Konference IIW “Advanced Welding and Smart Fabrication Technologies for Efficient Manufacturing

Processes”

Ve dnech 19 a 20.7.2018 proběhla v rámci 71. generálního zasedání IIW na Bali mezinárodní konference IIW.

Měla 8 hlavních sekcí. Program byl následující:

**(A1) - Welding Technology**

Effect of Tool Geometry and Preheating on Microstructure and Mechanical Properties of Friction

Stir Welded Dissimilar Joints of Al-Cu Plates

**Winarto, Muhammad Anis, Bayu Eka Febryansyah**

**Universitas Indonesia, Indonesia**

Effect of Double Pulse MIG Welding on Porosity Formation on Aluminium 5083 Fillet Joint

**Jukkapun Greebmalai, E. Warinsirisuk, M. Sangsuriyun**

**Mahidol University, Thailand**

Different Ratios of Electron Beam Welding of Dissimilar Titanium Alloys: Ti-10V-2Fe-3Al and Ti-6Al-4V

**Janu Ageng Nugroho, Muhammad Iman Utama, Nokeun Park, Eung Ryul Baek**

**Yeungnam University, Republic of Korea**

Microstructure and Mechanical Properties of Cold Metal Transfer Brazing Joints between TC4 and

304L with Cu- Based Wires

**Gang Mou, Xueming Hua , Min Wang, Fang L**

**Shanghai Jiao Tong University, P.R. China**

**(B1) - Advanced Welding Process I**

New Approach for Improved GMA Root Welding of Pearlitic Rails Using Magnetic Arc De􀃸ection

**Norbert Enzinger, M. Schwald, L. Weingrill**

**IMAT Graz University of Technology, Austria**

Formation of Fe2(W, Mo) Laves Phase in T92/Super304H Dissimilar Welds

**Nandha Kumar E, G.D. Janaki Ram, Ravi Sankar Kottada, K. Devakumaran**

**Indian Institute of Technology, India**

Achieving Sound Porous TC4/UHMWPE Friction Spot Welding Joint Through Force and Temperature

Control

**Muyang Jiang, Ke Chen, Binxi Chen, Min Wang, Lanting Zhang, Aidang Shan**

**Shanghai Jiao Tong University, P.R. China**

Effect of Tool Geometry and Dwell Time to Mechanical Properties and Macrograph on Two-Stage

Re􀃶lled Friction Stir Spot Welding of Aluminum Alloy AA 1100

**Ario Sunar Baskoro, Mohammad Azwar Amat, Muhammad Andre Widiyanto,**

**Gandjar Kiswanto, Winarto**

**Universitas Indonesia, Indonesia**

**(C1) - Advanced Welding Process II**

Joining of Large Scale Components for the Nuclear Industry by Electron Beam Welding

**Bernd Baufeld, T. Dutilleul**

**University of Sheffield, United Kingdom**

Hybrid Electro Slag Cladding (H-ESC): An Innovation in High Speed Electro Slag Strip Cladding

**Vincent van der Mee, Zhuyao Zhang, Pallav Chattopadhyay**

**Lincoln Electric Europe, Netherlands**

Electron Beam Welding of 2099-T83 Aluminium-Lithium Alloy Thick Plates

**Jozef Bárta, Milan Maronek, Beata Simekova, Daniel Drimal, Maria Domankova**

**Slovak University of Technology, Slovakia**

45 mm Thick Steel Section Joining for Cold Climate Applications by Applying Laser-Arc Hybrid Welding

**Jan Frostevarg, I. Bunaziv, O.M. Akselsen, A.F.H. Kaplan**

**Luleå University of Technology, Sweden**

**(D1) - Corrosion and Failure Analysis**

Fatigue Design of Laser Stake-Welded T-Joints Made of Thin Plates under Tension and Bending Loads

**Pasquale Gallo, H. Remes, J. Romanoff**

**Kyoto University, Japan**

The Role of the External Reinforcing on the Structural Integrity of Steel Pipeline Girth Welds

**János Lukács, Gyula Nagy, Imre Török**

**University of Miskolc, Hungary**

Failure Mode Prediction of Resistance Spot Welded Quenching and Partitioning Steel

