MATERIALS/PRODUCTS

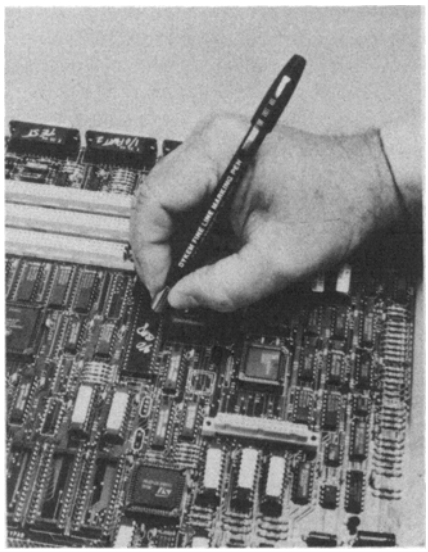
DTM Corporation has developed a new material, Fine Nylon, for use in functional prototyping applications using DTM's selective laser sintering process. The advantages of Fine Nylon include durability, heat and chemical resistance, and the ***ability to produce parts with particularly small features***. In terms of durability nylon was proven to be the most durable rapid prototyping material available in a benchmark test of material properties of specific photosensitive resins used in other RP technologies and the thermoplastic materials used in the SLS process. Parts produced from Fine Nylon LN-4010 may contain features as small as 0.020 in., with a finer surface finish and extremely crisp edge definition, for such applications as electrical connectors, assemblies, and working mechanical components. For further information, contact Kent L. Nutt, DTM Corp., 1611 Headway Circle, Building 2, Austin, TX 78754; tel: 512/339-2922; fax: 512/339-0634.

GE Plastics has introduced Lexan MR5-AC sheet, a flame-retardant polycarbonate material with very good chemical and abrasion resistance for use in aircraft window dust covers. The transparent material has a proprietary silicon-based coating on both sides that provides improved chemical and abrasion resistance. MR5-AC sheet exhibits only 1-2% change in haze after 100 cycles, using the ASTM-D1044 test. The material also is ultraviolet-resistant, passes Federal Aviation Administration vertical burn tests, and exhibits glasslike clarity. Targeted for flat applications, the sheet is ***30× stronger than acrylic*** and is easily cut and fabricated. For further information, contact GE Plastics, Inquiry Handling Service, PR #33-94, One Plastics Ave., Pittsfield, MA 01201; tel: 800/451-3147.

PQ Corporation has added hollow ceramic macrospheres to its line of hollow sphere products. The ***macrospheres have a uniform diameter*** and are available in production quantities in alpha alumina, mullite, and porcelain compositions. An additional family of spheres is available with engineered porosity on the order of 100 microns extending through the shell wall, thus allowing encapsulation of solids within a protective ceramic shell. Macrospheres are suitable for a wide range of uses including catalyst supports, polymer and metal matrix composites, automotive energy absorbing structures, fillers for plastics and lightweight concretes, thermal insulation, refractories, and encapsulation applications. For further information, contact Dorothea Owen, PQ Corporation, PO Box 840, Valley Forge, PA 19482-0840; tel: 800/252-0039.

A new type of **ball joint for use on linkage arms** in boilers and related equipment has been developed that ***saves time and effort*** when adjusting a ball joint. The ball joint is available in standard and customized sizes. For further information, contact Dept. 93-AMC-371, Invention Submission Corp., 217 Ninth St., Pittsburgh, PA 15222; tel: 412/288-1300, ext. 1368.

To meet the marking requirements of customers in a wide range of industries, **Dykem** has expanded its line of industrial marking instruments. These include: general purpose marking pens, fine line marking pens (for intricate parts and printed circuitry boards), broad line marking pens for large parts or rough surface materials, and gas/oil resistant marking pens (for motors, gear assemblies, or engine blocks). The pens are ***available in a wide range of colors*** and use a unique valve action tip. For further information, contact Dykem, 8501 Delport Drive, St. Louis, MO 63114; tel: 800/443-9536.

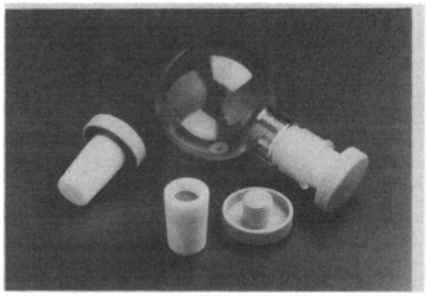


Dykem

An **improved rotary coupling** that supplies coolants, cutting oils, and other liquids and compressed air used in machining applications has been developed. The Roto-Link eliminates the bearing assemblies commonly used in couplings of this type. It contains only one moving part to help ***reduce costly machinery downtime***, and uses simple inserts instead of complex bearing assemblies. For further information, contact Dept. 92-TLD-197, ISC, 903 Liberty Ave., Pittsburgh, PA 15222; 412/288-1788.

