

SECO WARWICK GROUP

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EVENT

e-SEMINAR 4.1

HEAT TREATMENT & METALLURGY

30.09.2021 Thursday

SPEECHES
PANELS
DISCUSSIONS
TV STUDIO

AGENDA

A high-speed train is shown in motion, blurred to convey speed, as it travels through a city tunnel. The scene is overlaid with a vibrant red color, creating a sense of urgency and modernity. The train tracks and overhead power lines are visible, leading the eye towards the horizon.

BLOCK 01

Secrets of #HeatTreatment technologies

Host: Adam Adamek

BLOCK 01

Theme I: Let's Solve Problems

In this part, we will present various technical, yet practical case studies that show real problems and the methods for solving them. Representatives and practitioners of well-known corporations and specialists representing smaller companies that solve some interesting problems on a daily basis will present their solutions.

**You will learn about technologies —
that you may not have known existed**

**You will see how others deal —
with the same technological challenges that you face**

**You will meet experts with whom you will —
want to collaborate with more closely in the future**

In this section, we will talk about tool & die heat treatment technology. We will talk about the hardening processes that most of the industry deals with on a daily basis, however, that still creates misunderstandings between the ordering parties and the recipients of heat treatment.

We will also talk about technologies that have been invented to bring innovation to the entire world. That is, on the role of heat treatment in the development of advanced technologies that may surprise you.

Along with discussing the technicalities, we will also address the aspects related to the coordination of the heat treatment implementation processes and the input of other departments (units) responsible for manufacturing the entire finished product.

After this panel discussion, carburizing (including LPC) will be no secret to you. You will get to know more about this technology and its advantages and disadvantages; you will learn some interesting facts and practical tips.

- You will discover the secrets of carburizing during a riveting debate
- You may hear a thesis which you will fully agree with and some that you may find extremely controversial
- It is possible that having listened to the discussion, you will become an even greater expert in carburizing

There are theorists.

There are long-time practitioners.

You will not meet those here. In this panel, you will meet specialists who not only have knowledge and experience but are also keen to share them with you.

So, if you are involved in carburizing, or you produce parts with the use of the carburizing process, it might be worth your while to listen to what others have to say on the matter.

BLOCK 01

Theme II: Understanding Carburizing

BLOCK 01

Theme III: Women in the Heat Treatment Industry

We will talk with women who work in heat treatment on a daily basis. We will look at technologies through the eyes of women. Do you think that heat treatment can be a woman?

Can heat treatment be feminine? —

If so, which traits are the most useful? —

Do our guests in the studio have those qualities? —

How is heat treatment perceived by women?

What is important when implementing technological processes?

Does 'woman's intuition' play a role in facing heat treatment challenges?

Perhaps you are a woman yourself, or you work with women in, what is often considered, a 'male-dominated industry'.

Hungry for more? Don't miss out on our meeting!

We have invited colleagues who deal with carburizing and nitriding. They will 'fight' for the supremacy of their favored technology, and the participants of the e-seminar will choose the winner.

- Before you choose the technology, listen to the experts
- Understand carburizing and nitriding
- Be the judge in our technological debate

In this section, we will wrestle with arguments.
How does carburizing differ from nitriding?
Which of these technologies is more valuable?
What are their advantages and disadvantages?
Would you like to know more?
Listen to the experts!

BLOCK 01

Theme IV:

Carburizing vs. Nitriding
– Technology Competition



BLOCK 02

The future is now. So what will tomorrow bring?

Host: Łukasz Piechowicz

BLOCK 02

Theme I: The Power of Adaptation

Watch the lecture and the discussion about the trends and future of the automotive industry. This theme block will cover a hot topic - electric cars and their connection and influence on the heat treatment industry.

Explore the global trends of the automotive industry —

Find out where the future of the automotive industry is heading —

Learn how this will influence the heat treatment industry —

How is the heat treatment industry changing in the light of the progressive change to electric technology in the automotive industry? Does the heat treatment industry have anything to fear? Is the progressing trend towards electrification within the automotive industry creating a need for new heat treatment technologies? Does the increased demand for electric cars open new prospects for the heat treatment industry?

Find out the answers to these and other questions from an accomplished scientist in the field of materials engineering, an expert from the automotive industry, as well as a leading supplier of brazing equipment for automotive heat exchangers.

Do you know the answer to this question: why do we use computer simulators in the heat treatment industry? Do we really need them? What can convince us to use them, or maybe that's the face of Industry 4.0 and Heat Treatment 4.0? Are you curious? Join this panel to learn more.