**Cheng Luo, Yansong Zhang**

**Shanghai Jiao Tong University, P.R. China**

Analisys of Welding Crack on the Under Frame of Wagon for Cement Bags Transportation Using Euro

Code, Measurement and Finite Element

**Agus Sasmito, Yudi Irawadi, Hary Soebagyo**

**Badan Pengkajian Dan Penerapan Teknologi (BPPT), Indonesia**

**Keynote II**

Modular Construction of Modern Lightweight Ship Structures: Challenges and Technology Enablers

**Prof. Pingsha Dong**

**Professor at Department of Naval Architecture and Marine Engineering**

**and Department of Mechanical Engineering of The University of Michigan**

**Keynote III**

Non-Destructive Testing at BATAN for Welding Applications

**Prof. Dr. Djarot Sulistio Wisnubroto**

**Head of National Nuclear Energy Agency of Indonesia**

**(A2) - Welding Technology**

A Feasibility Study Comparing Two Commercial TIG Welding Machines for Deep Penetration

**Hector Marin-Reyes, R. French, W. Yeadon, G. Kapellmann-Zafra**

**University of Sheffield, United Kingdom**

The Effect of Ultrasonic Energy on Joint Characterization in Ultrasonic Spot Welding Multilayer Tabs

Used in Lithiumion Battery Manufacturing

**Zunnong Ma, Y.S. Zhang**

**Shanghai Jiao Tong University, P.R. China**

Integrated Cold Electrode - Higher Productivity with New Revolutionary SAW Technology

**Johnny Liwang Lie, Hannes Raudsepp**

**ESAB Asia/Paci􀃶c Pte. Ltd., Singapore**

Weld Formation Characteristics of 2219-T87 Aluminium Alloy Produced by HDPVP-GTAW Welding

**Mingjie Zhu, Bojin Qi, Baoqiang Cong**

**Beihang University, P.R. China**

Homogenization of ZrCx Ceramic Joints by Diffusion Bonding

**Tiesong Lin, Rui Pan, Peng He, Dusan P. Sekulic**

**Harbin Institute of Technology, P.R. China**

Welding Cylinder Head: The Effect of Filler Variation and Post-Weld Heat Treatment (PWHT) on

Microstructure and Mechanical Properties on TIG Welded Cast Iron FC250

**Wikan Jatimurti, Mas Irfan P. Hidayat, Rochman Rochiem, Meilati Pasca Muna**

**Institut Teknologi Sepuluh Nopember, Indonesia**

Mechanical Properties and Microstructure of Friction Stir Spot Welded Aluminum Alloy 6082 T6 Joint

**Nurul Muhayat, Bobby Priatmana Putra, Triyono**

**Universitas Sebelas Maret, Indonesia**

Reduction of the Sound Pressure Level During Plasma Cutting of Mild Steel with a New Cutting

Technology

**Sebastian Bibrack, V. Günther, V. Krink, M. Schnick**

**OSCAR PLT GmbH, Germany**

Single-Pass Cladding Process Using Hot-Wire Gas Metal Arc Welding Technique

**Pattanawit Suntiniwat, E. Warinsirisuk, S. Joy-A-Ka**

**Mahidol University, Thailand**

**(B2) - Advanced Welding Process I**

The Effect of Ultrasonic Energy on Joint Characterization in Ultrasonic Spot Welding Multilayer Tabs

Used in Lithiumion Battery Manufacturing

**Zunnong Ma, Y.S. Zhang**

**Shanghai Jiao Tong University, P.R. China**

Homogenization of ZrCx Ceramic Joints by Diffusion Bonding

**Tiesong Lin, Rui Pan, Peng He, Dusan P. Sekulic**

**Harbin Institute of Technology, P.R. China**

Reduction of the Sound Pressure Level During Plasma Cutting of Mild Steel with a New Cutting

Technology

**Sebastian Bibrack, V. Günther, V. Krink, M. Schnick**

**OSCAR PLT GmbH, Germany**

Effect of Rotational Speed and Flat Tool Diameter on the Zn Distribution of the Dissimilar Metals

