UNIVERSITY OF BELGRADE
TECHNICAL FACULTY IN BOR

BOOK OF ABSTRACTS

8th INTERNATIONAL STUDENT CONFERENCE ON TECHNICAL SCIENCES

www.tfbor.bg.ac.rs

ISC 2023

8th INTERNATIONAL STUDENT CONFERENCE on Technical Sciences

20-21 October, Bor Lake, Serbia

Editor: Uroš Stamenković

Book of Abstracts,
8th International Student Conference on Technical Sciences ISC 2023

Editor:
Doc. dr Uroš Stamenković
University of Belgrade - Technical Faculty in Bor

Technical Editors:
Milan Nedeljković, dipl. ing.
Avram Kovačević, dipl. ing.
University of Belgrade - Technical Faculty in Bor

Publisher: *University of Belgrade - Technical Faculty in Bor*
For the publisher: *Dean, Prof. dr Dejan Tanikić*
Circulation: 50 copies
Year of publication: *2023*

Printed by "*GRAFIKA GALEB DOO" NIŠ, 2023*

ISBN 978-86-6305-141-6

CIP - Каталогизација у публикацији Народна библиотека Србије, Београд

622(048)
669(048)
66(048)
66.017/.018(048)

INTERNATIONAL Student Conference on Technical Sciences (8 ; 2023 ; Borsko jezero)
Book of abstracts / 8th International Student Conference on Technical Sciences ISC 2023, 20-21 October, Bor Lake, Serbia ; [organized by University of Belgrade, Technical Faculty in Bor] ; editor Uroš Stamenković. - Bor : University of Belgrade, Technical Faculty, 2023 (Niš : Grafika Galeb). - VII, 51 str. ; 24 cm

Tiraž 50. - Bibliografija uz većinu apstrakata.

ISBN 978-86-6305-141-6

a) Рударство -- Апстракти b) Металургија -- Апстракти v) Хемијска технологија -- Апстракти g) Технички материјали -- Апстракти

COBISS.SR-ID 126594825

8th International Student Conference on Technical Science, ISC 2023.

Is organized by

UNIVERSITY OF BELGRADE, TECHNICAL FACULTY IN BOR

and co-organized by

University of Zenica, Faculty of engineering and natural sciences, Zenica, Bosnia and Herzegovina

**University in Priština, Faculty of Technical Science, Kosovska Mitrovica,
Serbia;**

University of Montenegro, Faculty of Metallurgy and Technology, Podgorica, Montenegro;

University of Tuzla, Faculty of Technology, Tuzla, Bosnia and Herzegovina;

University of Chemical Technology and Metallurgy, Faculty of Metallurgy and Material Science, Sofia, Bulgaria;

TABLE OF CONTENTS

SAFETY AND HEALTH IN COKING PLANTS THROUGH THE APPLICATION OF ENGINEERING MEASURES

Students: Alida Kusić, Ilma Bošnjak

Mentor: doc. dr. sc. Miliša Todorović

University of Zenica, Faculty of engineering and natural sciences, Zenica, Bosnia and Herzegovina

Abstract

Coke plants are plants where coal is carbonized for the manufacture of coke in slot or beehive ovens. To make steel in a blast furnace, coal must first be turned into coke. Coke has a dual role in the steelmaking process. First, it provides the heat needed to melt the ore, and second, when it is burnt, it has the effect of 'stealing' the oxygen from the iron ore, leaving only the pure iron behind. In the coking plant, coal is heated in the absence of oxygen to 1250c. This removes any impurities in the coal, resulting in coke, which is a porous substance that is nearly all carbon. As we can conclude from the above, the process in the coking plant is quite complex but useful. From that complexity comes numerous dangers. In order to check and reduce these dangers, this is where occupational safety comes into play. Most of the health hazards in coke production come from volatile chemicals that are released from the coal during coking, and dust from the production process causes respiratory illnesses. In addition, the heat required for production causes heat stress. Safety hazards in coke production also include mobile equipment, burns, fire and explosion.

This paper presents the most common hazards and dangers and engineering measures to prevent themin the coke oven. Along with the theory, the research that was done in a coke plant in Bosnia and Herzegovina was also presented.

Keywords: *Coke plant, Hazards, Prevention, Engineering*

REFERENCES

[1] S. Muhamedagić, Metalurški koks: Proivodnja i primjena, Fakultet za metalurgiju i materijale, Zenica, 2012.
[2] A. Adilović, Ž. Knežiček, A.Regent, Lična i kolektivna zaštitna oprema, Univerzitet u Tuzli, Tuzla, 2015.
[3] International Labour Organization, Code of practice on safety and health in the iron and steel industry, Geneva, 2005.

www.tfbor.bg.ac.rs

8th INTERNATIONAL STUDENT CONFERENCE on Technical Sciences

20-21 October, Bor Lake, Serbia

ISBN 978-86-6305-141-6