- Find out which processes computer simulators are most frequently used in the heat treatment industry.
- Discover physical (phenomenological) models and AI-based algorithms, and find out which of these solutions work well in heat treatment and thermo-chemical treatment processes.
- Demystify simulators as tools for designing heat treatment processes and controlling furnaces (offline and online simulators will have no secrets from you).

Leading scientists working with the industry will talk about how to combine the world of algorithms with the world of heat treatment. After all, it is industry that inspires the creation of new solutions in the field of heat and thermo-chemical treatment simulators. Together with us, see how the world of algorithms affects modern industry.

BLOCK 02

Theme II: The Power of Algorithm

BLOCK 02

Theme III: The Power of Debinding and Sintering

Join the discussion between specialists about
- the Binder Jetting and MIM concept... similarities and unique
features of every technology, and the challenges that furnaces
operators need to face during everyday debinding and sintering jobs.

Learn about Binder Jetting and MIM as alternative
and effective methods of metal element production.

Find out what role heat treatment
(sintering) plays in both technologies.

See what challenges a furnace operator has to face when
sintering parts produced using Binder Jetting and MIM technology.

It's hard to think of a greater authority on sintering than the specialists who work with Binder Jetting and MIM technology every day. They will talk about the role that heat treatment plays for both technologies. Apart from temperature, what is important for the process itself and how are the furnaces used in the industry changing? We will look for answers to these and many other questions together with our guests, who are perfecting Binder Jetting and MIM technology on an industrial scale every day.



BLOCK 03

The Business Side of Heat Treatment

Host: Piotr Zawistowski

BLOCK 03

Theme I: The Future of Heat Treatment

Ever wonder where heat treating has been and where it is headed? Join us for answers to these questions and many others in an interview with Dan Herring, the world-acclaimed Heat Treat Doctor®! He will provide insights on meeting the challenges of heat treatment in the next decade, address the needs of today's manufacturers, discuss how to remain competitive in an ever-changing business climate, and how to stay ahead of the curve by using vacuum technology to advance the industry.

Take a few minutes to hear Dan Herring, The Heat Treat Doctor®, one of the world's foremost experts who will share his thoughts on the direction of heat treating.

Let's discuss:

- The impact of COVID-19 and planning for future disruptions —
- Evolving with your customers and how to meet the new market demands? —
- Check how 3D printing affects heat treating —
- Discover IoT: Smart heat treating and the digital toolbox —
- Environmental considerations —

In the post-COVID era, the market is changing quickly. Join us for a unique opportunity to gather insight into these and other topics from one of the heat treatment industry's leading experts.

Are you tired of scrapping material or leaving too much stock behind due to heat treatment distortion? If the answer is yes, you can't miss our interview with one of Aerospace's most legendary figures, Mr. Joe Arvin. With 50 years of experience in the manufacturing of aerospace gear components, Mr. Arvin has extensive knowledge and will share his insights about what causes distortions, providing solutions to correct these problems.

Advances in furnace and quenching techniques have opened new doors in the fight against distortion. Are you haunted by issues such as?

- Excessive post heat treat machining
- Quench cracking
- Exceeding planned tolerances
- Wasted time and effort in rework
- Scrap

Mr. Joe Arvin will share his experience with these issues after a 50-year career in gear manufacturing and the potential he sees in the new heat treating and quenching techniques available today to prevent these nightmares.

BLOCK 03

Theme II:

Winning the Fight Against Heat Treat Distortion

BLOCK 03

Theme III:

What to consider when investing in a Modern Heat Treat Shop

Moving heat treat operations in-house can be a daunting decision. Join us as we break down the challenges in making this investment.

Business conditions, manufacturing processes, equipment, and implementation are all important considerations in making this a reality. And of course, once you have in-house heat treating, knowing the next step can be just as tough. We'll spend some time in this segment discussing these topics with a company that made this investment! We look forward to seeing you!

Are you struggling with issues related to outsourcing heat treating? —

Is heat treating the missing link in your manufacturing chain that costs you time, effort, and money? —

Or worse, I having issues with quality control, logistics, cost - or scheduling costing you a customers? —

To the inexperienced, bringing heat treatment in house would seem to be an overwhelming task. However, with a little patience, clear vision, and the right support, this can be achieved. Join us to discuss the process and lessons with a team who successfully made this their reality.

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