



# The Macrogram

Hartford Chapter of the ASM International  
Build on our Strengths - Leverage our Diversity - Network to Succeed

## MONTHLY MEETING – TOPIC

February 16, 2010

**Topic: Electron Beam Welding – Process, Applications and Equipment**

**Speaker:** Dr. Guenther Schubert  
Regional Sales Manager  
PTR-Precision Technologies, Inc.

**Directions: La Notte Restaurant** - 17 Thompson Road  
East Windsor CT 06088, Ph: 860-727-7774

**I-91 Exit 44**, turn right at end of exit, Thompson Road is the second left.

**Directions: PTR** 120 Post Road Enfield, CT 06082  
**I-91 Exit 46**, turn right at end of exit, turn right onto Kings St. After 1.5 mile Turn right onto Post Office Rd, take 1<sup>st</sup> left onto Post Rd

### Agenda:

Tour: 4:30 PM

Cocktails: 5:30-6:30 PM

Dinner: 6:30-7:30 PM

Program: 7:30-8:30 PM

### Program Charges:

Regular Members - \$28.00

Retirees - \$15.00

Full Time Students - \$15.00

**Dinner Entrees:** Please Specify

- Veal Parmigiana
- Chicken Marsala
- Stuffed Sole
- Fussili Napolitano (pasta dish)

**Technical Chairperson:** John Rugh

**Reservations:** Call Linda at Service Steel Aerospace  
(860) 583-3336 by noon February 11th. **Thanks!**

### PTR-Precision Technologies Tour – 4:30 PM

**Pre-registration for tour is required. Please give**

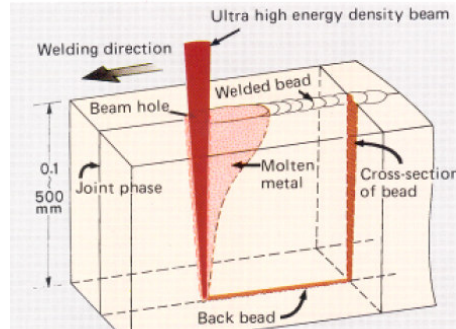
- Your name**
- Your company or institutional affiliation**
- Are you a foreign national or US citizen**

PTR and its predecessors, Leybold and Hamilton Standard, have been manufacturing electron beam welding systems in Connecticut for 50 years. Its unique process attributes are a few of the reasons that electron beam welding continues to be the process of choice for many critical welding applications in the aerospace, automotive, oil & gas, power generation and many other industries.. On the tour of the Enfield (120 Post Road), CT plant you will see new systems being manufactured, older systems being retrofitted and witness the process in action in PTR's contract welding shop

PTR-Precision Technologies, combined with its two German sister divisions, PTR Präzisionstechnik and Steigerwald Strahltechnik, is the largest Electron Beam Welding Systems manufacturer in the world.

### Abstract:

The electron beam (eb) welding process is used in a variety of industries. Applications range from fully automated, high productivity and low cost automotive in-



line part production to single part batch processes in the high-cost aircraft engine industry at the other end of the industrial spectrum. For those

manufacturers and many others

not specifically mentioned here, welding processes have to meet the increasingly stringent standards that have become more prevalent over the years. In this regard, the eb welding process is well-positioned to provide industries with the highest quality welds and machine designs that have proven to be adaptable to specific welding tasks and production environments.

This presentation provides a technical overview of the unique features of the electron beam welding process including several applications. Weld cross sections of production parts will be shown to demonstrate obtainable weld shapes. Solutions to specific weld challenges using the EB process will be shown. In addition, an overview of today's welding equipment and a brief look at future developments will be presented.

### Bio:

Dr. Guenther Schubert is employed as a Regional Sales Manager for PTR-Precision Technologies, Inc. He is a 1977 graduate of Technical University of Berlin in Germany, and received his Ph.D. from the same institution after being guest researcher with Max-Planck-Institute.

Dr. Schubert worked as a consultant in the field of materials technologies before joining Leybold's Hard Coating Division as Product Manager. Later he moved to the Electron Beam and Laser Division of Leybold; Then, when PTR acquired this business in 1989, he joined PTR in the U.S. Besides his professional career as area sales manager, he was involved with weld process and machine development; he has authored, coauthored and presented about 40 technical publications and holds 4 patents. Since 1995 he is teaching technical lessons in German for the Eurotech program at the University of Connecticut