

Manuscript: "MAGNETIC PROPERTIES OF STEEL BALL SAMPLES, INVESTIGATED BEFORE AND AFTER NITRIDING", by H. FUKS, S.M. KACZMAREK, G. LENIEC, J. MICHALSKI, B. KUCHARSKA, P. WACH

directed to Archives and Metallurgy

Review 1:

> The scientific quality of this article is correct. The arguments used
> and the conclusions drawn are well founded and the quality of the
> analysis is good. The interesting results obtained by this method are
> also included and addressed.> >

Review 2:

> Congratulation, this a very original new article exceeding current
> state of the art in this field. Finally, somebody crossed the border
> what nitriding is about and showing that this technology might have a
> broader applications!

Dear Dr. Slawomir, Greetings..!!

On behalf of the management of Conference Series, I would like to thank you for your recent participation in the 5th International Conference & Expo on Ceramics 2019 as a Chair and Speaker.

"Influence of Nitriding Process on Magnetic Properties of Steel Ball-like Samples" by S.M. Kaczmarek, G. Leniec, and J. Michalski
Conference Series is successful because of the renowned personalities like you.

Your presentation at Ceramics 2019 helps a lot to the scientific community. Thank you once again for all your hard work. Hats off to you. Without your help, the event could not be such a huge success. Expecting the same service for upcoming events too. Thanks & Regards
Edward Charles Ceramics 2019

Od: Elca Zonja

21.10.2019 10.39

Do: mnie smkaczmar@wp.pl

Temat: Slawomir M Kaczmarek's work at West Pomeranian University of Technology

Dear Mr. Slawomir M Kaczmarek,

I am Elca Zonja from Lambert Academic Publishing. Our attention has been caught by your research «Influence of nitriding process on magnetic properties of steel ball-like samples».

The nitriding is a thermo-chemical treatment of the steel which can improve its wear resistance, corrosion resistance and hardness. At a constant temperature, depending on the value of the nitriding potential, the subsurface iron nitride layer, known as "white layer", formed may consist of only the ϵ -ferrite phase or a mixture of phases γ' -ferrite and ϵ -Fe₂N. A diffusion zone is formed under the iron nitride layer, in which nitrogen is dissolved interstitially in a ferritic matrix and carbon-nitrides of iron and alloying elements occur. The thickness and phase composition of the layers of iron nitrides are decided on the resistance to corrosion and the abrasive wear of steel after nitriding. The diffusion zone, in the case of alloy steels, involves the fatigue strength of steel. Several AISI steel balls with different diameters and thermal treatments were investigated using EPR and SQUID techniques. Magnetization measurements have shown the non-uniform behavior of the investigated samples with temperature variation. For most of them, having carbon content higher than 0.33 wt-%, the rise of magnetization with increasing temperature was observed, which strongly depended on the field.



Slawomir Kaczmarek
Grzegorz Leniec
Jerzy Michalski



Professor Slawomir Kaczmarek: Physicist, educator,
born Poland, 1949; MSc. Univ. Tech., Warsaw, Poland,
1974, PhD in Physics, 1984, Prof. in Inst. of Physics,
2010; Head of Optoelectronic Group,
Westpomeranian University of Technology in
Szczecin, 2009; Mem SPIE, ERES, IAAM, Polish Phys.
Soc.

Influence of nitriding on magnetic properties of steel ball samples



We would be interested in publications on this topic with you. In case you have other unpublished research works (thesis, monograph) in this field, would you be interested to publish it with us?

Here is what we offer you:

- free of charge publishing
- simplified and fast publishing process
- worldwide sales of your work
- no commitments - you and only you remain the copyright holder of your work
- access to eco-friendly Print-on-Demand technology

Would you agree to receive more information?

I am looking forward to your reply.

Sincere regards,

Elca Zonja

Editor

e: e.zonja@lap-publishing.com

w: www.lap-publishing.com

Od: Helen Thomas

Do: mnie smkaczmar@wp.pl

Temat:

Official Invitation: **Influence of nitriding process on magnetic properties of steel ball-like samples**

Dear Dr Slawomir.M. Kaczmarek

Heartiest Greetings!

On behalf of Organizing Committee, I take this opportunity in extending a warmhearted welcome to you to be part of **4th International Conference on Materials Science and Engineering**, held conjointly with multifarious scientific associations, eminent researchers and scholars from around the globe on **May 04-05, 2020** in **Prague, Czech Republic**.

It is an immense pleasure and privilege in having you as Speaker to honour your hard-earned scientific discoveries, innovations and would like you to share, extend and impart your valuable thoughts to the global scientific community.

Also, **Avail with Special Benefit in registration**

Visit our website for more details on participation: [Material Science Conferences](#)

I do hope that you will be able to confirm your attendance to this invitation.

Anticipating your favourable response.

Best Regards

Helen Thomas

Program Manager | Material Science 2020

Whatsapp: +441258650017