

EABS: European Association for Brazing and Soldering

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EABS announces the **fifth annual presentation of their programme entitled: *The Spring Technical Training Seminar***

Dates:

24th, 25th & 26th March 2009

Purpose of the Seminar:

This technical seminar will be presented at **The Novotel Hotel, Maastricht, The Netherlands**, and will begin at **09:30** on **24th March**. It will provide information concerning the manufacturing practices commonly used in large scale brazing operations. In particular, the seminar will address the **eight** fundamental aspects of moderate to high-volume production brazing of **stainless steels, aluminium and other commonly used engineering metals**. These are:

- **The heating methods, their technology, and the equipment commonly used for brazing.**
- **The operation of high output vacuum brazing furnaces**
- **Joint configurations for vacuum brazing stainless steel.**
- **The nickel-base filler materials and their use when brazing stainless steels, mechanical properties and corrosion/oxidation**
- **The technology, development and use of the Cupro-Braze Process**
- **The technology and use of copper-base brazing pastes and Brazecoat ®**
- **The technology and application of automated brazing equipment**
- **The methodology of how to ensure that the brazing process selected is, indeed, the one that represents 'best practice'.**

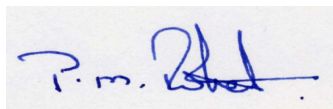
Who should attend this event?

- Technical personnel who need to have a specific understanding of the fine detail of the technology of the heating methods and problem solving procedures used in brazing.
- Design and production engineers who are fabricating, or who intend to fabricate, stainless steels, aluminium and other commonly used engineering metals.

The seminar is open to all people who have an interest in up-dating their knowledge of brazing. Delegates are advised that they can choose to attend all or any of the three days of the Seminar; delegates who choose to attend only a part of the seminar will be invoiced accordingly, (see later).

Private technical consultations

The seminar will end at about **15:00** on **26th May**; following the closure of the event two of the EABS brazing consultants who will be presenting Papers at the seminar, (Peter Walter, and Philip Roberts), will be available by prior appointment to discuss any specific, yet confidential, problems that delegates may wish to raise. Delegates who wish to use this facility are asked to register their request on the Seminar Booking Form that forms part of this announcement.



**P.M.Roberts
Chairman**

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Seminar Programme

Day 1 - Tuesday 24th March 2009

1. 09:30 Opening of the Seminar

P.M.Roberts, EABS Chairman

Session 1: 09:45 – 10:45

An introduction to the technology of brazing

Presented by: Philip Roberts – Delphi Brazing Consultants

Section 1: Introduction to Brazing Technology

- What is brazing and what are its advantages?
- Where does brazing fit in joining technology?
- The six fundamental rules for success
- The methodology of Process Analysis

Section 2: Process Terminology

- Process definitions
- Wetting and flow
- Early brazing
- Metallurgical considerations

Coffee : 10:45 – 11:00

Session 2: 11:00 – 12:45

The heating methods commonly-used in brazing

(An overview of the heating procedures commonly used in brazing and, where appropriate, including data related to the automation of the various heating processes. Vacuum furnace heating methods will be covered in Session 3, on 25th March)

Session 2 involves *two* of our guest speakers, and will cover the following topics

- Reducing atmosphere furnace brazing
Dr Paul Stratton of BOC-Linde Gas will present this opening Paper. It will discuss the theory, application and use of gaseous atmospheres for furnace brazing technology. A very short Paper by *Philip Roberts* will conclude the topic. This will describe an interesting use of a continuous conveyor furnace for the brazing and simultaneous hardening of tungsten carbide tipped hammer drills.

12:45 - 13:45 - Lunch

Session 2 – Continued 13:45 – 16:15 (coffee-break at about 15:30)

- Flame brazing technology

The two sections of the programme shown above will conclude with a Paper by the second of our guest-speakers, *Mr Wolfgang Baumann*, the Managing Director of VerMoTec GmbH. His Paper will be concerned with the finer points of automated brazing technology. (N.B. VerMoTec GmbH is Internationally recognised as a world-leader in regard to the design and manufacture of automated brazing systems).

- Induction brazing
- Resistance brazing

Session 3: 16:15 – 17:00

An introduction to problem solving by means of Process efficiency analyses

Presented by Philip Roberts - Delphi Brazing Consultants

This Paper will introduce delegates to a well-proven method of problem solving in brazing

Day 2 – Wednesday 25th March 2009

Session 4: 09:15 – 10:30

Two Papers concerned with the mass-production of Automotive Heat-exchangers and the development of the Cupro-Braze Process will be presented.

