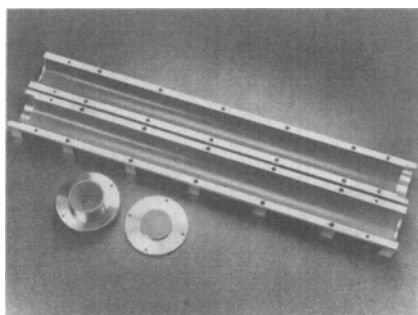


## Materials/Products

Plasmadize, a family of coatings composed of layers of ultra-fine ceramic particles infused with selected polymers to enhance the structural integrity of the coating and to impart permanent lubricity, is available from **General Magnaplate Corp.** Recommended for use on even very large OEM parts, as well as for repair and/or restoration of old parts, Plasmadize can be *applied to virtually any type of metal, including aluminum.* The coatings



General Magnaplate Corp.

provide wear resistance, corrosion resistance (salt spray resistance ranges from 300 to 1,000 hours), with normal operating temperatures from -200 to +500 °F. For further information, contact General Magnaplate Corp., 1331 Route 1, Linden, NJ 07036; tel: 908/862-6200; fax: 908/862-6110.

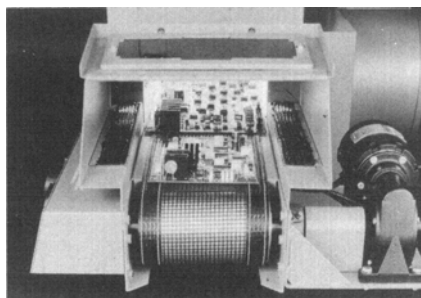
**Cotronics** introduces Duralco Ultra Temp High Thermally Conductive Adhesives, which combine Cotronics' unique high



Cotronics

temperature resins, hardeners, and special high thermally conductive fillers to provide the *heat transfer and thermal dissipation required for many electronic, electrical, instrumentation, heating, and cooling applications.* These adhesives have survived over 1 year at 400 °F for type 128 and over 6 months at 670 °F for type 133. For further information, contact Beth Adams, Cotronics Corp., 3379 Shore Parkway, Brooklyn, NY 11235; tel: 718/646-7996; fax: 718/646-3028.

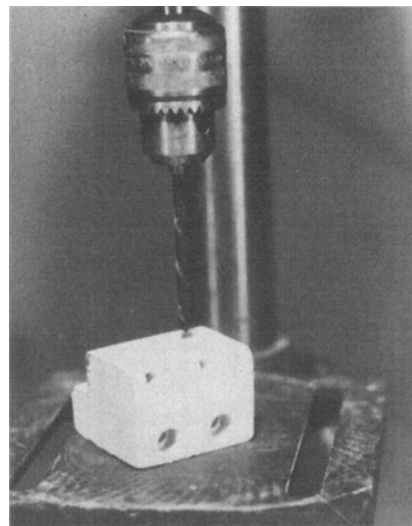
**Dymax Corp.** announces Darc Cure Conformal Coatings, a new UV cure conformal coating technology formulated to eliminate shadow cure problems, while providing optimum printed circuit board assembly protection. The coatings are *single component, 100% solvent and ODC-free, and UV curable.* They are designed for fast room-temperature cure when exposed to 320-380 nanometer UV light. Re-



Dymax Corp.

gions hidden from UV exposure cure throughout the entire coating via a post-cure reaction with air. For further information, contact Dymax Corporation, 51 Greenwoods Rd., Torrington, CT 06790; tel: 203/482-1010; fax: 203/496-0608.

A machinable alumina silicate (Cotronics 902 Ceramic) that *can be used up to 2100 °F* is now available from **Cotronics Corporation.** The material can be easily machined with conventional tooling and resists most acids, alkalis, and furnace atmospheres. It is used for such applications as electrical insulators, furnace components, brazing and welding fixtures,



Cotronics Corporation

among others, and is available in rod and plate stock. For further information, contact Beth Adams, Cotronics Corp., 3379 Shore Parkway, Brooklyn, NY 11235; tel: 718/646-7996; fax: 718/646-3028.

A new, smaller expanded polymeric microsphere (M6033AE Dualite) is now available from **Pierce & Stevens Corp.** This microsphere, of 25-micron size, is ideal for automotive, commercial, and industrial paints and coatings. The spheres are *lighter and less expensive than conventional raw materials*, thereby lowering production and transportation costs. In addition, the microspheres displace organic solvent content while increasing volume solids, so manufacturers may more easily meet volatile organic compound compliance. For further information, contact Nicholas Vaylen, Pierce & Stevens Corp., PO Box 1092, Buffalo, NY 14240; tel: 716/856-4910; fax: 716/856-0942.

