

WOOD RESEARCH

62(3): 2017

Wood Research publishes original papers aimed at recent advances in all branches of wood science (biology, chemistry, wood physics and mechanics, mechanical and chemical processing etc.) Authors are responsible for the fact that the paper has not been published before and it is not under consideration for publication elsewhere.

EDITORS:

Štefan ŠTELLER, Slovak Forest Products Research Institute, Dúbravská cesta 14, SK-841 04 Bratislava, Slovak Republic.

Marián BABIAK, Technical University in Zvolen, Masarykova 24, SK-960 53 Zvolen, Slovak Republic

ASSOCIATE EDITOR:

Eva NEUSCHLOVÁ, Slovak Forests Products Research Institute, Dúbravská cesta 14, SK-841 04 Bratislava, Slovak Republic

EDITORIAL BOARD:

Štefan BARCÍK, Faculty of Environmental and Manufacturing Technology of Technical University in Zvolen, Študentská 26, 960 53 Zvolen, Slovak Republic

Ingo BURGERT, ETH Zürich, Institute for Building Materials, HIF E 23.2, Stefano-Francini-Platz 3, 8093 Zürich, CH-Switzerland

Ignacio J. DIAZ-MAROTO, University of Santiago de Compostela, High School Polytechnic, University Campus s/n, 27002 Lugo, Spain

Miha HUMAR, University of Ljubljana, Jamnikarjeva 101, SI-1001 Ljubljana, Slovenia

Jan KANÓCZ, Technical University of Košice, Letná 9, 042 00 Košice

Bohuš KASAL, Fraunhofer Institute for Wood Research, Wilhelm-Klauditz-Institut WKI, Bienroder Weg 54 E, D-38108 Braunschweig, Germany

Svetozár KATUŠČÁK, Slovak Technical University, Radlinského 9, SK-812 37 Bratislava, Slovak Republic

Radomír KLVAČ, Mendel University in Brno, Zemedelska 3, CZ-613 00 Brno, Czech Republic

Jozef KÚDELA, Faculty of Wood Sciences and Technology of Technical University in Zvolen, Masarykova 24, 960 53 Zvolen, Slovak Republic

Bartłomiej MAZELA, Poznań University of Life Sciences, ul. Wojska Polskiego 28, PL-60-637 Poznań, Poland

Holger MILITZ, University of Göttingen, Büsgenweg 4, D-37077, Göttingen, Germany

Róbert NÉMETH, University of West Hungary, Bajcsy Zs. u. 4, H-9400 Sopron, Hungary

Milan ORŠANIĆ, University of Zagreb, Svetosimunska 25, HR-40000 Zagreb, Croatia

Ján Sedličák, Faculty of Wood Sciences and Technology of Technical University in Zvolen, Masarykova 24, 960 53 Zvolen, Slovak Republic

Alfred TEISCHINGER, Boku-University of Natural Resources and Life Sciences, Institute for Wood Technology and Renewable Materials, Konrad Lorenz Strasse 24, 3430 Tulln, Austria

Aleš ZEIDLER, Czech University of Life Science in Prague, Kamýcká 1176, CZ-165 21 Praha 6 Suchdol, Czech Republic

EDITORIAL OFFICE

Slovenský drevársky výskumný ústav/ Slovak Forest Products Research Institute

Dúbravská cesta 14, SK-841 04, Bratislava, Slovak Republic

Phone: 0911 728 624

E-mail: woodresearch.sdvu@vupc.sk, WEB: www.woodresearch.sk

SUBSCRIPTION INFORMATION:

Wood Research is published six times a year. Subscription rate 150 EUR (including mailing expenses). Subscription order should be sent to Slovak Forest Products Research Institute, Dúbravská cesta 14, SK-841 04 Bratislava, Slovak Republic

© 2017 by SDVÚ Bratislava, Slovak Republic

All rights reserved. By submitting a manuscript, the authors agree that the copyright for their article is transferred to their publisher if and when the article is accepted for publication. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in retrieval system or transmitted in any form or by any means, photocopying, electronic, recording, etc. without the prior written permission of the publisher as mentioned in Slovak Copyright Law No 383/1997.