Friction Stir Spot Welded between Aluminum Alloy 5083 H321 and Galvanized Steel

**Triyono, Bintang Adhi Guna, Nurul Muhayat**

**Universitas Sebelas Maret, Indonesia**

Dynamic Characteristics of Welding Thermal Cycle of Ultra-Thin Sheet in Micro-Plasma Arc Welding

with Pulsed Current

**Liulei Tang, Jianping He, Hu Zhang**

**Shanghai University of Engineering Science, P.R. China**

Introduction of a New Term - Ferrite Number Density (FND) to Measure the Ferrite Number of Welds

on Thin 300 Series Stainless Steel Sheets

**Rohit Kshirsagar, S. Jones, J. Lawrence, J. Tabor**

**Coventry University, United Kingdom**

**(C2) - Advanced Welding Process II**

Laser Multi-Pass Narrow-Gap Welding – A Promising Technology for Joining Thick-Walled

Components of Future Power Plants

**Benjamin Keßler, B. Brenner, D. Dittrich, J. Standfuß, E. Beyer, C. Leyens, G. Maier**

**Fraunhofer IWS Dresden, Germany**

Microstructure and Tribological Properties of Laser Cladded Self-Lubricating Cu/h-BN/Ni60

Composite Coatings in a Wide Range of Temperature

**Zhao Yue, Feng Kai, Yao Chengwu, Ni Pulin, Huang Jian, Li Zhuguo**

**Shanghai Jiao Tong University, P.R. China**

Microstructural Characterization and Properties of TiB2 Reinforced Al6061 Matrix Composites

Produced by Laser Surface Alloying

**Zhang Tingting, Li Zhuguo, Wu Yixiong**

**Shanghai Jiao Tong University, P.R. China**

Microstructure and Mechanical Properties of Laser Beam Welded Al-Li Alloy AW2099 with Al-Mg

Filler Wire

**Miroslav Sahul, Martin Sahul, Jozef Bárta, Milan Marônek**

**Slovak University of Technology, Slovakia**

Dynamic Characteristics of Welding Thermal Cycle of Ultra-Thin Sheet in Micro-Plasma Arc Welding

with Pulsed Current

**Liulei Tang, Jianping He, Hu Zhang**

**Shanghai University of Engineering Science, P.R. China**

Patterning Copper Electrodes on Flexible Substrate through Laser Direct Writing

**Li Lihang, Peng Peng**

**Beihang University, P.R. China**

Introduction of a New Term - Ferrite Number Density (FND) to Measure the Ferrite Number of Welds

on Thin 300 Series Stainless Steel Sheets

**Rohit Kshirsagar, S. Jones, J. Lawrence, J. Tabor**

**Coventry University, United Kingdom**

Modi􀃶cation of GMAW Weld Metal Microstructure Using FSP

**Mohd Zaheer Khan Yusufzai, Sanjay Kumar Gupta, Avinash Ravi Raja, Meghanshu Vashista**

**Indian Institute of Technology, India**

**(D2) - Corrosion and Failure Analysis**

Corrosive Properties of WAAMed Parts Using Fe-Cr-C Flux-Cored Wire and Cold Metal Transfer Power

Source

**Wang Kai, Lu Qinghua, Hu Huiping, Yi Jianglong, Niu Ben, Jiang Zexin, Ma Jinjun**

**Foshan University, P.R. China**

High-Resolution 3D Weld Toe Stress Analysis and ACPD Method for Weld Toe Fatigue Crack Initiation

**Somsubhro Chaudhuri, J. Crump, P.A.S Reed, B.G Mellor**

**University of Southampton, United Kingdom**

HCF Failure Modes and Mechanisms of Dissimilar Welds of Martensite/Austenite Metals at Elevated

Temperature

**Chendong Shao, Haichao Cui, Fenggui Lu, Zhuguo Li**

**Shanghai Jiao Tong University, P.R. China**

Fatigue Life Prediction of Welded Joint by Microstructure-based Simulation

**Takayuki Shiraiwa, F. Briffod, M. Enoki**

**University of Tokyo, Japan**

The Effect of Microstructure on Stress Corrosion Cracking Growth Rates of Low Alloy High Strength