**Colder Products Company** introduces its new HFC-35 line of quick disconnect couplings *for extreme environments.* These couplings are made from polysulfone resin for superior resistance to heat and cold (-40 to +138 °C), pressure, and chemicals (bleach). They have a continuous service

rating of 7 bar at 138 °C. For further information, contact Jim Pisula, Colder Products Co., 1001 Westgate Drive, St. Paul, MN 55114; tel: 612/645-0091.

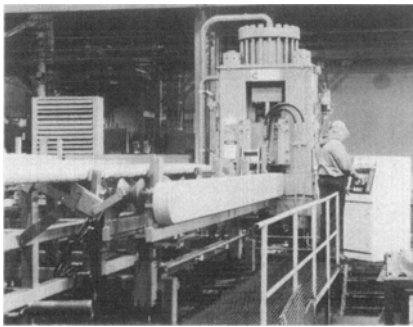
Bytac Surface Protector is a pressure sensitive Teflon sheet designed to provide a

better work surface on your laboratory bench and is **temperature resistant to 200 or 400 °F**. Available from **Norton Performance Plastics**, it is ultra-pure, eliminates contamination, and is inert to chemical attack. Typical applications include titrations and as shelf liners for acid cabinets. For further information, contact

Jackie Swartzberg, Norton Performance Plastics Corporation, 150 Dey Rd., Wayne, NJ 07470-4699; tel: 201/696-4700; fax: 201/696-4056.

## Processing/Equipment

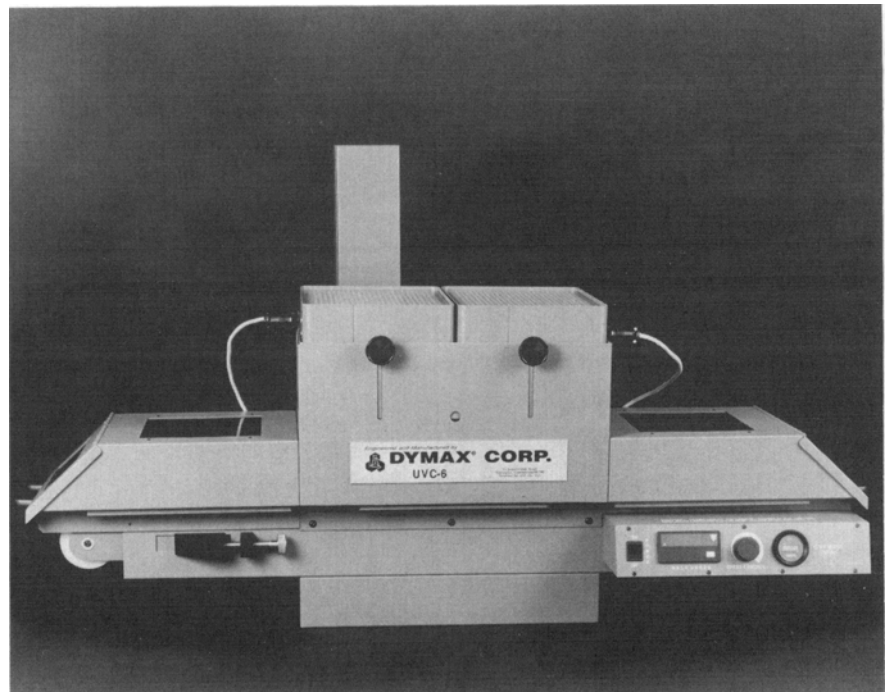
Erie Press Systems has introduced a new line of hydraulic **shears for high-precision applications**. The Accu-Shear line consists of cold shears from 150-ton to 900-ton capacity, allowing for the shearing of round bar up to 6.75 in. in diameter. The line has been designed specifically to produce the precision billets required for "near net shape forging" while decreasing scrap loss through precise weight control



Erie Press Systems

(±0.4). Adjustments allow for massive clamping forces and changes to shearing angle improve the quality of cut to meet critical industry standards for shear face quality and angle of cut. For further information, contact Accu-Shear Marketing, Erie Press Systems; tel: 814/455-3941, ext. 674.

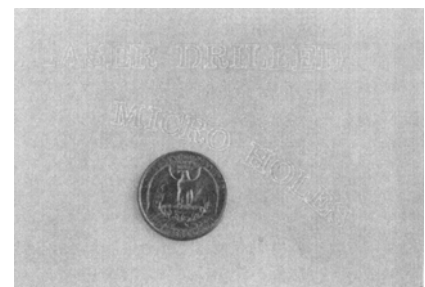
**Dymax Corporation** announces a line of **UV curing conveyor systems** for processing ultraviolet curable coatings, adhesives, masks, sealants, potting, tacking, and laminating materials. The systems can accommodate 17 different UV cure lamp configurations and can easily be expanded because of their multi-lamp capability. Lamps can also be easily interchanged to accommodate each application. For further information, contact Dymax Corporation, 51 Greenwood Rd., Torrington, CT, 06790; tel: 203/482-1010; fax: 203/496-0608.



