BEFORE AND AFTER SURFACE TREATMENT	3182
<i>Garcia Filho, Fabio da Costa; Oliveira, Michelle Souza; Demosthenes, Luana Cristyne da Cruz; Monteiro, Sergio Neves</i>	
EVALUATION OF POLYPROPYLENE AFTER THE RECYCLING PROCESS	3188
<i>Garcia Filho, Fabio da Costa; Demosthenes, Luana Cristyne da Cruz; Nascimento, Lucio Fabio Cassiano; Oliveira, Michelle Souza; Monteiro, Sérgio Neves; Demosthenes, Leandro Alberto da Cruz</i>	
MECHANICAL PROPERTIES OF REINFORCED CONCRETE WITH GEOPOLIMETRIC COMPOSITES	3197
<i>Silva, Alan Rodrigo Palheta; Silva, Alisson Clay Rios; Candido, Verônica Scarpini; Monteiro, Sergio Neves; Porto, Ana Beatriz Rodrigues</i>	
EVALUATION OF PAINT SYSTEMS FOR THE MAIN CONCEPT OF OFF-SHORE UNITS	3213
<i>Candido, Verônica Scarpini; Ferreira, Carlos A.M.; Monteiro, Sergio Neves; Porto, Ana Beatriz Rodrigues; Silva, Alisson Clay Rios</i>	
DETERMINATION OF TRACTION PROPERTIES OF POLYESTER MATRIX COMPOSITES REINFORCED WITH SUGARCANE BAGASSE FIBERS OF DIFFERENT DIAMETER INTERVALS	3226
<i>Candido, Verônica Scarpini; Pinheiro, Miriane Alexandrino; Lima, Rodolfo Moura de Souza; Monteiro, Sérgio Neves; Silva, Alisson Clay Rios da</i>	
EVALUATION OF THE POTENTIAL USE OF WASTE FROM HOT-DIP GALVANIZING FOR METALS CROSS-RECOVERY	3239
<i>Tubino, Rejane Maria Candioti; Buzin, Pedro Jorge Walburga Keglevich de; Kanno, Rodrigo</i>	
CERAMIC CLAYEY BODY DEVELOPMENT USING ORNAMENTAL ROCK WASTE	3250
<i>Amaral, Lucas Fonseca; Azevedo, Marilena Coelho de; Delaqua, Geovana Carla Girondi; Monteiro, Sérgio Neves; Vieira, Carlos Maurício Fontes</i>	
INFLUENCE OF ELETROFUNDED ALUMINA RESIDUE ON RED CERAMIC PROPERTIES	3259
<i>Nicolite, Micaela; Amaral, Lucas Fonseca; Delaqua, Geovana Carla Girondi; Monteiro, Sérgio Neves; Vieira, Carlos Maurício Fontes; Vernilli Junior, Fernando</i>	
SODA-LIME GLASS WASTE UTILIZATION FOR RED CERAMIC PRODUCTION	3269
<i>Amaral, Lucas Fonseca; Busch, Pâmela de Faria; Delaqua, Geovana Girondi Carla; Neves, Sérgio Monteiro; Vieira, Carlos Maurício Fontes</i>	
FLEXION TEST ON EPOXY COMPOSITES REINFORCED WITH MALLOW FIBERS	3277
<i>Nascimento, Lucio Fabio Cassiano; Monteiro, Sérgio Neves; Demosthenes, Luana; Costa, Ulisses Oliveira</i>	
NEW POLITICS FOR CRITICAL SPARE-PARTS MANAGEMENT IN CSN	3286
<i>Valentim, Alexandre José Ramos; Santos, Joselito Gonçalves dos; Silva, Lincon Antonio da; Rodrigues, Luiz Paulo Souza; Dinalli, Vinicius Dutra</i>	
SOLUTION AND PRECIPITATION HARDENING OF QUATERNARY ALLOYS OF AL-SI-CU-SN	3298
<i>Nunes, Larissa Fernandes; Pelegrini, Paulo Vinicius; Balthazar, Lucas Barbosa; Oliveira, Júlio Cesar Soares de; Paula, Andersan dos Santos; Monteiro, Sergio Neves</i>	
INTERACTION OF NANOMETRIC HYDROXYAPATITE ON THE GRAPHENE SURFACE	3308
<i>Lopes, Camila Cristine; Pinheiro, Wagner Anacleto; Rocha, Daniel Navarro da; Santos, Jheison Lopes dos; Silva, Marcelo Henrique Prado da</i>	
INFLUENCE OF NIOBO-PHOSHATE GLASS ON THE SINTERABILITY OF HYDROXYAPATITE	3318
<i>Santos Jheison Lopes dos;; Rocha, Daniel Navarro da; Vasconcellos, Vitor Hugo Gomes de; Santos, Eliziane Medeiros dos; Lopes, Iago José Vitral Rezende; Costa, Ulisses Oliveira; Silva, Marcelo Henrique Prado da</i>	
ASSET MANAGEMENT APPLYING METHODS FOR DATA SANITIZATION	3328
<i>Rocha, Daniele Aline Pessoa da; Morais, Willy Ank de</i>	

SYNTHESIS AND CHARACTERIZATION OF SILVER NANOPARTICLES AS SURFACE AGENTS	3341
<i>Lima, Ingrid Russoni de; Fialho, Bonifácio de Oliveira; Silva, Heleno Souza da; Virgílio, Anderson; Simão, Renata Antoum; Castro, José Adilson de; Fonseca, Gláucio Soares</i>	
STRUCTURAL SCREW FAILURE ANALYSIS OF FLEXIBLE TUBING FATIGUE TEST MACHINES	3350
<i>Campanharo, Brunno Fontoura; Amorim, Pablo Altoé</i>	
STRUCTURAL EVALUATION OF EQUIPMENT EMPLOYED IN LIFTING AND LOADING MOVEMENT OPERATIONS	3362
<i>Assad, Allan Cypriano Doelinger; Raphael Neto, André Vicente; Costa, Diego Ferreira da; Amorim, Pablo Altoé</i>	
Author Index	