Steel Welded Joint

**Tongjiao Chu, Haichao Cui, Fenggui Lu**

**Shanghai Jiao Tong University, P.R. China**

Weld Repair of Steam Turbine Rotor with 12 Cr Weld to Mitigate Corrosion Issues

**Vamadevan Gowreesan, D. Ario, H. Hanifa, W. Greaves**

**Sulzer RES, USA**

**(A3) - Welding Technology**

Quality is Safety

**Louise Petrick**

**Weld Australia, Australia**

Evaluations of Mechanical Properties by Welding Parameters in Friction Stir Welding of Dissimilar

Material Aluminium-High Strength Steel

**Seonghwan Park, Youngchan Park, Jeonghun Park,Younghwan Joo, Myungchang Kang**

**Pusan National University, Republic of Korea**

A Comparison Study of Dissimilar Ultrasonic Welding of 2xxx Aluminum/Titanium and 6xxx

Aluminum/Titanium

**Chaoqun Zhang**

**Shanghai Jiao Tong University, P.R. China**

Technoeconomic Feasibility of Modi􀃶ed Pulse Arc Deposition on Thick Section of Quench and

Tempered Steel

**Neville Cornish, R. Kurji, A. Roccisano, R. Ghomashchi**

**Australian Welding Solutions, Australia**

Effect of Heat Sinks on Cooling Time to Weld Interpass Temperature

**Juhani Laitila, J. Larkiola, D. Porter**

**University of Oulu, Finland**

Some Hints to Develop Particular Line Pipe Speci􀃶ation

**Ardian Fandika**

**Pertamina Hulu Mahakam, Indonesia**

Microstructure and Hardness Distribution on Weld Joint A517 Steel SMAW Methode Using Different

Type of Electrodes

**Sarjianto, Surya Dharma**

**Politeknik Negeri Medan, Indonesia**

**(B3) - Advanced Welding Process I**

Vacuum Brazing of Si3N4 Ceramic to Invar Alloy Using Ag-Cu-Ti Alloy with Ni Foam

**Kui Li, Ying Zhu, Wei Guo, Peng Peng, Rujian Sun, Kaituo Ma**

**Beihang University, P.R. China**

Effect of Mass Deposition on Residual Stress of Newly Developed Ultra-Narrow Gap Multipass

PC-GMA Weld for Thick Section

**Ramkishor Anant, P. K. Ghosh**

**Indian Institute of Technology, India**

In􀃸uence of Thermal Aging on Microstructure and Property of Gold Alloy Joint Soldered By

Sn-Based Solder

**Guoqian Mu, Wenqing Qu, Xixiao Lv, Hongshou Zhuang**

**Beihang University, P.R. China**

Bonding Aluminium to Steel: Using an Overcasting Process

**Alireza Valizadeh, Isaac Chang**

**Brunel Centre for Advanced Solidi􀃶cation Technology, United Kingdom**

Innovate Method for Friction Stir Welding of 6061-T6 Aluminium Alloy Thin Plate

**Fu Li, F. J. Liu**

**Northwestern Polytechincal University, P.R. China**

Matrix Phased Array (MPA) Ultrasonic Nondestructive Inspection Technology for Resistance Spot Welds

**Ji Changwook, Jooyong Cheon, Jaehoon Kim, Jinyoung Park, Yeongdo Park, Jeong K. Na**

**Korea Institute of Industrial Technology (KITECH), Republic of Korea**

High Efficient Welding Technology of 800mpa Grade High Strength Steel for Hydropower Plant

Penstock

**Xi Zhang**

**Shougang Institute of Technology, P.R. China**

**(C3) - Advanced Welding Process II**

Challenges and Opportunities in Remote Laser Welding of Steel to Aluminium

**Hiren Kotadia, Pasquale Franciosa, Dariusz Ceglarek**

**University of Warwick, United Kingdom**

Non-Contacted Permanent Magnetic Absorbed Wall-Climbing Robot for Ultrasonic Weld Inspection

of Spherical Tank

**Yulin Ding, Zhenguo Sun, Qiang Chen**

**Tsinghua University, P.R. China**

Dynamic Variations in Distribution of Arc Light Radiation in Micro-Plasma Arc Welding with Pulsed