Siemens Component, Inc.'s Special Products Division has introduced two groups of grid-controlled tubes for RF-excited CO_2 lasers: an RS 3000 C and a tetrode RS 2000 CJ series for axial-flow and transversal-flow CO_2 lasers, and for stripline/waveguide lasers. RF-excited lasers are typically used in cutting and welding applications. The tubes are of ***concentric metal-ceramic design*** and have a power range from 8 to 300 kW. For further information, contact Steve Barthelmes, Siemens Components, Inc., Special Products Division, Iselin, NJ 08830; tel: 908/906-4396; fax: 908/906-3816.

Designed for laboratory and other containers, the new "Freeze Free" stopper made with DuPont Teflon PTFE fluoropolymer resin uses a patented design to seal tightly and then release without sticking. Made by **Scientific Machine and Supply Co.**, the stopper has a hollow, open-topped body tapered to fit a container neck. A cap threads into the body to press against an elastomeric shape within the body made of

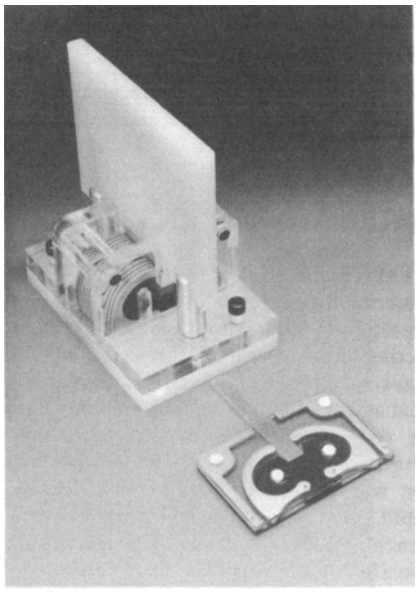


Scientific Machine and Supply Co.

Teflon PTFE. The stopper can expand and contract to seal and unseal as needed, and has ***excellent chemical resistance***. For further information, contact Scientific Machine and Supply Co., PO Box 67, Middlesex, NJ 08846; tel: 908/356-1553; fax: 908/356-2569.

A designer and molder of electronic components has reduced the size of its miniaturized coil bobbins (used in surface-mount and through-hole applications) by 25% by replacing the phenolic material with a liquid crystal polymer (Vectra LCP) from **Hoechst Celanese Corp.** The LCP material offered the ***best combination of dimensional stability, high flow, and strength*** for the parts, whose dimensions range from about 1-in. square to 0.3×0.4 in. with wall thicknesses as narrow as 0.008 in. Other properties of this material include: a thermal expansion of $\times 10^{-5}$ in./in./°F, a heat deflection temperature of 465 °F at 263 psi, a flexural modulus of 1.9×10^6 psi, and is recyclable. For further information, contact Hoechst Celanese Information Center, 114 Mayfield Ave., Edison, NJ 08837; tel: 800/235-2637.

A solderless electronic connector has been designed by **Hewlett Packard** that offers ***zero insertion force and close contact spacing (0.064 mm)***. These connectors are made of thin C-shaped beryllium-copper alloy contacts with sides insulated with DuPont's Teflon FEP fluoropolymer resin. The insulated contacts are retained on a rounded insulating strip that moves toward the board under pressure from the component being inserted. This movement rotates the contacts, bringing their uninsulated edges into intimate contact with both the component and the board. Such a design takes less board space than conventional connectors. For further information, contact Hewlett-Packard Co., 1400 Fountaingrove Parkway, Santa Rosa, CA 95403; tel: 707/577-5255; fax: 707/577-5644.



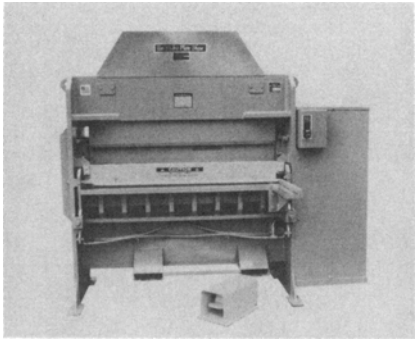
Hewlett-Packard

PROCESSING/EQUIPMENT

M International has introduced the FireJet Torch. The FireJet uses a revolutionary yet simple approach in a hand-held unit fueled by kerosene and oxygen. It can cut iron, steel (including hardened alloys), aluminum, concrete, and a variety of other materials. It is powered by an internal combustion design, producing a 4500 °F, Mach. 2.5 flame, which gives it ***greater cutting power and speed*** than existing acetylene/oxygen technology. For further information, contact M International, 1301 Dolly Madison Blvd., McLean, VA, 22101; tel: 703/448-4400; fax: 703/448-4408.