Dymax Corporation

The Manufacturing Manager is a **fully integrated, user friendly computer software** package from **Data Technical Research** and is designed for plastics processors such as injection molders, extruders, compounders, and thermoformers. The software runs on a variety of platforms, including MS-DOS, Novell LAN networks, UNIX, and Digital VAX computers, with additional platforms planned in the future. The program provides bill of materials, production scheduling, labor and material planning, product costing, and more. For further information, contact Data Technical Research, 2960 Hartley Rd., Jacksonville, FL 32257; tel: 800/822-4387 or 904/292-4387; fax: 904/292-4807.

A high-speed noncontact microhole drilling laser system that **produces clean,**

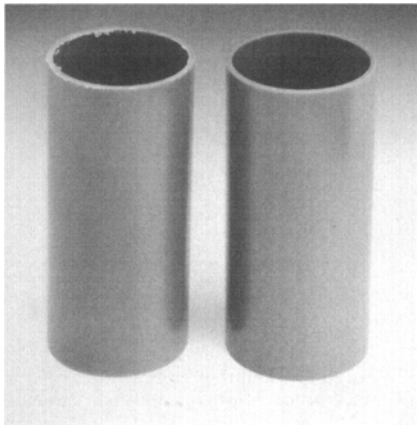


Industrial Laser Source

**burr-free holes down to 30 microns within 200 microseconds** on a wide range of substrates has been introduced by the **Industrial Laser Source**. The ILS Micro Hole Drilling System features a totally self-contained CO<sub>2</sub> laser, which produces sterile, burr-free holes in flat, tubular, and

cylindrical substrates and can be configured for producing up to four holes simultaneously. The system is maintenance free, produces no scrap, and can drill holes smaller than 0.010 in. For further information, contact Colin Snook, the Industrial Laser Source, Inc., 1C Spaceway Lane, Hopedale, MA 01747; tel: 508/478-0055; fax: 508/478-0108.

**Teel Plastics Co.** has developed cost-effective, high-quality cutting capabilities to reduce high scrap rates in part assembly, to minimize recutting of tubing, and to avoid having to choose an alternative material because the more desirable resin



Teel Plastics Co.

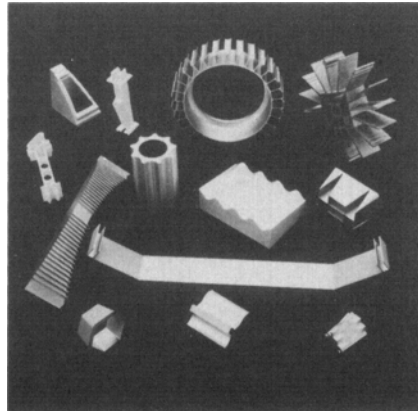
cannot be cut per specification. Teel can provide *lathe-quality burr-free square cuts* in wall thicknesses for 0.016 to 0.500 in. and diameters to 5.5 in. Difficult materials such as polypropylene, polystyrene, ABS, and polycarbonate can also be cut to quality requirements. For further information, contact Teel Plastics Co., 426 Hitchcock St., PO Box 455, Baraboo, WI 53913; tel: 800/322-8335 or 608/355-3080; fax: 608/355-3088.

One of the most challenging strategies with an electrical discharge machining

## Measurement/Testing/Evaluation

A new brochure that details comprehensive application, operational, and dimensional specifications for a broad line of *environmental test chambers* is now available from **Blue M. Electric**. More than eighty models designed to deliver the

(EDM) system is the die-sinking of a spherical or helical mold cavity. The complexity of the orbiting procedures involved along with the dynamics of distorted electrode wear made this difficult to do. With the introduction of Equimode to the Agietron die-sinking systems from **Agie**, operators can now accomplish *intricate moves in all three dimensions*. Equimode automatically calculates the or-



Agie

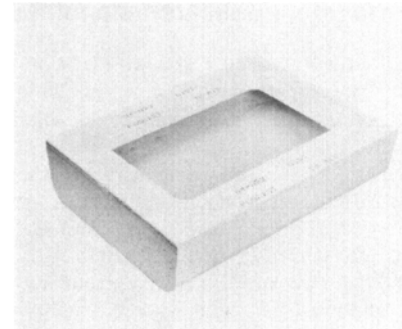
bit necessary to achieve the desired cavity, given the cavity specified from a CAD program, as well as programs all circular, helical, and spherical moves. It also calculates the optimal path to achieve the best cavity. Agie has also introduced Agiepilot, a control system that makes the necessary adjustments so that the wire cuts without having to slow down in the curves and corners. For further information, contact Lloyd Dunlap at 708/773-3330.