Current

**Zhang Hu, Jianping He, Liulei Tang, Jiannan Zhang**

**Shanghai University of Engineering Science, P.R. China**

Laser-Metal Inert Gas Hybrid Welding and Welding-Brazing of 6 mm Thick Steel/Al Butt Joints

**Li Cui, Dongqi Lu, Yaoqing Chang, Dingyong He**

**Beijing University of Technology, P.R. China**

Effect of Different Arc Current on Hardness Distribution and Microstructure of Laser Welded Low

Carbon Steel with Stainless Steel 304

**Moch. Chamim, Syamsul Maarif, Slamet Subagyo**

**Warga Engineering Academy, Indonesia**

In-situ Observation of Dynamic Behavior during Laser Welding of Alloys with Large Melting Point

Difference

**Xu Jiajun**

**Huazhong University of Science and Technology, P.R. China**

Formation Mechanism of Wavy Interface by Stud-Type Spin Impact Bonding of Copper to Low

Carbon Steel

**He Jianping, Donald Sirois, Clyde Wikle, Bryan A. Chin**

**Shanghai University of Engineering Science, P.R. China**

**(D3) - Corrosion and Failure Analysis**

Low-Cycle Fatigue and Fracture Behavior of 9%Ni Steel Flux Cored Arc Welding Joint at Cryogenic

Temperature

**Weidong Mu, Yuzhang Li, Yan Cai, Min Wang**

**Shanghai Jiao Tong University, P.R. China**

Analysis of Weld Cold Cracking in Excavator Bucket Adapter

**Wahidun Adam, Pratjojo Dewo, Winarto**

**Komatsu Indonesia PT, Indonesia**

Residual Stress Assessment of HFMI-Treated Butt and T-Joint of 10mm HSLA Steel Using FEA and

X-Ray Diffraction

**Noridzwan Nordin, Yupiter H. P. Manurung, Mohd. Faiz Mat, Dahia Andud, Salina Saidin,**

**Martin Leitner**

**Universiti Teknologi MARA, Malaysia**

Prevent Cracking in Deposition of Carbon Steel on Inconel 625

**Morsy Morsy Abokhala, M. M. Farag, M. R. El Koussy**

**Central Metallurgical Research and Development Institute, Egypt**

Mechanism of Flash Crack During Rotary Friction Welding of Titanium and Fe-based Superalloy

**Feng Jin, Jinglong Li, Xujing Nan, Zhongxiang Liao, Jiangtao Xiong, Fushen Zhang**

**Northwestern Polytechincal University, P.R. China**

A Novel Approach to Improve the Intergranular Corrosion Resistance of Austenitic Stainless Steel by

Flux Coated TIG Welding

**Chitkarnvir Singh, Harmesh Kumar, Rajesh Kumar**

Panjab University, India

Pattern and Direction of Microstrain in Quenched and Tempered Steel Weld Joint

**Yurianto, Pratikto, Rudy S., Wahyono S., Sulardjaka, M. Rivai M., Cepie Cahyana**

**Universitas Diponegoro, Indonesia**

**Keynote IV**

Modern NDT Innovations as Applied to the Global Joining Industry

**Dr. Eric Sjerve**

**Chief Technology Officer IRISNDT, IIW Commission V Chairman**

**Keynote V**

Cross Roads of Welding and Additive Manufacturing – Overview from Material Science Perspectives

**Prof. Surendar Marya**

**Emeritus Professor at Ecole Centrale Nantes**

**(A4) - Welding Design, Automation and Simulation**

Several Seam Weld Finite Element Idealizations Challenged in Fatigue within a French Industrial

Collaborative Workgroup

**Mohamed Bennebach, P. Klein, E. Kirchner**

**CETIM, France**

Research on Adaptive Controller for Variable Polarity Plasma Arc Welding Power Supply with