The Hydraulic Shear from **ASC Machine Tools** is a rugged, self-contained, electrically powered, hydraulically operated machine for shearing profiled panels after they are formed, and is designed for ***continual in-line use***. The shear blades are interchangeable and mount onto a die set located between the middle and lower platens. The blades mount with the cutting surface toward the die set blade holders. This allows the blades to be re-stamped numerous times without shimming to replace any loss in blade thickness. For further information, contact ASC Machine Tools, Inc. N. 900 Fancher Rd., Spokane, WA 99211-1619; tel: 509/534-6600; fax: 509/536-7658.

Uni-Hydro, Inc. has added two features to its three plate shears models, which are designed to make the plate shears ***easier to operate and more accurate***. The first feature is a front operated, manual back gage with a digital readout. The gage makes the cutting length easier to adjust and helps to ensure its accuracy. The second new feature is a system of adjustable fasteners that allows the main blade head to be adjusted more easily and accurately. The system provides a zero point for the blade head, providing an accurate way to describe its location. For further information, contact Chuck Dvorak or Harlan D. Kieser, Uni-Hydro, Inc., 213 Gemini Ave. E., Cosmos, MN 56228; tel: 612/87-7284.

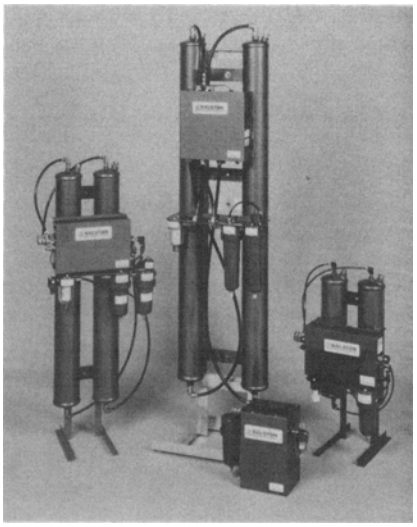


Uni-Hydro

Emuge Corp. has introduced a line of ER collet tap holders engineered to ensure ***exceptionally precise and efficient tapping results*** when used in conjunction with rigid (synchronized) NC or CNC tapping equipment. The Precision ER collet tap holder features a compact design with no moving parts. When used in conjunction with Emuge material-specific taps, they provide the ultimate in spindle-to-workpiece solutions for any rigid tapping environment for both long tap life and exceptional thread quality. For further information, contact Emuge Corp., 104 Otis St., Northborough, MA 01532; tel:

508/393-1300, 800/323-3013; fax: 508/393-1310.

For the protection of sensitive process instrumentation and controls, **Balston, Inc.** has introduced a compact compressed air dryer. The dryer ***removes 99.99% of 0.1 μm particles*** and droplets, and reduces the dew point of compressed air to below



Balston, Inc.

−100 °F. Standard features include oil removal prefilters, automatic drains, particulate afterfilters, moisture indicator, and pretested controls. Models are available for flow rates from 0.5 to 25 SCFM. For further information, contact Balston Inc., 260 Neck Rd., PO Box 8223, Haverhill, MA 01835-0723; tel: 800/343-4048; fax: 508/374-7070.

Turbo-abrasive finishing is a new method from **Turbo-Finish of America** that replaces costly manual finishing of complex part shapes. The method involves the placement of a rotating component or workpiece in a low-speed air-abrasive stream. Various machine designs are available that can accommodate parts from 2-3 in. to 4 ft. in diameter. The high peripheral speed of the rotating part (up to 20-30 m/s) and the large number of abrasive particle-to-particle surface contacts or impacts (200-500/mm^2/s) produces ***metal removal rates as high as 2-5 μm/min***. Aerospace parts with an initial surface roughness profile of 2-5 μm R_a have been reduced to 0.2-0.4 μm R_a in time cycles ranging from 6 to 20 minutes. Other applications include the removal of burrs, edge break and controlled radius formation, pre-plate finishes, and the removal of heat treatment scale, carbon deposits and other soils. For further information, contact, Turbo-Finish Technical Center, PO Box 248, Kearsarge St., Bartlett, NH 03812-0248; tel: 800/723-4554; fax: 603/374-2366.