The Standard for Exchange Of Product Model Data (STEP) is an international standard for electronically representing product geometry, topology, material specification, tolerances, features, surface finishes, manufacturing process data, and other information. **Concurrent Technologies Corporation**, in association with the IGES/PDES Organization, is developing a

exact temperature, humidity, cycling and thermal shock requirements sought by test engineers to meet today's quality requirements are described, as well as information on Harris Industrial freezers and refrigerators used in testing and process-

*STEP-compliant Casting Application Protocol*. It will identify the product data attributed to the casting process, then define the format required to represent cast parts. Engineers will be able to represent casting data in one format and electronically share it between dissimilar computer systems. They will also be able to generate a 3D solid model of the casting and use it for part design, cast part process design, cost estimating, production scheduling, and billing. For further information, contact Concurrent Technologies Corporation, 1450 Scalp Ave., Johnstown, PA 15904; 800/282-4392.

**Foseco** has introduced the Turbostop turbulence suppresser for *improving steel cleanliness* and reducing processing costs in continuous casting tundishes. The suppresser eliminates splash and turbulence in the pour zone and forces steel flow to become more vertical and surface directed immediately. Steel quality is improved in several ways—by reducing reoxidation,



Foseco

contamination and slag entrainment, by providing more effective tundish powder cover usage, and by reducing refractory erosion. For further information contact Foseco, Inc., 20200 Sheldon Rd., Cleveland, OH 44142, 216/826-4548.

ing applications. In addition, the brochure contains details on a variety of controls, instrumentation, and chamber design characteristics that are incorporated in the chambers to help achieve specific environments needed. For further information,

contact Blue M. Electric, 2218 W. 138th St., Blue Island, IL 60406; tel: 708/385-9000; fax: 708/385-6236.

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Twenty-three of the materials specifications and test methods developed by the **Strategic Highway Research Program** (sponsored by the U.S. Department of Transportation) were recently approved and published as provisional standards of the American Association of State Highway and Transportation Officials. With the release of the AASHTO Provisional Standards, the highway community now has a **uniform set of SHRP-developed test methods and materials specifications**, allowing broad-based participation in precision and bias testing. In addition, it gives manufacturers reliable information about what equipment will be needed to run the tests. For further information, contact

Kathryn Harrington-Hughes, Federal Highway Administration, 400 Seventh St. SW, HTA-13(WZ), Washington DC 20590; tel: 202-366/9210; fax: 202/366-9210.

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**Herman H. Sticht Company** has issued their new 1994 purchasing guide. The guide contains 96 pages with information and specifications on Sticht's **complete line of hand and stationery tachometers, frequency meters, running time meters, insulation testers, stroboscopes, controllers, static eliminators** and more. In addition, the catalog presents information on multimeters and test instruments by leading manufacturers worldwide. For a free copy, contact Herman H. Sticht Co., 57 Front St., Brooklyn, NY 11201; 800/221-3203; fax: 718/852-7915.



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PHONE 718-852-7602 FAX 718-852-7915

Herman H. Sticht Company

## International Research/Manufacturing Centers

The **Army Research Laboratory Materials Directorate** is working with DoD Metals Information Analysis Center (MIAC) at Purdue University to develop a numerical PC-based database on the physical and mechanical properties of austempered ductile iron (ADI). This database consists of a compilation of the data on ADI produced with different chemistries and heat treatments. Over 50 technical documents have been reviewed and analyzed. Currently the database **has over 1200 datasets covering over 40 properties and over 30 independent variables**. For further information, contact MIAC/CIN-

DAS, Purdue University, 2595 Yeager Road, West Lafayette, IN 47906; tel: 800-2-CINDAS, 317/494-9393; fax: 317/496-1175.

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Previous research at **Ames Laboratory** has resulted in the development of **a photonic crystal with a unique structure**: a series of rods arranged in alternating layers, with each layer running perpendicular to the previous layer and the rods in every layer positioned halfway between the rods two layers away. This structure is obtained by etching silicon wafers with long, thin

rods and then carefully stacking a number of wafers in alternating directions. Currently, such crystals are being developed for electronics applications and work is continuing to develop a crystal with a band gap in the optical range. The latest crystals produced have been made smaller with lower band gaps, down into the far infrared region. For further information, contact Ames laboratory, 201 Spedding Hall, Ames, IA 50011-3020; tel: 515/294-1856.

## University View

The **University of Delaware Center for Composite Materials** is playing a major role in screening candidate materials for Boeing's High-Speed Civil Transport program. The work at CCM focuses on investigating **the role of microcracking** in two candidate materials—a carbon-fiber-reinforced polyimide from DuPont and a carbon-fiber-reinforced bismaleimide from BASF. Acoustic emission, ultrasonic polar backscatter, and optical microscopy have been investigated to detect crack initiation and measure crack density evolution under static loading. Acoustic emission has proven successful as an on-line method of determining the onset of cracking in the

bismaleimide composite; optical microscopy has been used to measure the crack density on the edge of the specimen as a function of the applied strain; and the ultrasonic polar backscattering technique provides information on the distribution of cracks in the width direction of the specimen. The research is also looking at fatigue testing, thermal aging, and the effects of moisture. For further information, contact the Center for Composite Materials, University of Delaware, Newark, DE 19716-3144; tel: 302/831-8149; fax: 302/831-8525.