High-Frequency

**Yang Zhou, Bojin Qi, Minxin Zheng**

**Beihang University, P.R. China**

Selection of Welding Process for Repairing Shredder Hammer by Integrated Data Envelopment

Analysis (DEA) and P-Robust Technique

**Rahmad Wisnu Wardana, Warinsiriruk E., Joy-A-Ka S.**

**Mahidol University, Thailand**

Controlling the Weld Bead Width from the Weld Pool Using Machine Vision and Arti􀃶cial Neural

Network

**Widyianto Agus, Ario Sunar Baskoro, Duvall Anggraita Purwanto Ajie**

**Universitas Indonesia, Indonesia**

Estimation of Contact Tip to Work Distance (CTWD) Using Arti􀃶cial Neural Network (ANN) in GMAW

**Fuad Mahfudianto, Warinsiriruk E., Joy-A-Ka S.**

**Mahidol University, Thailand**

Research on Adaptive Controller for Variable Polarity Plasma Arc Welding Power Supply with

High-Frequency

**Yang Zhou, Bojin Qi, Minxin Zheng**

**Beihang University, P.R. China**

Microstructural Evolution and Material Flow in Probeless Friction Stir Spot Welding of AA2198

Al-Li Alloy

**Qiang Chu**

**Northwestern Polytechincal University, P.R. China**

Numerical Simulation and Residual Stress Analysis of Butt Welding and Surface Cutting Processes

Consecutively

**Cetintav Isik, Nihat Akkus, Yilmaz Can**

**Trakya University, Turkey**

Numerical Simulation of Beam Current Control in Thermionic Electron Gun

**Jikang Fan, Bojin Qi, Haiying Xu, Yong Peng, Fangjun Liu, Wei Zhang**

**Nanjing University of Science and Technology, P.R. China**

**(B4) - Additive Smart Manufacturing**

How to Use Neutrons for Additive Manufacturing and Structural Integrity Assessment?

**Anna M. Paradowska, U. Garbe, M. Reid**

**Australian Nuclear Science and Technology Organisation, Australia**

Void Free Toolpath Planning for Wire Arc Additive Manufacturing of Complex Thin-Walled Structures

**Donghong Ding, Qinghua Lu, Kai Wang**

**Foshan University, P.R. China**

In􀃸uence of Interpass Temperature on Wire Arc Additive Manufacturing (WAAM) of Aluminium Alloy

Components

**Karan Derekar, J. Lawrence, G. Melton, A. Addison, X. Zhang, L. Xu**

**Coventry University, United Kingdom**

WAAM Application for EPC Company

**Agustinus A. Priyantomo**

**Rekayasa Industri PT, Indonesia**

Development of Bead Modelling for Distortion Analysis Induced by Wire Arc Additive Manufacturing

using FEM and Experiment

**Keval P. Prajadhiana, Yupiter H. P. Manurung, Zaidi Minggu, Fetisia H. S. Pengadau,**

**Marcel Graf, Andre Haelsig, Tom-Eric Adams**

**Universiti Teknologi MARA, Malaysia**

Microstructure and Mechanical Properties of Advanced High Strength Steel (QP1180) Weldment

Made by CMT Welding

**Yue Wu, Hua Pan, Ming Lei, Chengjie Liu**

**Baoshan Iron & Steel Co. Ltd., P.R. China**

Review on Plasma Atomizer Technology for Metal Powder

**Dharmanto, Ario Sunar Baskoro, Sugeng Supriadi**

**Universitas Indonesia, Indonesia**

Microstructure, Residual Stress and Tensile Properties Control of Wire-Arc Additive Manufactured

2319 Aluminum Alloy with Laser Shock Peening

**Rujian Sun, Liuhe Li, Ying Zhu, Wei Guo, Peng Peng**

**Beihang University, P.R. China**

**(C4) - Marine and Offshore Welding**

Non-Deformational Welding Technologies for Modern Shipbuilding

**Nikolay A. Nosyrev, Gleb A. Turichin, Vladimir K. Bukato**

**JSC Shipbuilding & Shiprepair Technology Center, Russian Federation**

Cladding (Hardfacing) for Manufacturing and Reworking the Critical Engineering Parts

