ACerS Board of Trustees Meets in Columbus

The Board of Trustees of the American Ceramic Society met in Columbus, OH, December 8–9. Numerous items were discussed.

President William H. Rhodes reported to the Board the biggest change during 1988 has been the change in the Society publications procedure, with the appointment of John B. Wachtman as Society Publicatons Editor and Arthur H. Heuer and Robert E. Newnham as *Journal* Editors.

The competitive programming environment is also an important issue to the Society. One of the proposals that evolved from the Executive Committee's Summer Retreat was to create the position of Society Programming Editor that will parallel the Society Publications Editor.

Executive Director Paul Holbrook reported the Society is in good financial condition. Membership as of September 30 exceeded 13 000 members, with approximately 20% of that number in international memberships. He also reported that Society facilities could be at capacity by 1990 and additional space may be required.

Steve Hellem, ACerS Washington representative, gave a brief report on the activities of E. Bruce Harrison Co. on behalf of the Society. He discussed developing a system for identifying issues of concern to the membership and organization, including a review of the present ACerS committees and staff structure and where and when to best utilize the Society's time and resources.

Associate Executive Director Tom Hendricks made a presentation on Annual Meeting and Congress site selection criteria. The Board endorsed a plan presented for future Annual Meetings with meetings being held in Cincinnati in 1991, 1993, 1995, 1997, and 1998. The Society will celebrate the 100th anniversary in 1998. Future plans of these meetings (along with criteria for choosing a city) will appear in a future issue of the *Bulletin*.

At a meeting held at Austceram '88, an International Federation of Ceramics with representatives from each continent was proposed. The Board endorsed the establishment of the Federation with a structure similar to that of the International Commission on Glass. The ACerS will serve as the organizational secretariat and representative from North America.

Joseph A. Pask has asked the ACerS to consider sponsorship of a Pacific Rim Meeting. The Programs and Meetings Committee has been discussing the feasibility of such a meeting with the objective being to coordinate through a technical meeting the research and scientific activity that is going on in the Pacific Rim countries. The Board endorsed the concept of a Pacific Rim Meeting and will investigate making this the first meeting under the umbrella of the International Federation of Ceramics, to be held in Hawaii in 1993.

Treasurer Robert J. Eagan presented the proposed budget to the Board which was approved. Information regarding the budget is included in this month's "President's Letter."

The Board approved numerous awards and elevated 29 members to the grade of Fellow. Three members were elevated to the grade of Distinguished Life Member, and two were made Honorary Members. Full details of all the award winners will be included in the March issue of *Ceramic Bulletin*. The Board approved the 1989 Section Counselors and accepted the petition to form a Student Branch at the University of Connecticut.

A report on the activities and thoughts of the Long Range Planning Committee was presented and discussed in detail by the Board. Comments regarding the governance and structure of the Board and the Executive Committee, representation of the various groups within the Society, and concerns over how we should address the areas of programming were made. The Long Range Planning Committee will meet again soon and will submit a more complete report in the future.

The Board also approved the proposed visit to Scandinavia in June 1989 and to Russia in 1990 under the auspices and by the acceptance of the Soviet Academy of Science.

Report from the P&M Committee

The ACerS Programs and Meetings Committee, chaired by Relva C. Buchanan, met January 4–6 in Columbus, OH. Program chairs and incoming program chairs for the 91st Annual Meeting, and the Ceramic Science and Technology Congress were present.

The major project of the meeting was for the 91st Annual Meeting, which will be held in Indianapolis, IN, April 23–27. This program will feature more than 1340 technical papers in some 164 sessions. The program is highlighted with ten symposiums, four joint sessions, and 200 poster papers.

The call for papers for the Ceramic Science and Technology Congress was coordinated and a highlighted version is inserted with this issue of *Ceramic Bulletin*. A complete call will be mailed in March and also will appear with the March *Bulletin*.

In addition to the normal discussion on policy and procedure, the committee revised the abstract form to fit a standard business envelope.

The committee solicits input from anyone who wishes to suggest a topic or who would be interested in being a champion for a topical meeting. Contact Relva C. Buchanan, University of Illinois, Dept. of Materials Science & Engineering, 105 S. Goodwin Ave., Urbana, IL 61801 (217/333-0614); or Bill Douglas, American Ceramic Society, Inc., 757 Brooksedge Plaza Dr., Westerville, OH 43081-6136 (614/890-4700).

ACerS Election Official

American Ceramic Society officers for 1989–90, as listed on page 1623 of the October 1988 issue of *Ceramic Bulletin*, have been duly elected and will begin their terms of office at the Society's 91st Annual Meeting in Indianapolis, IN.