A Finnish waste management company, **Ekoteho Ltd**, has developed a ***continuous system for extracting mercury and other heavy metals from used fluorescent tubes***. Spent fluorescent tubes are first crushed and washed with water, which is cleaned and recycled to the process. The crushing of the tubes is done so that the escape of mercury into the atmosphere is prevented. Mercury and heavy metals react with the added reagents in the water cleaning part of the process, and are removed as a residue. The crushed glass and light metal parts are separated and fed to storage containers for transportation. The system can handle up to 2,000 lamps per hour, or 25,500 lamps per day. For further information, contact: Juha Saapunki, Ekoteho Ltd., SF-76100 Pieksamaki, Finland; fax: 35858484041.

The Welding Institute has developed a new friction joining method, which relies on a third substance of a lower melting point to ***produce high strength joints*** in material combinations such as ceramic/ceramic, metal/ceramic, powder metallurgy manufactured materials, and thermoset plastics and composites interlocked with thermoplastic and intermediate material. The third material friction heats and plasticizes in the gap between two components to be joined. On cooling, the material consolidates and locks both components in a secure joint. Joints can usually be produced without deformation of either component and a greater cross-sectional area of the third material results to support required axial/torsional loads. Mechanical properties can also be produced which exceed the ultimate tensile strength of the component material. For further information, contact Wayne Thomas, Dave Nicholas, or Steve Jones, tel: 44/223891162; fax: 44/223892588.

MEASUREMENT/TESTING/EVALUATION

Westinghouse Savannah River Co. has signed a cooperative research and development agreement with **ABB AMDATA** (Windsor, CT) to produce a high-tech inspection device that ***can operate in heavy radiation***. The companies will jointly develop a remotely operated "wall crawler" that can check the integrity of tank walls

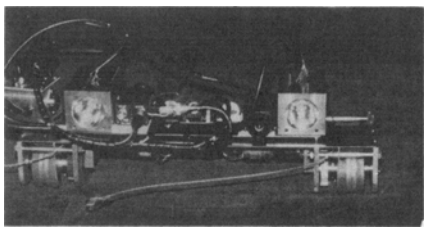
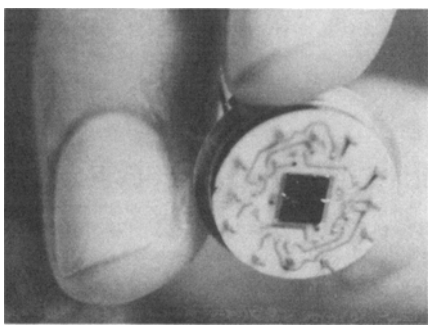


ABB AMDATA

that hold highly radioactive waste. The crawler travels on magnetic wheels to grip the sides of tanks. Its direction and speed are controlled from a safe location by cable; sensor data and pictures travel back on cables to the operator's console. Its first job is to use ultrasound to test the thickness of tank walls at DOE's West Valley demonstration project near Buffalo, NY. For further information, contact Frank Richters, tel: 203/285-4329 or Norman Fenichel, tel: 203/285-3285; Asea Brown Boveri Inc., 1000 Prospect Hill Rd., PO Box 500, Windsor, CT 06095-0500; fax: 203/285-5606.

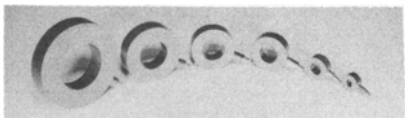
The patented light emitting diode technology used in **ColorTec**'s new hand-held color analyzer allows the instrument to be offered with a lifetime warranty on the light source. The ColorTec-PCM is an optical device that converts the light reflected from dozens of data points to



ColorTec

electrical responses. When computer analyzed by a mathematical model, these responses are converted to reflectance data. Other features include ***true portability combined with simple push-button operation*** and an interface with software for state-of-the-art data analysis. For further information, contact John McCasland, PO Box 386, 74 Main St., Lebanon, NJ 08833, tel: 908/236-2311, fax: 908/236-7865.

PCB Piezotronics, Inc. has introduced an improved series of piezoelectric ring-style force sensors, which are commonly used in manufacturing processes to monitor dynamic forces. Series 201 quartz force rings are designed for measuring dynamic compression and tension forces over a ***wide dynamic range of 0.0002 to over 100,000 lb***. An internal microelectronic amplifier converts the high impedance charge output to a low impedance voltage signal without the need for additional costly charge amplifiers. Applications include compression/tension press monitoring, balancing, forming, fatigue testing, predictive maintenance, and quality control. For further information, contact Andrea Mohn, PCB Piezotronics, Inc., 3425 Walden Ave., Depew, NY 14043; tel: 716/684-0001; fax: 716/684-0987.



