

Extrusion Coating goes to Europe

Jeffrey J. Siegel

In mid-June, the Inter-Continental Hotel in Dusseldorf, Germany, was truly an international host of nations. Chosen by the Extrusion Coating Committee of TAPPI's Polymers, Laminations and Coatings Division, it was the site of TAPPI's first European Extrusion Coating Short Course.

"The Extrusion Coating Committee is very pleased with the success of the European course," said session developer Thomas Bezigian. "We were looking for a way to make our knowledge and experience available to a larger audience."

Bezigian, principal consultant with PLC Technologies and a former chairman of the Extrusion Coating Committee, explained that the seminar was intended to be an overview of the extrusion coating industry; included were equipment design considerations, troubleshooting and performance guidelines, polymer rheology, and chemical and mechanical treatment methods.

Springboard for growth

Modeled after the 1990 Extrusion Coating Short Course held at Hilton Head, S.C., the European seminar evolved, taking on new topics and adding speakers to the program. Two of the three original instructors from the Hilton Head short course returned.

Dragan Djordjevic, research and development manager of Er-We-Pa Maschinenfabrik, and Richard T. E. Sylvester, principal engineer of Quantum Chemical Corporation, repeated their superb presentations given at the 1990 short course, speaking on converting machinery and troubleshooting the extrusion coating process respectively. Nicholas "Nick" Schott, a professor of plastics engineering at the University of Lowell in Lowell, Mass., spoke about polymer rheology, an area of the 1990 program that had been developed by Ray Edwards of Texas Eastmann Company.

While Djordjevic's talk focused primarily on theory, it was complemented by a plant tour of the Er-We-Pa manufacturing facility outside of Dusseldorf. Attendees were treated to a glimpse of a large, modern machine shop as well as to some insight into the intricacies of the machine design process.

Sylvester presented a clear and highly practical guide to troubleshooting the extrusion coating process. Draw-

ing on his work from the 1990 short course as well as the chapters he wrote for the new TAPPI PRESS manual, *Extrusion Coating of Paper and Paperboard: Equipment and Materials*, Sylvester provided abundant information on the care and operation of an extrusion line.

Schott's discussion of the rheologic properties of polymers was a resin-by-resin summary of some of the more important theories behind what actually happens in an extruder. Processing considerations were discussed and sample calculations were provided relating to viscosity and flow characteristics.

William Karszes, president of DVG Plastics, spoke on the solidification process in extrusion coating. Drawing from his many years of practical experience, Karszes discussed the many factors which enter into the solidification process. His talk took the form of a troubleshooting guide involving practical tips as well as the theory behind solidification. While a great deal of work goes into designing equipment and selecting resins, in a fraction of a second this can be negated if proper care is not taken in setting coater station parameters.

Three papers relating to processing and performance of particular polymers were delivered. David Weeraratne, development engineer with Neste Oy Chemicals in Porvoo SF, Finland, spoke on extrusion coating of polypropylene. Yves Trouilhet, research associate at E.I. du Pont de Nemours in Le Grand Saconnex, Switzerland, delivered a talk on properties and processing considerations for polyester resins. Erkki Laiho, Extrusion Coating Skill Center manager for Neste Oy Chemicals, spoke about developments in ethylene butyl acrylate (EBA) copolymers and filled low density polyethylene (LDPE) for extrusion coating.

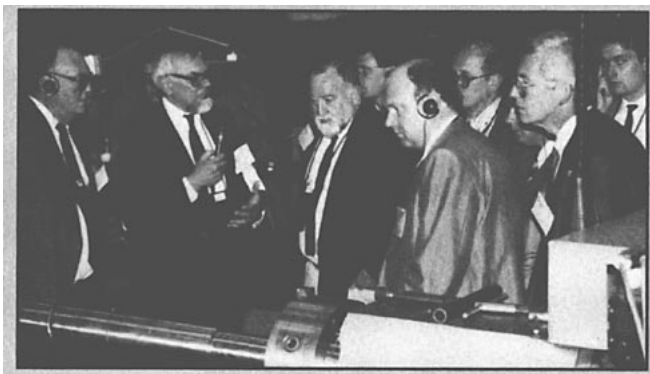
Thomas Bezigian; Antti Savolainen of Tampere University of Technology, Tampere, Finland; Jeffrey Siegel of Mica Corporation in Stratford, Conn.; and Jill Matthews of Sherman Treaters of Mississauga, Ont. covered various topics relating to chemical priming and flame and corona treatment methods.

Global issues foster camaraderie

Sixty-five attendees represented 15 countries including such far-away places as Australia, the United States, and Canada. The majority of attendees were from the Scandinavian countries and western Europe. Most of the attendees work for supplier companies; 25% were from printing or packaging converters.

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Dragan Djordjevic, the principal speaker at the conference (with microphone), explains the steps involved in machining an extrusion screw.



Karl H. Rechmann, president of Er-We-Pa Maschinenfabrik GmbH, (third from left) addresses the Dusseldorf Extrusion Coating Seminar attendees.



Bill McClintock (in center, with microphone) of Er-We-Pa explains the company's feed-block technology, the heart of co-extrusion, to a group of conference attendees.



Conference Chairman **Thomas Bezigian** discusses the effects of corona treating on polymer films.



Benefits of the conference which attendees noted included the free exchange of technical information, building of personal relationships, and frank discussion of state-of-the-art developments in extrusion coating. For many attendees, this short course was their first exposure to TAPPI, and most were impressed that such an exchange of information could take place in an atmosphere of noncompetition and in such an organized manner. It didn't take long for these newcomers to warm up to the TAPPI camaraderie and openness.

While some variations exist in extrusion coating practices in different parts of the world, it is quite clear that the issues the industry faces are global in nature. Many of those who attended find it difficult to attend meetings outside of continental Europe, so a program close to home was a welcome event. The fact that there was such cultural variety added to the feeling of a global community.

Sparking international interest

When asked how the course could be improved, attendees requested more product-specific information on a variety of topics and an increased emphasis on the troubleshooting portion of the program. The prevailing opinion was that Europeans should be more involved in the planning and implementation of international programs.

To that end, several people attended an impromptu luncheon meeting, chaired by Bezigian, to look into devel-

oping a TAPPI Extrusion Coating Committee in Europe. An ad hoc committee was established to gather information about TAPPI and the prospects for membership in Europe. Alfred Yazgi of ACT Consulting and Technology will be the coordinator of this effort.

"We will do everything we can to help them in their efforts," said Bezigian. "It promises to be even larger than our committee in the United States."

With help from the Extrusion Coating Committee and TAPPI staff, this European committee shows great potential to be a global success. Ninety-four percent of the 41 respondents who completed a questionnaire after the short course said they would recommend the course to their colleagues.

Short course in Atlanta

The next major undertaking of the Extrusion Coating Committee will be its Basic Extrusion Coating for Operators short course to be held in Atlanta, Ga., Oct. 22-24, 1991. This course will be based on the training manual *Extrusion Coating of Paper and Paperboard: Equipment and Materials*, published by TAPPI PRESS in 1990, and will feature 11 instructors, each covering one or more chapters relating to their own area of expertise. For information about the manual or the upcoming short course, turn to p. 268. □