In the contested office: Uma Chowdhry of E. I. du Pont de Nemours & Co., Inc., will serve as secretary of the Basic Science Division.

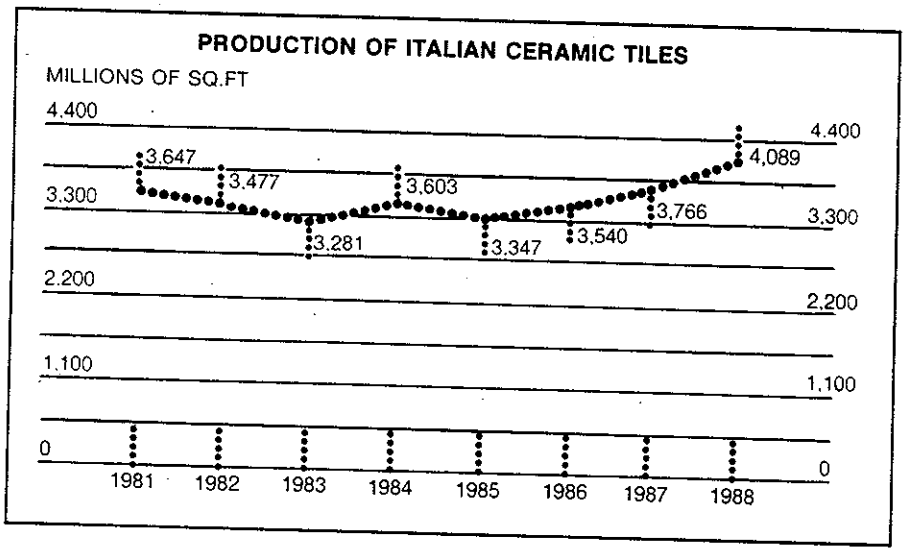
In the same election, members of the Society's Refractories Division voted in favor of changing the Division name to "Refractory Ceramics Division."

Iowa State Announces Officers

The Iowa State University ACerS Student Branch has elected the following officers for 1988–89: president, David Mullins; vice president, Eric Nevalainen; secretary, Tim Herold; and treasurer, Jeff Watkins. Engineers Joint Council representatives are Patrick Anderson, Mitch Meyer, and John Michiels (alternate). NICE representative is Brian Benson;

ITALY

Italian Ceramic Tile Production on the Increase



According to the latest available statistics, with an overall output of 4,100 million sq. ft. in 1988, Italy accounted for 54% of EEC and 30% of world tile output.
Italian tiles are sold all over the world. In 1988 exports of 2,109 million sq. ft. brought in $1.7 billion.
Italy's tile exports are two and a half times Germany's tile output, three times U.S. tile production, five times France's tile production, ten times U.K.'s tile production.
In 1988 Italian tile exports have shown a 18.8% increase in quantity and 18.3% increase in value.
Exports were higher to developed countries and countries with larger population. Exports to Germany were 429 mil. sq. ft., followed by France (388 mil. sq. ft.) and the U.S. (255 mil. sq. ft.).
Then Austria (104 mil. sq. ft.), Australia (102 mil. sq. ft.), Belgium and Luxemburg (77 mil. sq. ft.), Greece (73 mil. sq. ft.), and Canada (67 mil. sq. ft.).
In the same period tile production increased by 8.6% in comparison with 1987.
The growth in the Italian market was due to good economic conditions in 1988 which had a positive effect on the construction industry, to new capital investments in the tile industry ($260 million), and to an increase in efficiency (the total number of tile workers has stabilized at 30.000). The number of manufacturing firms in the tile industry has remained stable at 350. For 1989 expectations are good and industry analysts forecast an increase similar to 1988.
New technological developments in Italy are closely followed by foreign competitors but the Italian tile industry is still very much ahead in production technology and innovation, not to speak of creative design and marketing skills.
(CER, May 1989)

POLAND

Cerprojekt: Present-Day and Future Tasks

The Polish company Cerprojekt is the leading designer of brickmaking plants and equipment in Poland. The introduction of a new de-airing auger press with 500/600 mm diameter seems to be accompanied by same problems. The prototype press was installed at the Plecewice plant but it had to be returned to the supplier because of some "minor" defects. The second press should be put into operation at the Przysieka Polska plant within the current year. These presses are necessary for the manufacture of modern hollow bricks with enhanced strength and heat-insulating properties. The designing costs of the prototype press were 84 million PZL.
Considerable attention is paid to the improvement of working conditions at brickmaking plants (noise, dust). Cerprojekt succeeded in making a prototype of an ash-removing unit for kiln cars 4.6 m wide. The unit is operating at the Zeslawice plant.