PCB Piezotronics, Inc.

The Microm HM 335 E is a new multipurpose electronic microtome from **Carl Zeiss** designed for ***precision, speed, and unsurpassed operator comfort***. Its versatility is the result of several features, including an automatic feed/trim system; retraction which can be deactivated for high-speed cutting; and a trim or cutting range from 1 to 250 μm for expanded applications. High volume of samples in paraffin or plastic can be sectioned quickly using the HM 335 E with less physical stress. Other features include touch-button controls and an integrated section waste tray that can be easily removed for cleaning. For further information, contact the Microscope Division, Carl Zeiss, Inc., One Zeiss Drive, Thornwood, NY 10594; tel: 800/233-2343; fax: 914/681-7446.

Carl Zeiss

To develop practical sensors for utility applications, **EPRI's Generation & Storage Division** has established several new projects aimed at upgrading existing fiber-optics techniques. In one, researchers plan to improve fiber-optics microbend technology for **pressure measurement**. This approach relies on an optical fiber run through clamplike jaws that are mechanically linked to a process fluid; changes in fluid pressure cause the jaws to deform the fiber. In a second project, researchers aim to increase the measurement range developed to monitor generator temperatures up to about 150 °C. They hope to extend sensing capabilities to conditions exceeding 800 °C. Other projects involve Fabry-Perot interferometry to measure transient pressure and temperature. This technique is based on analysis flight reflected from a flexible silica diaphragm mounted over a tiny cavity at the end of an optical fiber exposed to process fluid. For further information, contact Joe Weiss, Generation & Storage Division; tel: 415/855-2751.

Metorex, formerly Outokumpu Electronics has introduced a new portable version of the ARC-MET 900 Optical Emission Analyzer. The ARC-MET 930 features a small, portable main unit and an important addition to its analytical range: the ***capability to analyze sulfur and phosphorus in steels***. The unit can be operated standing on a factory floor or lying on a table, and can be transferred on a cart. Other features include a high-contrast graphical display, a printer, and a user friendly interface. For further information, contact Metorex Inc. at 1-800-229-9209.

Knowing a polymer's viscosity during computer chip encapsulation could allow the production of more high-quality chips. Researchers at **Georgia Institute of Technology** have found that ionic conductivity models can be combined with viscosity models to develop a direct relationship between the two properties. That relationship can then be used to help ***monitor and control the curing of polymers*** used in the manufacture of computer chips. For further information, contact Dr. Sue Ann Bidstrup at 404/894-2872.

An ***innovative ultrasonic technique for inspecting adhesively bonded joints*** under development at the **Welding Institute** may prove faster and more thorough than existing methods. Recent research has shown that ultrasonic waves which introduce a shear stress at each interfacial layer are particularly sensitive. They can detect defects which are difficult to find with ultrasonic techniques using normal incidence compression waves. An additional benefit of this interfacial wave technique is that it will allow one to examine more of the bond, which should speed up inspection. For further information, contact Ian Munns; tel: 44/223891162, fax: 44/223892588.

INTERNATIONAL RESEARCH/MANUFACTURING CENTERS

The **Great Lakes Industrial Technology Center**, one of six regional centers established by NASA and operated by Battelle, has begun a ***consortium on advanced coatings and surface texturing***. The program will offer technology developed by NASA-Lewis and include potential applications such as biomedical implants and prosthetics, cutting blades, ophthalmic lenses, hermetic seals, magnetic recording heads, and hard disks for computers. Interested companies can evaluate the effectiveness of coatings and surface treatment technologies for improving products or processes. For further information, con-

tact Robin Yocum or Will Kopp, Battelle, 505 King Ave., Columbus, OH 43201-2693; tel: 614/424-5544/7984; fax: 614/424-3889.

The **Society of Manufacturing Engineers** (SME) Education Foundation was recently named to receive $300,000 from the Advanced Research Projects Agency to create a ***demonstration laboratory to redesign manufacturing engineering education***. This laboratory is part of a five university, $3.75 million project to establish education and training programs that will enhance the success of future U.S. manufacturing. Called the Realization Consortium, the five universities include Cornell, North Carolina A&T, Massachusetts Institute of Technology, Tuskegee, and Worcester Polytechnic Institute. The objective is to develop and test industry-relevant, modular course materials, which include textbooks and multimedia applications. For further information, contact Keith Bankwitz, SME, One SME Drive, PO Box 930, Dearborn, MI 48121-0930; tel: 313/271-1500, ext. 510; fax: 313/271-2861.