Presented by: Dr Jürgen Koch and Daniel Schnee – BrazeTec GmbH, Hanau, Germany

Paper 1: Development of brazing pastes and application techniques for heat exchanger manufacture

Paper 2: Cupro-Braze – Advanced heat exchanger technology

Coffee: 10:30 – 10:45

Session 5: 10:45 – 12:45

Two Papers concerned with the process technology and the equipment used for vacuum brazing processes

Presented by: Adam Adamek – Seco/Warwick Limited, Poland

12:45 - 13:45 – Lunch

Session 6: 13:45 – 15:00

Joint configurations for vacuum brazing stainless steel .

Presented by: Peter Walter – Consultant to Wall Colmonoy Limited

Content: Design principles for use with both copper and also nickel base filler metals are considered in detail. How joints for vacuum brazing differ from joints suitable for flux, and protective atmosphere brazing. Examples of gap control measures suited for vacuum and how they can be adapted during design are discussed in depth

Session 7: 15:15 – 17:00

The technology and use of copper-base brazing pastes and Brazecoat® flexible hard-facing products

Presented by: Dr Harald Krappitz, Managing Director, Innobraze GmbH, Esslingen, Germany

Day 3 - Thursday 8th March 2009

Session 8: 09:15 – 10:45

The operation of high output vacuum brazing furnaces

Presented by: Peter Walter – Consultant to Wall Colmonoy Limited

This Paper describes how to achieve control of pyrometry and also optimum charge characteristics such as temperature uniformity and approach rate in large charges. The techniques for achieving consistent vacuum characteristics including out-gassing and in-leakage are discussed and why certain joint designs are more demanding than some others.

Coffee: 10:45 – 11:00

Session 9: 11:00 – 12:00

The nickel base filler metals for stainless steel brazing

Presented by: Peter Walter – Consultant to Wall Colmonoy Limited

Content: A review including Table 5 of EN1044 brazing filler metals and their suitability for various joint designs and applications, together with a discussion of further types of proprietary filler metals. Aids for pre-placement described include:

- paste deposition,
- premix spray and also separated binder and powder sprays
- “pepper-pot” (both manual and automatic),
- screening and stencilling,
- low cost forms of plastic bonded sheet, and transfer tape
- foil.
- target properties of binders for use with filler metal powders in vacuum, and how they differ from those for use in protective atmospheres.

Session 10: 12:00 – 12:15

Problem-solving via technical process analysis

Presented by: Philip Roberts – Delphi Brazing Consultants

Content: A detailed discussion of two case histories showing a simple means of ensuring that when dealing with brazing problems the ‘best practice’ solution will *always* be found.

12:45 – 13:45 Lunch

Session 11: 13:45 – 15:00

A brief introduction to the brazing of aluminium in air and CAB furnaces

Presented by: Philip Roberts – Delphi Brazing Consultants

The seminar will finish at approximately **15:00**, and coffee will be available for delegates. The opportunity to stay on after the formal closure of the seminar for informal discussions with either Peter Walter or Philip Roberts will be possible.

Further information:

- The seminar will be presented in the English language
- EABS have extensive written detailed notes on all of the subjects that will be covered during this seminar. It has been normal practice for EABS to distribute their notes to delegates at the event on a CD-ROM. When printed as hard copy the EABS notes cover about 150 pages of A4 paper and comprise about 71,000 words, together with pictures, (many in colour), Tables, and line diagrams.
- EABS will arrange hotel accommodation at the **Novotel Hotel, Maastricht**, required by delegates to the seminar. All the rooms have been recently refurbished in the new ‘Novation style’. They all have 1 double bed, 1 sofa bed, bathroom with bath/shower and separate toilet. All rooms are equipped with minibar, safety box (perfect for your laptop), coffee/tea facilities and air conditioning.
- EABS has pre-reserved sufficient rooms, and delegates are asked to enter their booking requirements on the *Hotel Booking Form* attached to this note. The room rate *per night, inclusive of MWSt and City Tax*, is **€102.72** (*Breakfast will be charged separately and will cost €17.50 inclusive of MWSt*) . **Delegates will be responsible for settling their own hotel bill on departure!**
- If there is **sufficient demand** there will be an informal evening Buffet for delegates during the evening of **Monday 23rd March**. This would run between about 19:00 and 21:30. Delegates who would like to attend are requested to fill in the details on the Seminar booking form so that we can see what the level of demand for the event is likely to be!
- **The cost for attending all three days of the seminar will be € 550** (or £440 for UK delegates), plus tax. (VAT/MWSt/etc) Delegates who are **Personal Members** of

EABS, or who are employed by a company that is a Corporate Member of the Association, will receive a discount of 15% of the attendance fees.

