

08/2015

PRODUCTION **ENGINEERING** **ARCHIVES**

PRODUCTION
ENGINEERING
ARCHIVES

ARCHIWUM INŻYNIERII PRODUKCJI **PRODUCTION ENGINEERING ARCHIVE,**
Vol. 9, No. 4

Editor' office: Institute of Production Engineering
Faculty of Management
Czestochowa University of Technology

Publisher: Printing House
The Managers of Quality and Production
Association

Exist since 4rd quarter 2013

Journal **PRODUCTION ENGINEERING ARCHIVES** is the international platform of the scientific exchange within the theory of the production engineering systems organizing and functioning theory. The area of interest focuses on the following systems: production, quality, total machines maintenance, environmental protection, occupational health and safety, human resources management including elements of innovation and continuous improvement. Published works include technical, economic and social issues.

EDITORIAL STAFF

Chief Editor

Stanisław Borkowski (PL)

Deputy Editor

Ludwik Kunz (CZ)

Deputy Editor (*responsible for the individual journal number quality*)

Marek Krynke (PL)

Editorial Secretary

Manuela Ingaldi (PL)

Technical Secretary

Marek Krynke (PL)

Secretary of the publisher

Joanna Rosak-Szyrocka (PL)

Scientific Thematic Editor

Material engineering

Ferdynand Romankiewicz (PL), Michał Szota (PL)

Advanced technologies

Anton Stash (DE), Marcin Nabiałek (PL)

Production systems

Jiri Kliber (SK), Atul B. Borade (IN)

Quality systems

Tatiana Čorejová (SK), Renata Stasiak-Betlejewska (PL)

Intellectual potential management

Bolesław Rafał Kuc (PL), Martina Blašková (SK)

Total productive maintenance

Bogdan Żółtowski (PL), Vlado Goglia (HR)

Specialistic advisers

Linguistic advisers

Barbara Walasik (PL), Michael Kaye (UK)

Advisers for statistics

Ewa Majchrzak (PL), Natasa Naparstková (SK)

Editor:

Editor's address:

Instytut Inżynierii Produkcji, Wydział Zarządzania,
Politechnika Częstochowska, Al. Armii Krajowej 19B,
Poland, tel. +48 34 3250 333

Editor's e-mail:

journalarchive@qipj.pl
Published: 300 pcs

SCIENTIFIC BOARD

Stanisław Borkowski (PL) – Chairman
Jerzy Kisielnicki (PL) – Deputy chairman
Robert Ulewicz (PL) – Deputy chairman
Piotr Sygut (PL) - Secretary

Ahmet AK (TR)
Anton Stash (DE)
Antonio José Balloni (BR)
Atul B. Borade (IN)
Bogdan Żółtowski (PL)
Bolesław Rafał Kuc (PL)
Borut Jereb (SI)
Denis Jelacic (HR)
Evgeny Borisowicz Tsoy (RU)
Ewa Majchrzak (PL)
Ferdynand Romankiewicz (PL)

František Holešovský (CZ)
Italo Trevisan (IT)
Iuliana Cenar (RO)
Jiri Kliber (SK)
Juhani Anttila (FI)
Maj Kappagomtula (IN)
Marcin Nabiałek (PL)
Martina Blašková (SK)
Michael Kaye (UK)
Michał Szota (PL)
Milena Filipova (BG)

Miroslav Drljaca (HR)
Natasa Naparstková (SK)
Peter V. Kurenkov (RU)
Renata Stasiak-Betlejewska (PL)
Richard Vlosky (USA)
Rudolf J. Beer (AU)
Stefan Hittmar (SK)
Tatiana Čorejová (SK)
Tatjana Volkova (LT)
Vlado Goglia (HR)

The press and the cover:

Publishing and Advertising Agency Edytor Ltd.
ul. Gałęczki 61, 41 – 506 Chorzów, Poland
e-mail: office@edytor.pl

Perfect Gaul i wspólnicy sp.j.
ul. Świerzawska 1, 60-321 Poznań
<http://www.perfekt.pl/>

CONTENTS:

1.	Manuela Ingaldi MANAGERIAL TRAITS IN DIFFERENT COMPANIES	2
2.	Krzysztof Knop THE USE OF MANAGERIAL GRID TO ANALYZE THE RELATIONSHIP BETWEEN ASSESSMENT OF HUMAN AND PRODUCTION OR SERVICES ISSUES IN VARIOUS COMPANIES	6
3.	Tomasz Lipiński ANALYSIS OF IMPURITY SPACES AS A PERCENTAGE VOLUME OF NON-METALLIC INCLUSIONS.....	10
4.	Katarína Čekanová, Alena Pauliková, Katarína Lestyánszka Škúrková OPTIMALIZATION OF QUALITY IN ENVIRONMENTAL EDUCATION BY MEANS OF SOFTWARE SUPPORT	13
5.	Stanisław Borkowski, Renata Stasiak-Betlejewska THE MACHINES MAINTENANCE CONDITIONS ASSESSMENT IN THE PLASTIC INDUSTRY	17
6.	Łukasz Zalejski, Noga Mariusz, Wojtysiak Marcin, Foszmanowicz Krzysztof EVALUATION OF SERVICE CONDITIONS OF THE MACHINES WITHIN THE FURNITURE JOINERY	21
7.	Rastislav Beňo, Petra Marková, Vanessa Prajová, Helena Makyšová GAMES LEARNING IN EDUCATIONAL PROCESS IN NEWLY ACCREDITED STUDY COURSE: FUNDAMEN-TALS OF INDUSTRIAL ENGINEERING.....	26
8.	Marta Kučerová, Miroslava Míkva, Jozef Sablik, Mirko Gejguš ELIMINATING WASTE IN THE PRODUCTION PROCESS USING TOOLS AND METHODS OF INDUSTRIAL ENGINEERING.....	30
9.	Kinga Brózda, Jacek Selejdak THE ISSUE OF WOODEN AND CONCRETE RAILWAY SLEEPERS UTILIZATION	35