National Technology Transfer Center (NTTC) and the **Knowledge Express Data Systems** have been awarded a Technology Reinvestment Project award from the National Technology and Commerce Initiative. The partnership will create a ***new national electronic network, NTCI-NET***, to link private industry, universities, federal laboratories, and state and local business assistance providers. NTCI-NET will host the largest collection of information about federal university research, inventions, new technologies and experts, company research and development, and companies' capabilities. For further information, contact NTTC, 316 Washington Ave., Wheeling Jesuit College, Wheeling, WV 26003; tel: 800/678-6882.

The **National Center for Manufacturing Sciences** is working to standardize "green" design principles with its Green Design Advisor project. The Green Design Advisor is a CAE design tool being developed to help manufacturers ***minimize the environmental impact of their products and processes at the design phase***. The tool will generate a product feature-based rating that provides designers and engineers with an automated data network for evaluating the impact of manufacturing materials and processes before products enter final design and production. The project represents a multi-industry collaborative effort to push Design for the Environment (DFE) beyond the present state of checklists and manuals. For further information contact, NCMS headquarters, 3025 Boardwalk, Ann Arbor, MI 48108; tel: 313/995-0300.

UNIVERSITY VIEW

Innovative techniques for ***fabricating microscopic electrical windings and tiny nickel-iron cores*** have helped researchers at **Georgia Institute of Technology** produce magnetic microactuators that operate with low voltages and in environments where more common electrostatic devices cannot be used. The microactuators could replace transistors in switching high-frequency signals, make possible miniature voltage converters, operate microscopic valves, and ultimately find new uses in biomedicine. For further information, contact Dr. Mark Allen at 404/853-9419.

Microgravity research aboard the Space Shuttle Columbia has revealed new information about dendritic crystal formation in a **Rensselaer Polytechnic Institute** program, the Isothermal Dendritic Growth Experiment. This experiment demonstrated that ***convention is a stronger force in dendritic crystal formation*** than previously believed and showed that dendritic growth in space is different from that on Earth across the entire temperature range. This result calls into question current models that assume that convection could be discounted at certain temperature ranges. For further information, contact Martin E. Glicksman, 518/276-6721, or Matthew B. Koss, 518/276-2844; Rensselaer Polytechnic Institute, Troy, NY 12180-3590.

In a development that could ***reduce the use of expensive and environmentally undesirable organic solvents in a broad class of chemical processes***, researchers at the **Georgia Institute of Technology** have conducted the first phase transfer catalytic reaction in a supercritical fluid solvent. The work could lead to substitution of supercritical fluids—primarily cheap, nonflammable and nontoxic carbon dioxide—for the organic solvents now used in certain phase transfer catalytic reactions. For further information, contact Dr. Charles A. Eckert at 404/853-9344.

The auto industry's overall use of aluminum promises to grow at a faster rate than plastics, reports the **American Metal Market**. Except for intake manifolds, plastics are not on the verge of any major breakthroughs in applications involving high-volume parts in the auto industry. By the same token, a very bright future awaits aluminum. The auto industry's overall use of aluminum casting, stamping and extrusion alloys promises to grow at a significantly faster rate than plastics.

LITERATURE/DATA SOURCES

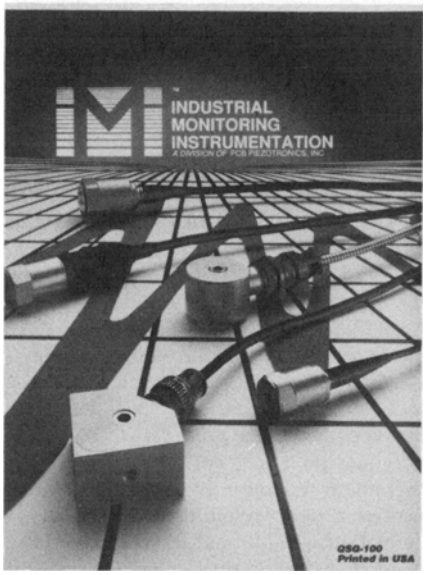
Proceedings of the 1993 International Forum on Dimensional Tolerancing and Metrology, CRTD-Vol. 27 (ASME Book No. I00360) is now available from the **American Society of Mechanical Engineers**. The proceedings focuses on the development and applications of technologies used to specify, measure, and verify the dimensions that define the geometry of

manufactured parts or assemblies. For further information, contact the ASME Service Center, 22 Law Drive, Fairfield, NJ 07006, tel: 800/THE-ASME.