- The rates for attendance for only a portion of the Seminar will be as follows:

1 single day: € 310 + Tax

2 days: € 440 + Tax

Please take special note the EABS Cancellation Policy on the Booking Form!

- Invoices for attendance at the Seminar will be sent by EABS directly to the delegate by e-mail and payment **must** be received by EABS on or before **Friday 20th March 2009**.

Please Note: Payment of the Invoice by the date mentioned above is **essential**: EABS has to make certain payments to the hotel prior to the start of the Seminar based upon the number of delegates that are expected to attend. Consequently any outstanding Invoices after the final day for payment **may result in the cancellation of the booking to which those Invoices relate!**

Since space is limited to about 35 delegates, we would **strongly recommend** that to avoid disappointment you send your booking to us as soon as possible.

Please note: Early registration for the Seminar is particularly important for delegates who will require a Visa to enter the European Community. The issue of a Visa can take several weeks, and often requires the applicant to present a letter of invitation to the seminar, together with their application for a Visa, to the Netherlands Embassy in their country of residence. Delegates who require a letter of invitation should indicate this fact **on the Seminar Registration form** so that we can send one to you.

We look forward to receiving your booking in the very near future.

Attachments: Seminar content survey, and Seminar- and hotel-booking forms.

EABS/Maastricht/Spring 2009

EABS: European Association for Brazing and Soldering

The Spring 2009 Technical Training Seminar

Dates:
24th, 25th & 26th March 2009

Please reserve.....place(s) on the above seminar for day(s) * for the following delegate(s)

**(Please say for how many days the delegates will be attending the event!)*

<u>Title</u>	<u>Given name</u>	<u>Family name</u>
1.....		
2.....		
3.....		

Company:
.....

Mailing Address:.....

Telephone **Telefax**.....

e-mail.....

Do any of the delegates mentioned above require a 'formal letter of invitation' to assist them with an application for a Visa to enter the European Union?

Yes/No*

Please delete **one of these options*

How many of the above delegates would wish to attend an informal evening Buffet on 23rd May if it were to be arranged?

Please state the number here.....

N.B. The Course will start at **09:45 on 24th March**, and finish at about **15:00 on the 26th March**. If you wish to stay for an additional night in the **Novotel Hotel**, and travel from Maastricht on the **27th May**, we can arrange for your stay at the hotel to include the night of **26th May**. To avoid any accommodation problems we ask you to specify the **nights that you want to stay at the hotel**.

Consequently it is **very important** that you also complete the hotel booking form below!

Hotel Reservations Required

Please reserve hotel accommodation at the **Novotel Hotel, Maastricht, NL**, as indicated below:

Name of Delegate: **Nights for which a reservation should be made**

<i>Example:</i>	Monday 23.03.09	Tuesday 24.03.09	Wed. 25.03.09	Thur. 26.03.09
<i>John Smith</i>	Yes	Yes	Yes	No
1.....				
2.....				
3.....				
4.....				

Please note that Delegates to the Seminar are responsible for settling their own hotel bill when they check out.

It is important that the Novotel Hotel is informed of all situations where they are expecting a named individual to check in but where another person arrives as a 'previously unannounced replacement'. It is therefore **very important** to the smooth operation of our hotel reservations package that you advise EABS@btconnect.com of **any changes that your company needs to make to your reservations. This needs to be done by Thursday 19th March at the latest.** In situations where a delegate fails to arrive and claim his room on his expected day of arrival his Company will be Invoiced by Novotel, Maastricht for the room at the full overnight rate for one night.

Once you have completed **both** the Seminar Booking Form, **and** the request for hotel accommodation, please fax them direct to:

The EABS Secretariat at :

++44 1260 27 67 29

Thank you, and we look forward to welcoming you to Maastricht in March

EABS Secretariat: December 2009

Cancellation charges in respect of bookings:

- Cancellation received prior to 1st February.....**no charges will be due to EABS**
- Cancellation received **between 2nd and 16th February 2009: 30% of invoice value will be due to EABS**
- Cancellation received **between 17th and 28th February 2009: 60% of invoice value will be due to EABS**
- Cancellation received **after 28th February 2009 : 100% of the invoice value will be due to EABS**