





Essential dates in the conference organisation

- 15.06.2015 time limit for submitting titles and abstracts for the conference
- 30.07.2015 time limit for submitting complete papers/presentations
- 31.08.2015 time limit for payment and registration of participants

Conference participation fee: $680 \in (+23\% \text{ VAT})$ including organizations costs, accommodation, conference materials, meals (with two gala dinners) please pay to this account: PL92 1140 1140 0000 2904 5300 1002 (BIC (SWIFT): BREXPLPWWRO) till 31.08.2015.

Additional fees: 400 € (+23%VAT) for company presentation during opening conference session (15 min).
Other forms of promotion (banners, stands) – to agreements

Whole news and other useful information and documents (eg Registration Form, Company Presentation Form) are available at websites:

www.mazurenergy.pl and www.pts-spawalnicy.pl

CONTACT ADRESSES

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Information for authors of papers: The organizers plan to develop conference materials in the form of monographs. Recommendations for authors to prepare papers for the conference:

www.mazurenergy.pl and www.pts-spawalnicy.pl







4TH INTERNATIONAL CONFERENCE of Science and Technology

New materials for the power industry, manufacturing technology, degradation processes, and Life Assessment of boiler pressure components

POWERWELDING – 2015



Ladies and Gentlemen,

Mazur Energy Sp. z o.o. – leader, with 25 years of experience in the supply of P91 and P92 steel and fabrication of boiler pressure components; European Technology Development (ETD) London - a British consulting company specialised in life assessment of components working in high temperatures and Polskie Towarzystwo Spawalnicze (Polish Welding Association) are jointly organising an international conference of science and technology **POWERWELDING – 2015**.

Representatives of the following entities of science and research have confirmed their participation in the conference wherein they will give a presentation of their experience and test results: AGH University of Science and Technology of Krakow, Institute of Ferrous Metallurgy of Gliwice, Institute of Welding of Gliwice, Opole University of Technology, Silesian University of Technology, Prof. Dr F. Masuyama, Dr D. Robertson of ETD London, representatives of basic and welding materials manufacturers, including Nippon Steel & Sumitomo Metal Corporation.

The conference is for manufacturers of boiler equipment, producers of advanced high-temperature creep resisting materials, welding materials and research entities and institutes dealing with the assessment of the application and life of boiler pressure components.

> Conference dates: 5-8/10/2015 Venue: Hotel Wodnik, Slok near Belchatow

DRAFT CONFERENCE PROGRAMME

05. 10 2015 - MONDAY - Day 1

- 16:00 17:00 Registration of conference participants
- **17:00 18:30** Opening of the conference and presentations of companies

Dinner

06. 10. 2015 - TUESDAY - Day 2

Breakfast

9:45 - 13:00 Session 1

Properties of creep resisting materials properties, including the testing and assessment of mechanical properties and microstructure of steels P91 and P92. P91 and P92 component life time/integrity assessment during and after prolonged operation.

- Inspections and tests required during the production and assembly processes of steels P91/P92.
- Acceptance tests of manufactured components; hardness, microstructure, etc.
- The effect of heat treatment (austenitising/normalising and tempering) on the mechanical properties, creep strength, structure and hardness - best available practices.
- EN and ASME requirements and other codes, recommendations and their differences.
- Potential sources of materials data.

Presenters Prof. Dr F. Masuyama and Dr D. Robertson - ETD Consulting, London

Lunch

14:00 – 17:00 Session 2

Welding processes, recommended auxiliary materials and heat treatment conditions for martensitic creep-resisting steels

- Pre- and post-weld heat treatment, Type IV cracking in boiler installation components. Joint strength/life reduction factors.
- Suitable welding procedures.
- The effect of plant cycling on cracking type, especially Type IV cracking and Weld joint repair issues.
- Problems related to dissimilar steel welding (P91/P92 to low CrMoV steel, and to austenitic stainless steel), the effect of low-cycling on industrial experience.

17:00 – 17:30 - Discussion panel with the presenters

19:00 - Gala dinner

07. 10. 2015 – WEDNESDAY – Day 3

Breakfast

9:00 – 13:00 Session 3

P91 and P92 component life time/integrity assessment during and after prolonged operation.

- Cavitation and cracking development due to creep processes.
- Issues of hardness and ductility in operation.
- Non-destructive examination (NDE) techniques and their use for material life assessment.
- Potential of new NDE techniques.
- Developments in Europe and Japan for integrity and life assessment of P91 and P92 components

Lunch

14:00 – 17:00 Session 4

The assessment of the mechanical properties and corrosion-exposed boiler components in operation/ pressure component integrity.

- The effect of temperature and stresses on the microstructure and properties of high chromium steels.
- The assessment of suitability for the operation of weld joints of critical components of low-alloyed creep-resisting steels on the basis of tests of mechanical properties and microstructure.
- Threats arising from corrosion processes in superheater and reheater components.

17:00 – 17:30 - Discussion panel with the presenters

19:00 - Gala dinner with entertainment

08. 10. 2015 - THURSDAY - Day 4

Breakfast

8:30 – 11:30 Session 5

Degradation process and the life assessment of the selected boiler pressure parts.

- Diagnostic material tests in the assessment of the condition and forecasting of the remaining life.
- Diagnostic tests as the basis for the determination of a long-term forecast of equipment life extension.
- Experience in the assessment of the condition of weld joints of pressure components operating in creep conditions. Corrosion fatigue of boiler components.
- Fatigue life of components at an elevated temperature.
- **11:30 12:00** Summary of the conference and open discussion panel.

End of conference and dinner

13:00 - Site visit (optional) to see the design solutions and operating conditions of a supercritical unit in the Belchatow Power Plant.