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The mold geometry, the location of injection gates and vents, and the application of heat are all-important processing parameters in resin transfer molding (RTM). However, it is often difficult to determine the effect of changes in these variables until an attempt is made to produce an actual part. A new tool under development as a collaborative effort between the **University of Delaware and the Army Research Laboratory** has the potential to make the design of an optimal RTM part significantly more efficient. The joint research involves the development of a **numerical simulation to account for flow and heat transfer in RTM of complex**

**geometries.** For further information, contact the Center for Composite Materials, University of Delaware, Newark, DE

19716-3144; tel: 302/831-8149; fax: 302/831-8525.

## Literature/Data Sources

*Evaluation of Steelmaking Processes, Topical Report*, by R. J. Fruehan is now available (DOE/ID/12847-5, DE94005368). This report is the result of the AISI Direct Steelmaking Program that examined existing and proposed processes for refining the metal produced from the AISI smelter. The work was performed by **Carnegie Mellon University** and sponsored by the U.S. Department of Energy. The report covers the trough processes, posthearth refining, IRSID continuous steelmaking, electric arc furnaces, and energy optimizing furnaces. The **detailed analyses included development status, productivity, yield, refining, scrap, metal feeding, tapping, gas removal and cleaning, and environmental issues.** To order, contact the U.S. Department of Energy, Office of Scientific and Technical Information, PO Box 62, Oak Ridge, Tennessee 37831.

NJ, USA 07054; tel: 201/581-7653; fax: 201/581-7717.

*Synthetic Diamond: Emerging CVD Science and Technology* (**Wiley**, \$89.95, cloth), edited by K. Spear and J. Dismukes, **explores the quantum leap in technological capability and industrial and commercial potential made possible by chemical vapor deposition (CVD).** The editors trace the origins and emergence of the process and review the current scientific and technological status of the new CVD techniques. Included is data on properties, information on current and future applications, as well as a comparative economic assessment of the CVD process and the traditional high-pressure high-temperature (HPHT) process. For further information, contact John Wiley & Sons, 605 Third Avenue, New York, NY 10158; tel: 212/850-6172 or 800/CALL-WILEY; fax: 212/850-6088.

Germany; tel: 07171/60701; fax: 07171/670264.

**Blue M**, a General Signal Company, has published a 12-page catalog detailing the company's extensive line of laboratory water baths. The catalog features informative product descriptions, photos, graphs, and **specifications for 15 varieties of laboratory and industrial water baths.** For a free copy, contact Blue M, 275 Aiken Road, Asheville, NC 28804; tel: 800/657-0770; fax: 800/873-2952 or 704/546-3368.

**Hand Held Products** announces the publication of a brochure entitled "Designed for Your User's Hand." This four-color brochure covers the company's **entire line of fully integrated, portable code scanners and their specifications**, which includes two new products: Micro-Wand 32ES and Micro-Wand RF. For a copy, call 704/541-1380.

A technical bulletin outlining the benefits and advantages of using **METGLAS brazing foil (MBF)** in producing catalyst support is now available from **AlliedSignal**. Also included is property data for MBF alloys. For further information, contact Art Schweitzer, AlliedSignal Advanced Materials, 6 Eastmans Road, Parsippany,

A new edition of *Powder Metallurgy Science* by Prof. R. German of the Pennsylvania State University has been published by the **Metal Powder Industries Federation**. **Chapters cover the entire spectrum of powder metallurgy:** metal powder characterization and fabrication, microstructure control in powders, tailoring powders for shaping and consolidation, shaping and compacting, sintering, full density processing, finishing operations, compact characterization, and properties and applications. For further information, contact the Metal Powder Industries Federation, 105 College Road East, Princeton, NJ 08540-6692; tel: 609/452-7700; fax: 609/987-8523.