**Artem Zhmurenkov, Natalia A. Steshenkova, Nikolay A. Nosyrev**

**JSC Shipbuilding & Shiprepair Technology Center, Russian Federation**

Underwater Maintenance and Inspection Skill Development to Support National Maritime

Sovereignty in Indonesia on Maritime and Offshore Industries

**Mikael Januardi Ginting, Wijanarko M. M., Winarto, Sommeng A. N., Wijanarko A., Anis M.**

**Universitas Indonesia, Indonesia**

Fatigue Life Enhancement of Transverse and Longitudinal T –Joint on Offshore Steel Structure

HSLAS460G2+M using Semi-automated GMAW and HFMI/PIT

**Muhd. Faiz Mat, Dahia Andud, Yupiter H. P. Manurung, Salina Saidin, Noridzwan Nordin,**

**Norasiah Muhammad, Martin Leitner**

**Universiti Teknologi MARA, Malaysia**

Effects of High Frequency Mechanical Impact on Fatigue Life of Manual Welding of HSLA Butt Weld

**Salina Saidin, Muhd. Faiz Mat, Yupiter H. P. Manurung, Dahia Andud, Noridzwan Nordin,**

**Martin Leitner**

**Universiti Teknologi MARA, Malaysia**

Cladding (Hardfacing) for Manufacturing and Reworking the Critical Engineering Parts

**Artem Zhmurenkov, Natalia A. Steshenkova, Nikolay A. Nosyrev**

**JSC Shipbuilding & Shiprepair Technology Center, Russian Federation**

Impact Toughness, Hardness and Microstructure Characteristics of HY-80 Steel Weldments

**Herry Oktadinata, Winarto, Eddy S. Siradj**

**Universitas Indonesia, Indonesia**

Effect of Welding Heat Input on the Toughness of Offshore Structural Steel Weldment

**Kyutae Han, Hongchul Jeong**

**POSCO, Republic of Korea**

Failure Analysis of Crew Boat Shaft Strut

**Sutep Joy-A-Ka, Prapapan Aranya, Sumate Poomiapiradee**

**Thailand Institute of Scienti􀃶c and Technological Research, Thailand**

**(D4) - Materials Engineering**

The Effect of Melting Temperature Aluminum Metal Casting Using Mixed Degasser Based Sodium

Fluoride and Sodium Nitrate

**Jaka Fajar Fatriansyah, Donanta Dhaneswara, Raffi Ramadhan, Ahmad Asharia**

**Universitas Indonesia, Indonesia**

Impurities Removal in Aluminum Scrap Casting Process with the Uses of Sodium based Fluxes

**Widy Widyantoro, Donanta Dhaneswara, Jaka Fajar Fatriansyah,**

**Muhammad Reza Firmansyah, Yus Prasetyo**

**Universitas Indonesia, Indonesia**

Effect of Substrates on the Formation of Kirkendall Voids in Sn/Cu Joints

**Jieshi Chen, Jin Yang, Zhishui Yu, Peilei Zhang, Yongzhi Zhang, Tianli Zhang**

**Shanghai University of Engineering Science, P.R. China**

Digitalized Evaluation of Welding Skill by Using Cyclogram Characteristic

**Kuoch Seamkong, Warinsiriruk E., Joy-A-Ka S.**

**Mahidol University, Thailand**

Effects of Graphene on Interfacial Microstructure and Mechanical Property of the Brazed C/C

Composite/TC4 Joint

**Duo Liu, Xiaoguo Song**

**Harbin Institute of Technology, P.R. China**

Hybrid Composite Forging of Aluminum Solid Parts and Galvanized Steel Sheets

**Kai Treutler, T. Bick, A. Schram, V. Wesling**

**ISAF - TU Clausthal, Germany**

Study of Welding Results Done by Mechanical Engineering Polytechnic Negeri Medan Students

Reviewed from the “Destructive Test” Results under Standard ISO 5173

**Idham Kamil**

**Politeknik Negeri Medan, Indonesia**