ASTM's STP 1194, Application of ***Accelerated Corrosion Tests to Service Life Prediction of Materials***, discusses a variety of approaches to life prediction across a full range of industries and applications. The 405 pages also covers the accuracy of prediction techniques versus actual performance, laboratory and field analysis techniques, and a novel method for evaluating atmospheric corrosion beneath a thin electrolyte layer under heat. For further information, contact ASTM, 1916 Race St., Philadelphia, PA 19103-1187; tel: 215/299-5400; fax: 215/977-9679.

The **1993 Annual Report of the AISI-DOE Direct Steelmaking Program** is now available. The report describes the progress and accomplishments of the **American Iron and Steel Institute** program, which has completed its fifth year of research and development. Also included are details and results from the laboratory research programs, as well as a description of the construction of the pressurized smelter and operation of the combined smelter and offgas system. For a copy of the report (DOE/ID/12847-6, DE94006738), contact the U.S. Department of Commerce, Technology Administration, National Technical Information Service, Springfield, VA 22161; tel: 703/487-4650.

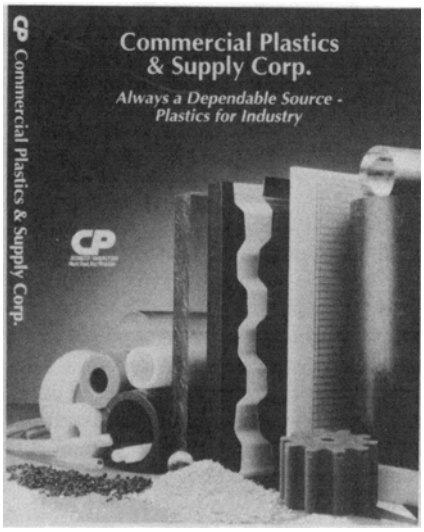
The QSG-100 Quick Selection Guide features the latest in piezoelectric ICP shear mode technology from the IMI division of **PCB Piezotronics**. From low profile to low cost, this catalog contains ***a complete line of industrial shear mode vibration sensors***. The QSG-100 is organized into application specific groupings to facilitate sensor selection. For further information, contact IMI Division, 3425 Walden Ave., Depew, NY 14043; tel: 800/959-4464; fax: 716/684-3823.



PCB Piezotronics

The 24 peer-reviewed papers in ASTM's STP 1201, ***Life Prediction Methodologies and Data for Ceramic Materials***, feature data and model development, reviews of life prediction methodologies for monolithic and ceramic matrix composites, and the prediction of the behavior of structural components. Also included is an overview of the integrated design code CARES/LIFE. For further information, contact ASTM, 1916 Race St., Philadelphia, PA 19103-1187; tel: 215/299-5400; fax: 215/977-9679.

Commercial Plastics & Supply Corp. has released its ***255-page catalog*** which provides product descriptions, application, and prices for the complete line of plastic sheet, rod, tube, and film. Detailed information includes fabricated and specialized products available through the company's architectural, engineering plastics, transportation, security, and film divisions. For a copy of the catalog, call 1-800-452-6036.



Commercial Plastics & Supply

Designed for use in the liquid phase of closed unpressurized heat transfer systems with forced circulation, ***Marlotherm P2 Heat Transfer Fluid*** is described in new literature from **Huls America Inc.** Described in the literature are physical and chemical properties, compatibility with materials of construction, toxicological properties and safety aspects, and shipping and storage. For further information, contact Huls America Inc., 80 Centennial Ave., Piscataway, NJ 08855-0456; tel: 908/980-6800; fax: 908/980-6970.

Cadillac Plastic and Chemical Company is offering a free booklet, ***High Performance Engineering Plastics***, which provides basic descriptions, application benefits, and physical properties. Engineering grades include PEEK, Torlon, Ultem, and high-performance nylon. For a free copy call 1-800-488-1200.

IN BUSINESS

AlliedSignal Amorphous Metals has appointed **Wesgo Inc.** as licensee for several more of their Metglas brazing alloys, including several Ni-B-Si alloys, a Ni-Cr-P alloy, Ni-Pd alloys, Co-based alloys, and a range of Cu-based alloys.

Cambridge Industries, Inc. has announced that an agreement has been reached for the purchase of the automotive plastics business of **Rockwell International Corp.** by Plastics Acquisition Corp., a Cambridge Industries, Inc. Group Co.