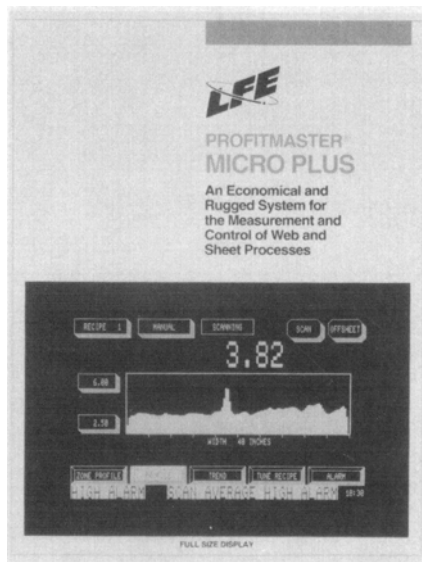
The **short-term properties of Celanese thermoplastic polyester** are detailed in a six-page brochure from **Hoechst Celanese Corporation**. Characteristics and typical physical, mechanical, thermal, electrical, and flammability properties for 35 grades are presented. Grades discussed include unreinforced, glass-fiber reinforced, high impact, improved surface finish and low-warp resins. For further information, contact Hoechst Celanese Information Center, 114 Mayfield Ave., Edison, NJ 08818-3053; tel: 800/235-2637.



AlliedSignal

Available in German and English, a 10-page brochure from **Degussa AG** describes its nickel-free electroplating baths (Miralloy) for white and yellow coatings. Miralloy is used for both decorative application and technical applications. The brochure **describes bath characteristics, properties of deposit, applications, and benefits of the Miralloy processes.** For further information, contact Demetron GmbH, Electroplating Division, PO Box 1240, D-73502 Schwaebisch Gmuend,

A technical article describing the use of phenolic resins in tire manufacturing is now available from **Elf Atochem North America, Inc.** "Phenolic Resins in tire Applications," **provides a guide to selecting and using resins in tire manufacturing** and described advances in resins in three areas: tackifying, reinforcing, and vulcanizing. For further information, contact Diana Melick, Elf Atochem North America, Inc., 2000 Market St., Philadelphia, PA 19103; tel: 800/328-2811.



A 4-page brochure is available from **LFE** covering the Profitmaster Micro Plus product line. Micro Plus is a *rugged, user-friendly, single scanner system* used to

## In Business

**Uni-Hydro, Inc.**, manufacturer of Uni-Hydro Ironworkers, has *added a 5,000 square foot building* to its Cosmos, Minnesota, facilities. This building will house the firm's corporate headquarters, sales conference facilities, and a new showroom. The new address is: 213 Gemini Ave. East, Cosmos, MN 56228; tel: 612/877-7284, 800/328-0036.

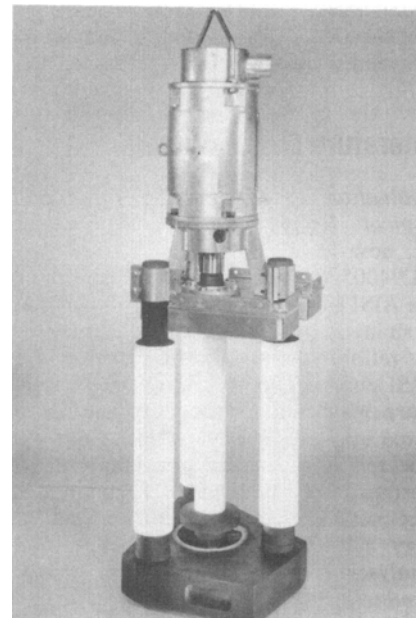
**Davy International** has acquired **Krupp Koppers GmbH's hot blast stove business**, which consists of all aspects of the design and supply of high temperature hot blast stoves with external combustion shafts.

For the fourth time since 1992, **Republic Engineered Steels** has been awarded the coveted **Ford Q1 Award**, which is presented to suppliers who "continually strive to increase quality and productivity."

The Board of Directors of the **Aluminum Extruders Council** has voted to *open Council membership to aluminum extruders from around the world*, instead of strictly North America as in the past. This

measure and control basis weight and material thickness of web and sheet processed products for the plastics, coating, rubber, vinyl, nonwovens, paper, packaging, roofing, and other industries. For further information, contact LFE, 55 Green St., Clinton, MA 01510; tel: 508/365-3485.

A product bulletin featuring the new **Metaullics L-Series** of molten metal pumps is offered by **Metaullics Systems Co., L.P.** The bulletin describes how this new family of pumps *offers outstanding performance, durability, greater furnace productivity, and ultimate cost savings.* Important design advances in the L-Series—there are more than a dozen improvements over the M-Series it replaces—contribute to efficiency and longer life. For further information, contact Metaullics Systems Co., L.P., 31935 Aurora Rd., Solon, OH 44139; tel: 216/349-8863.



Metaullics Systems Co.

change in policy reflects the globalization of the aluminum extruder industry.

**Midland Aluminum Corporation**, a full-service metal service center, has been *awarded the status of Blue Chip Vendor by the U.S. Department of Defense Industrial Supply Center.* The Blue Chip Vendor Program recognizes quality contractors and awards them this opportunity to receive government contracts over lower ranked competitors.

**Institut Dr. Forster**, a pioneer of eddy-current testing technology and a world leader in the manufacture of electromagnetic flaw-detection instruments, (Reutlingen, Germany) has *been awarded ISO 9001 certification* by the German Society for the Certification of Quality Management Systems.