Issued: June 2017

IČO 31 380 051

Printed by Pulp and Paper Research Institute, Dúbravská cesta 14, Bratislava, e-mail: sekretariat@vupc.sk

WOOD RESEARCH

Volume 62, Number 3, 2017

CONTENTS

1. PIERRE KISITALLA, PRISCA KUIDA ATCHOUNGA, BLAISE MTOPI: Kalman filtering of gauges noise on the creep behavior of *Entandrophragma cylindricum* (Sapelli) under a constant stress 341
2. DONATA KRUTUL, TOMASZ ZIELENKIEWICZ, ANDRZEJ RADOMSKI, JANUSZ ZAWADZKI ANDRZEJ ANTCZAK, MICHAŁ DROŽDŽEK, TOMASZ MAKOWSKI: Metals accumulation in scots pine (*Pinus sylvestris* L.) wood and bark affected with environmental pollution 353
3. WEI YAN, JIANBO ZHOU, BIN ZHANG, WANSI FU, ZHONGJIA CHEN, JIANBO ZHOU, ZHONGJIA CHEN, CHENGHAO MA: Development design and mechanical properties of arc bamboo 365
4. BRUNO ESTEVES, FÁBIO RIBEIRO, LUÍSA CRUZ-LOPES, JOSÉ FERREIRA IDALINA DOMINGOS, BRUNO ESTEVES, MARTA DUARTE, SÓNIA DUARTE, LINA NUNES, SÓNIA DUARTE, LINA NUNES: Densification and heat treatment of maritime pine wood 373
5. PARTSON TINARWO, TEMESGEN ZEWOTIR, DELIA NORT: Modelling the effect of eucalyptus genotypes in the pulping process with generalised additive models and fractional polynomial approaches 389
6. AYTEKİN ONDURAN, S. SADIYE YASAR, MUSTAFA ALTUNOK: Investigation of the effects of some modification process to the mechanical performance and deformation of the woodwork 405
7. YO-JIN SONG, SOON-IL HONG, JIN-SUK SUH, SANG-BUM PARK: Strength performance evaluation of moment resistance for cylindrical-lvl column using GFRP reinforced wooden pin 417
8. JÁN SVOREŇ, ĽUBOMÍR JAVOREK, MÁRIA KRAJČOVIČOVÁ, KATARÍNA KLOBUŠIAKOVÁ, IVAN KUBOVSKÝ, RICHARD KMINIAK: The effect of the circular saw blade body structure on the concentric distribution of the temperature along the radius during the wood cutting process 427
9. HÜSEYİN SIVRIKAYA, AHMET CAN, IBRAHIM TÜMEN, DENİZ AYDEMİR: Weathering performance of wood treated with copper azole and water repellents 437
10. IGOR DŽINČIĆ, TANJA PALIJA, MIRA MIRIĆ-MILOSAVLJEVIĆ, VLADISLAVA MIHAILOVIĆ: Size and character of the loads in corner joints within storage furniture 451
11. MIROSLAV SEDLECKÝ, MONIKA SARVAŠOVÁ KVETKOVÁ: Surface waviness of medium-density fiberboard and edge-glued panel after edge milling 459
12. XU BIN, YANG ZHAO YING, LIU SHUAI, CHAO JUAN: Comparative identification and analysis amongst suspected gold *Phoebe* sp. buried wood 471
13. JARNO FÖHR, TAPIO RANTA, JEMINA SUIKKI, HANNE SOININEN: Manufacturing of torrefied pellets without a binder from different raw wood materials in the pilot plant 481
14. MÁRTIN ZACHAR, ANDREA MAJLINGOVÁ, IVETA MITTEROVÁ, IVETA ČABALOVÁ: Influence of an age and damage of the oak wood on its fire risk 495
15. SHA SHA SONG, BENHUA FEI, XIAO HUAN WANG, JUN NI, LI HONGYAO: Effects of different types of housing environments on the physical index and physiological index 505