The **Institute of Scrap Recycling Industries, Inc.** and the **Association of American Railroads** have filed two petitions with the **Interstate Commerce Commission** requesting deregulation of the rail transportation of ferrous and nonferrous scrap.

Electrical Testing Laboratories has approved and labeled all **Sternvent** Vibraclean dust collector models with motorized shaker controllers for compliance with UL standard #508A.

Metro Metals Corp. has doubled its capacity to process heavier gages and wider widths of coil with the retrofit of a tension level line by **Monarch Stamco**, a division of the Monarch Machine Tool Co.

Lukens Inc. will be spending $16 million to upgrade steelmaking operations at the company's Washington Steel facility in Houston, PA. The upgrades include a new alloy addition system and the expansion and modernization of the facility's emission control system.

Outokumpu Instruments Oy has been purchased by **Metorex International Oy** and is now called Metorex. Purchased operations include the business, assets, and personnel of Outokumpu Electronics Inc. (U.S.) and other worldwide companies of Outokumpu Instruments Oy (Finland).

The **Metal Roofing Systems Association** (MRSA), established in January of this year, met with the **Metal Construction Association**, and the **American Iron and Steel Institute's (AISI) Roofing Task Force** at AISI headquarters. The meeting discussed what opportunities existed for the organizations to work together.

KUDOS

Alcoa's Chairman's Award honors employees who make significant individual contributions to the development and implementation of technologies. The winners are: ***John P. Carroll, Marcelo M. Da Fonte, G.W. Kuhlman, Jr., Javier Lizarraga, and Henk P. Zwikker***.

John Bosher has been named Sales Engineer for **Keith Company, Inc.**, manufacturer of kilns and furnaces. He will provide sales service for Keith's furnaces, including their line of 1700 °C FastHeat Laboratory Furnaces.

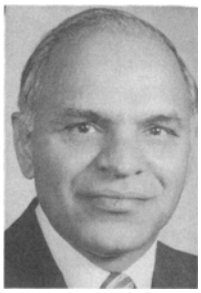
John Bosher

The 1994 Elihu Thomson Resistance Welding Award, sponsored by the **Resistance Welder Manufacturers' Association**, has been presented to ***John Paul Thorne*** for his contributions to the technology and application of resistance welding.

George Maczura, Industrial Chemicals Division, is the winner of the **Alcoa's Francis C. Frary Award** for lifetime individual technical contributions to the company. He was recognized for his leadership role in the invention and commercialization of calcium aluminate cement, its specialty derivatives, and reactive aluminas.

Thomas J. Trezek has joined **Intermet Corporation** as executive vice president, in charge of the iron castings division. Intermet has also promoted ***William D. Vanness*** to general manager of the company's Ironton Iron facility.

Corning Incorporated's Suresh Gulati has been named one of 19 new Fellows of the **Society of Automotive Engineers**. The honor of SAE Fellow is awarded to whose who have exhibited exceptional distinction by reason of outstanding and extraordinary qualification, experience, and sustained accomplishment in mobility or related engineering.



Suresh Gulati

Avesta Sheffield Inc., has named ***Thomas L. Holsing*** to the position of Marketing Manager, Special Grades. He will be responsible for the growth of special grade stainless steel sales, project coordination, market segment development, and training.

Kaiji Lokka, a post-graduate student in the **Department of Materials at the Helsinki University of Technology, Finland**, received a special cash award from the **Finnish Maintenance Society** for her work on the "Degradation of Reheat Piping in a Coal-Fired Power Plant" (Voimalaitkosen Valitullstusputkiston Vauriotuminen). The award includes a cash prize of 5000 Finmarks (about $900). The project was sponsored by the Helsinki Energy Board. The work was done by Ms. Lokka while she was working on her Masters Thesis. She is currently studying Life Cycle Costs and performing Life Cycle Assessments of stainless steels in vehicle-transportation systems. Her thesis was performed under the supervision of ***Prof. Hannu Hanninen*** of the Technical University.

Kaija Lokka

Armco Inc. has appointed ***George F. Kutzmark*** as General Manager of Armco's Empire-Detroit Steel Division headquartered in Mansfield, Ohio. His primary focus will be to ensure that the plant equipment and facilities are maintained properly for future operations.

Two teams are the winners of **Alcoa's Arthur Vining Davis Awards** for outstanding group achievement in technology. The ***Cleveland Works Inconel 706 Team*** received it for commercialization of Inconel 706 gas turbine disc forgings for GE's Power Systems Division. The other winner is ***Davenport Works 100 Mill Modernization Lead Team*** for modernization of a major hot mill.