**Surface Combustion, Inc.** will serve as one of four contractors to **Amercom Inc.**, an Atlantic Research Corporation Company, in a \$100-million DOE-sponsored program to develop improved methods for processing and fabrication of continuous fiber ceramic composites.

**Howmet Refurbishment, Inc.** has announced it has received *JAR 145 approval from the Joint Aviation Authorities (JAA)* for maintenance of European operated aircraft components at its three refurbishment facilities in Connecticut, Oklahoma, and Texas.

**Chrysler Corporation** presented its *Gold Pentastar supplier award* to **Defiance-STS/SMC**, the first testing and development firm to receive this recognition of excellence from Chrysler for the 1993 model year. The award is given to suppliers who demonstrate outstanding performance in the areas of quality, delivery, price, and customer support/technology.

**Erie Press Systems**, a manufacture of machine tools, has achieved *certification to the ISO 9002 quality standard.*

**PPG Industries** have ended agreements with **Nippon Paint Co.** (Osaka, Japan) by which they cooperatively served coatings requirements of Japanese automakers in North America and Europe. The two companies will continue to jointly serve cus-



tomers during a one-year post-agreement transition.

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**Materials Research Corporation** has recently sold its 200th Eclipse physical vapor deposition system to **SGS-Thomson Microelectronics**, one of the world's lead-

## Kudos

The **American Association of Engineering Societies**, in conjunction with the **National Audubon Society**, presented University of California-Berkeley Professor Emeritus **Luna Leopold** its 1994 Joan Hodges Queneau Palladium Medal, which was established to honor engineers who pioneer innovative solutions to environmental problems.

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**Dr. Sossina Haile**, an expert in fast ion conductors and solid electrolytes, has joined the faculty of the Department of Materials Science and Engineering at the **University of Washington** as a Battelle Northwest Laboratory Assistant Professor.



S. Haile

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**DuPont Automotive** has announced the promotion of three executives: **Pedro Llanes**, market development manager, has been named development manager for New Business Initiatives; **Jane J. Schindewolf**, market development specialist, will replace Llanes as market development manager; and **Eric C. Romano**, marketing specialist is promoted to product manager for several products.

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The **Society of Manufacturing Engineers** has announced the recipients for its 1994 International Honor Awards. They are: **Carol Bartz**, President, CEO, and Chairman of the Board, Autodesk, Inc., Donald C. Burnham Manufacturing Management Award (first female recipient of the Honor award); **John G. Bollinger**, Professor and Dean, College of Engineering, University of Wisconsin-Madison, Joseph A. Siegel Service award; **Richard E. Morley**, President, R. Morley Inc., Mason, NH, SME Albert M. Sargent Progress Award; **National Technological University**, Fort Collins, CO, SME Education Award;

ing semiconductor manufacturers. It is the 12th Eclipse PVD system that the company has purchased.

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**Ceracon, Inc.** has licensed **MascoTech, Inc.** (a manufacturer of automotive parts) to use its Ceracon powder metallurgy

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**Adahiro Sekimoto**, President, NEC Corp., Tokyo, Japan, Eli Whitney Productivity Award; and **Hans Kurt Tonshoff**, Professor and Director, Institute of Production Engineering and Machine Tools, Hannover, Germany, SME Frederick W. Taylor Research Medal.



H. Schweich

The **Copper and Brass Fabricators Council** has announced the election of **Henry L. Schweich**, President of Cerro Copper Products Company and Cerro Copper Tube Company (Sauget, IL) as Chairman of the Council's Board of Directors. Schweich is also a Director of the Institute of Scrap Recycling Industries and a board member of the American Bureau of Metal Statistics.

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**Michael Likos** has been promoted to Co-General Manager at **T.S. Alloys** (Houston, TX), a stainless steel and aluminum service center wholly owned by **Avesta Sheffield, Inc.**, one of the largest stainless steel producers in the world.



M. Likos

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In a move to strengthen its research, development and manufacture of high purity materials, **Materials Research Corporation** (Orangeburg, NY) has named **Stephen Breckley** to the position of Vice President of the Advanced Materials Division. He will be responsible for the research, design, manufacture, and marketing of high purity materials for thin films.

process for making passenger car and light truck connecting rods. The Ceracon process can also be used to make silicon carbide parts.



R. Maier

**Russell W. Maier**, president and chief executive officer of **Republic Engineered Steels, Inc.** has been elected to the board of directors of **Republic Storage Systems Co., Inc.**, a major manufacturer of steel shelving, lockers, shop furniture, office equipment and contract sheet metal products headquartered in Canton, Ohio.