Polish Brickmaking Industry in 1988

Compared to 1987, the production volume of bricks increased by 300 million nominal bricks, which corresponds to the 10% increase of the whole Polish brickmaking industry. Six brickmaking plants are being built and a few factories are being upgraded and about 300 million bricks are expected to be produced annually after the plants have been put on stream.
It was for the first time after many years that the output of the brickmaking industry increased (about 80,000 new family houses could be built just from the increment in the production). The 1988 output was valued at 85 x 10^9 PZL.
The number of employees dropped by 3.2% in 1988 to 28,137 persons. The mean salary was 47,095 PZL per month and it increased by 76.6% with respect to that in 1987. The salary of workers in the manufacture of building ceramics was by about 9,000 PZL smaller than that in other branches.

THE NETHERLANDS

Sphinx Increases Dividend Following Sharp Rise in Profits

The results of N.V. Koninklijke Sphinx again developed favourably in the 1988/89 financial year. Gross turnover showed a rise of NLG 16.2 million or almost 7% to NLG 256 million. The greater part of this increase was in the ceramics activities, while the consolidation of the new Sphinx subsidiary Wisa B.V. accounted for the rest of the increase. In the year ending 31 March 1989, net turnover rose by 6.4% to NLG 238 million. The share of turnover accounted for by sales outside the Netherlands was 50%, of which 6% was achieved in countries outside the European Community.
The economic prospects for the current year are considered to be favourable. Barring unforeseen circumstances, turnover and net result are accordingly expected to be higher than in the 1988/89 financial year. The longer-term prospects are also seen as encouraging.
(N.V. Koninklijke Sphinx, P.O. Box 1050, 6201 BB Maastricht)

Foundation of International Ceramic Federation

Representatives of ten countries signed the "Objectives and Constitution of the International Ceramic Federation", on Thursday, June 22nd, during the First Meeting of the European Ceramic Society (ECerS) in the Maastricht Exhibition & Congress Centre.
The purposes of the Federation are to promote and stimulate understanding and cooperation between persons and Societies from different countries for the exchange of information on the art, science and technology of ceramics.
The activities of the International Ceramic Federation will be: serving as an international centre for the exchange of information; promoting an understanding of ceramic materials, (...), among the user community; maintaining a world calendar of meetings on ceramics and providing a central clearinghouse for coordination of international meetings on ceramics; preparing and issuing reports and surveys having an international character; and improving and facilitating communication among ceramic societies, including an exchange of a list of officers of national and regional societies.
Prof. R. Metselaar from the Technical University Eindhoven, is chosen to be the chairman of the temporary executive committee, which has been installed for the execution of such business as is necessary until the first council meeting. Other committee members are M. McLaren, H.

Hausner, R. Bowman and P. Holbrook.
A nominating committee has been formed to nominate the officers of the federation which will be installed during the council meeting in the spring 1990. This committee chaired by H. Hausner consists of 7 representatives distributed over the continents.
The American Ceramic Society will act as the secretariat in the initial stage and will take financial responsibility for the federation, which is a voluntary, non-governmental, not for profit association of organizations each representing the ceramic community of the member country.

U.K.

U.K. Ceramic Tiles Market Report

Demand for ceramic tiles in the U.K. is growing as tiles are becoming increasingly popular with British consumers. However, Britain still lags behind other European countries in terms of the use of ceramic tiles, and this new report from MSI says than further substantial growth in the market can be expected.
Demand for ceramic tiles in the contract sector is also growing, although this growth has been mixed. At one end of the scale, demand from the public sector has been restricted while other commercial users such as retailers and catering have shown increasing demand.
In 1988, MSI estimate that the market for ceramic tiles expanded by some 17% in value terms: growth in the retail sector is stronger than in the contract sector, the report says.
The report examines the growth of the market and examines the reasons for its development.
The report than segments the market:
- Retail vs Contract
- Glazed vs Unglazed
- Wall vs Floor
- Volume vs Value

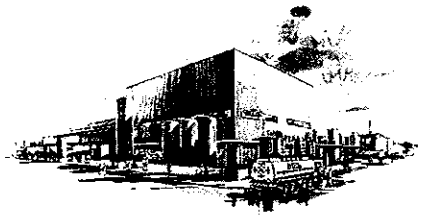
The report says that within the home, there is a current trend for people to tile from floor to ceiling rather than the more traditional "half tile" wall decor, and at the same time, demand for the refurbishment of bathrooms is growing as demand in the kitchen declines.
Indeed, more commercial users are also now incorporating ceramic tiles into their buildings. While the retail tile market accounted for over half of all sales, the retail market grew at a faster rate than the smaller contract market.
Other factors analysed by the report include:
- Market Size 1983-1988
- Market Growth, by Sector
- Trends in U.K. Production
- Import & Export Trends
- Price Analysis
- Market for Terrazzo Tiles
- Major Companies Profiled
- Retail Distribution
- Outlook & Implications of 1992.