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**Climax Research Services**, a metallurgical testing and research company located in Farmington Hills, MI, announces the appointment of **Richard V. Wagner** to the position of Test Engineer. This position will be responsible for the operation of a range of computer-assisted mechanical testing equipment, as well as provide training to staff on procedures.



J. Klingler

**James W. Klingler** has been named the general manager at the Wichita Falls Refurbishment unit of **Howmet Refurbishment, Inc.**, a subsidiary of **Howmet Corporation**. He will be responsible for directing all of the Wichita Falls plant's functions in the development, production, and marketing of refurbishment services.

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**Harold Weaver**, president of **Dixie Tool & Die Co.** has been installed as the 1994 Chairman of the **National Tooling and Machining Association** located in Ft. Washington, MD. Also installed to the Executive Committee were: **William Hockenberger**, Precision Grinding & Manufacturing, Rochester, NY, as First Vice Chairman of the Board; **Roland Sutton**, Maine Machine Products, South Paris,

ME, as Second Vice Chairman of the Board; and **Richard Wills**, D&H Manufacturing Co., Santa Clara, CA, as Secretary-Treasurer.

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The **Institute of Industrial Engineers** has announced the election of new members to its 1994-95 Board of Trustees. They are: **David B. Wortman**, President and CEO, TekSyn, Indianapolis, IN (President); **Deborah Seifert**, Director of Strategic Planning and Business Development, AlliedSignal, Inc., Phoenix, AZ (President-

Elect); **Timothy J. Greene**, Head, School of Industrial Engineering and Management, Oklahoma State University, Stillwater, OK (Senior Vice President-Technical Operations); **Paul E. Givens**, Chairman, College of Engineering, University of South Florida, Tampa, FL (Senior Vice President-Professional Enhancement); and **Jeremy S. Weinstein**, Vice President of Refrigeration and Room Air Control, Whirlpool Corp., Benton Harbor, MI (Senior Vice President-At Large).

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**Thielsch Engineering, Inc.** has added the following personnel to its staff: **Karl B. Becker**, Manager, Nuclear Engineering Services Dept., **Richard Dewolf**, Branch Manager, Pulp and Paper Services Dept.; and **Gerald Kerzner**, Senior Metallurgical Engineer, Metallurgical Services Dept.

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## Hotspot

**Pillar Industries** has published a 4-color brochure detailing their Mark 20 transistorized solid-state generators for induction heating applications. Manufactured under the Pillar/Cycle-Dyne name, the Mark 20 operates in the 200-400 kHz frequency range and *provides 90-95% conversion efficiency*, resulting in considerable energy savings. Also included are safety features, standard and optional features and complete specifications. For more information, contact Pillar Industries, N92 W15800 Megal Dr., Menomonee Falls, WI 53051; tel: 414/255-6470; fax: 414/255-0359.

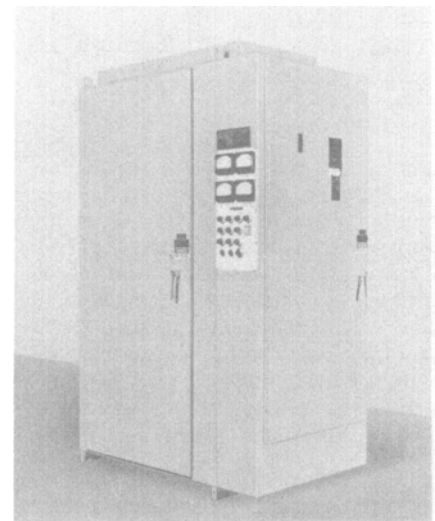
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**Blue M** has published a 28-page catalog describing the company's new line of laboratory furnaces, ovens, and power controllers designed for laboratory research and industrial applications ranging from metallurgy and electronics to ceramics, pharmaceuticals and more. More than 160 standard models are described in easy-to-read charts for quick reference. *Furnaces operating in temperatures*

*ranging from 1100 to 1800 °C, and laboratory ovens operating at temperatures ranging from 200 to over 300 °C*, are detailed. For further information, contact Blue M Laboratory Ovens and Furnaces, 275 Aiken Road, Asheville, NC 28804, 800/657-0770; tel: 704/658-2711; fax: 704/546-3368.

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**Tocco, Inc.** offers current source power supplies that provide an efficient alternative to most generators for induction forging and forming applications. They deliver *93% efficiency at full load*, providing rapid heating, which in turn eliminates pre-heating or warm-up and reduces scale formation. The heating cycle is automatically timed to the forging production requirements. The power supplies can be used in low or high production operations for heating small slugs to large billets. Unites are rated from 200 Hz to 9.6 kHz, with a regulation accuracy of +1% for any kW load. For further information, contact Paul Choinard, national Sales Manager, Tocco, Inc., 30100 Stephenson Hwy.,



Tocco, Inc.

Madison Heights, MI 48071; tel: 810/399-8601; fax: 810/399-8603.

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