The report provides a full written commentary explaining the reasons for the latest market developments. This analysis supports the useful tables which are crucial to any market analysis.
The report will be of value to anyone involved in the market, helping you answer such key questions as:
- Where is the growth coming from
- Which are the most valuable markets
- Who are the major competitors
- How is the market going to develop

The report: MSI Databrief: Ceramic Tiles: U.K., published in April 1989, contains 35 pages and 30 tables, and is available for purchase at the price of £110.00
The report is available from:
Marketing Strategies for Industry (UK) Ltd., 32 Mill Green Road, Mitcham, Surrey CR4 4HY, U.K.

Go Ahead for New Chemical Plant

The biggest investment in Magnesium Elektron's history has recently been authorised by British Alcan Aluminium. A new chemical plant is to be built to manufacture zirconium oxides and zirconium carbonate. Construction started in August 1988 with completion timed for May 1990.
The new development is being undertaken to extend MEL's chemical manufacturing capacity with the specific aim of achieving increased sales through higher product quality and consistency standards.
"Product quality and consistency standards must be enhanced to satisfy the latest market requirements", said Project Manager David Newton. "Reliable service coupled with product quality and reproducibility is of paramount importance to our customers, most of whom use MEL products for high technology applications".
The new plant will basically use MEL's current chemical process route but with a major injection of technical sophistication. A high degree of automation using computer control is to be introduced to achieve better process control and more cost effective operation.



An idea for the future new plant.

As well as quality, product cost is of major concern and the new plant will make the production of zirconium chemicals more efficient in terms of raw materials and energy. The layout of the plant will ensure great benefits in terms of equipment maintenance and health and safety.

U.S.A.

Reports from Technical Insights Inc.

Several Reports have been recently issued by Technical Insights Inc., U.S.A. on matters related to high tech ceramics. These include:
— *Intelligent Sensors: The Merging of Electronics and Sensing* (150 pp, 1988, $ 1,000)
— *Chemically Bonded Ceramics: High-Performance, Low-Cost Materials* (120 pp, 1988, $ 950)
— *Ceramic Membranes: New Horizon in Membrane Separation* (100 pp, 1988, $ 960)
— *High-Temperature Synthesis of New Materials: Exothermic Reactions Lead to Novel Ceramics Composites* (100 pp, 1988, $ 955)
— *Ceramics from Organometallics: Novel, Rapid, Low Temperature Process* (100 pp, 1988, $ 955)
— *Fiber-Reinforced Glass and Glass Ceramic Composites: New Class of Materials for Product and Design* (100 pp, 1988, $ 955)

Orders to be placed with:
Technical Insights, Inc., Dept. JJ1389, P.O. Box 1304, Fort Lee, NJ 07024, U.S.A.

Bright Future Forecast for Advanced Aircraft Engine Materials

The Gorham Advanced Materials Institute study, *High Performance Materials Demand in Aircraft Gas Turbine Engines Through the Year 2000*, is scheduled for publication in March 1989. The study encompasses all the materials of the aircraft turbine engine, not just the high temperature superalloys. It appears to be the general industry opinion that the turbine engine is in a maturing period and future changes may be less dramatic than those of the past. There are indications that the reduction in the material buy: fly ratio has leveled off and the use of powder metal and precision investment cast parts has stabilized. According to Dr. Andrew C. Nyce, President of Gorham Advanced Materials Institute, "The study so far has revealed that the 1983 landmark Gorham report on the use of superalloys in aircraft gas turbine engines was remarkably accurate in predicting the engine manufacturers market share of engine sales, as well as increased use of engine disks produced from powder and single grain cast airfoils, the dramatic shift from wrought products to large investment castings, the incorporation of the engine drum rotor design, the reduction in material buy: fly ratio, and the volume of superalloys required for aircraft turbine engines through 1993".
The study indicated that both steel and aluminum remain as important materials for advanced engines. That is not to say, however, that aircraft gas turbine engines have reached a material and design plateau. According to Eli Bradley, Program Manager of the Advanced Engine Materials study, "Conventional engine designs will utilize hollow fan blades, variable compressor vanes, overall fewer airfoils, as well as drum rotors. Increased emphasis has been and will continue to be placed on the area of design refinements, material cleanliness, and thermal barrier coatings. The most significant engine design change in the next ten years will be the development of the propfan. The important new materials of the future include composites and intermetallics". The study also presents a material mix for an average