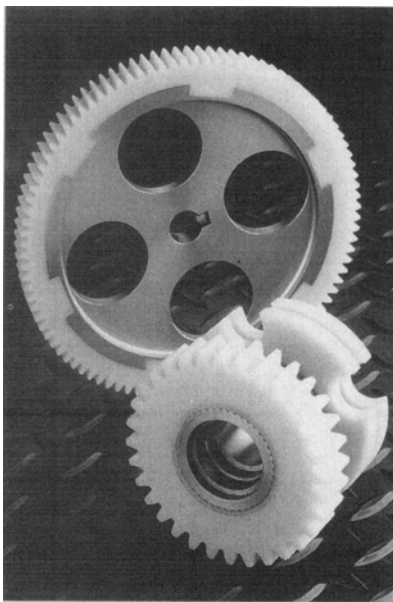


Materials/Products

Lightweight composite machine parts designed by **Intech** called Power-Core *permit higher machine speeds, reduce noise, and eliminate lubrication, wear, and maintenance.* The composite material is cast securely around a metal hub, and machined, often as one piece, to replace more complex metal parts. Other features include moisture-proof, self-lubrication, chemical resistant, stability from -50°F to $+250^{\circ}\text{F}$, and high precision machining capability. For further information, contact George Bartosch, Intech Corporation, 250 Herbert Ave., Closter, NJ 07624; tel: 201/767-8066.



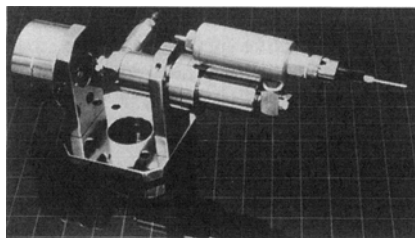
Intech Corporation

ZYP Coatings, Inc., has introduced several types of *high temperature ceramic paints.* Y_2O_3 , Al_2O_3 , BN, and TiN paints are now available as fast drying aerosol sprays for user convenience. Two paintable alumina coatings for R&D are also available, including Type A-1, an alumina-bonded paint yielding 100% Al_2O_3 upon drying, and Type A-2, a silica-free water-based formula. High-purity yttrium oxide paints are being offered as a stop-off for processing of nickel- and titanium-

based alloys, including for brazing, diffusion bonding, and forming operations. For further information, contact ZYP Coatings, Inc., PO Box 4005, Oak Ridge, TN 37631-4005; tel: 615/482-5717; fax: 615/482-1281.

DTM Corporation has introduced *the first composite material available for use in the rapid prototyping industry.* Laserite LNC-7000 is a glass-filled nylon that yields parts with the highest properties of stiffness and heat resistance of any material used in the rapid prototyping industry. The material has outstanding durability, heat resistance and chemical resistance. In addition, LNC-7000 can produce parts with very fine features (0.020 in.) that are strong enough to withstand functional testing requirements. For further information, contact DTM Corporation, 1611 Headway Circle, Bldg. 2, Austin, TX 78754; tel: 512/339-2922; fax: 512/832-6753.

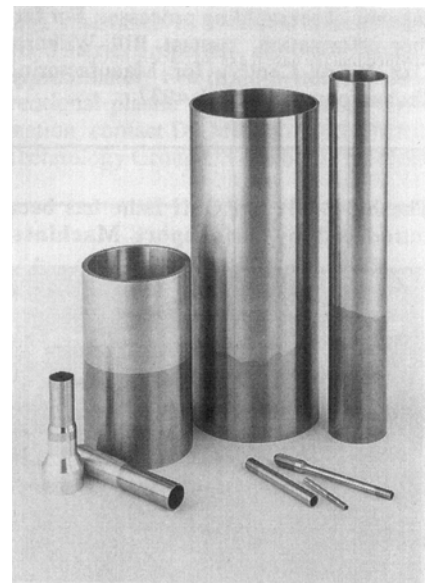
Magnaplate HMF coating from **General Magnaplate Corporation** features *a uniquely low coefficient of friction (as low as 0.03) that add exceptional wear properties* and superior temperature resistance to parts made of ferrous metals, copper, and aluminum alloys. The coating results in a mirror-smooth (less than 10 RMS) finish that is ultrahard (up to an equivalent of Rc68). Parts maintain properties at operating temperatures up to 950°F and down to -150°F , with a suggested useful operating temperature of 650°F . For further information, contact General Magnaplate Corporation, 1331 Route 1, Linden, NJ 07036.



General Magnaplate Corporation

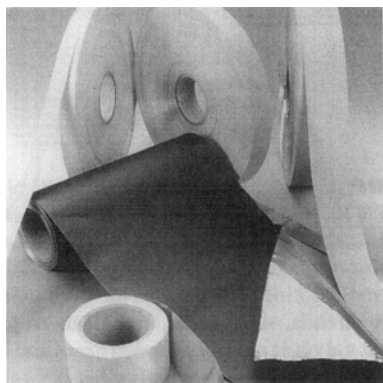
ORPAC, Inc., has introduced ZINC NO-STICK, *a high-temperature ceramic paint that is easily applied like ordinary paint* to make surfaces totally nonsticking to molten zinc. The paint is ideal for masking threads, weld areas, and joints to prevent galvanizing in unwanted areas and for easy release with molds, ladles, troughs, etc. Use temperature is over 1800°F in all temperatures. For further information, contact ORPAC, Inc., PO Box 5436, Oak Ridge, TN 37831; tel: 615/482-4635; fax: 615/482-1281.

Metallurgically bonded transition joints, which combine different metals such as titanium and stainless steel so that the bond is actually stronger than the weaker material, are available from **Nuclear Metals, Inc.** Custom fabricated in ODs from 0.062 to 4 in. and varying lengths, the joints are unaffected by severe thermal or pressure cycling and do not leak when tested at 1×10^9 cc/s on a helium mass spectrometer. A 304L SS/6061-T6 Al joint passes a burst test at 42,000 psi and has a tensile strength of 44,800 psi. For further information, contact John D. Nicholson, Nuclear Metals, Inc., 2229 Main St., Con-



Nuclear Metals, Inc.

cord, MA 01742; tel: 508/369-5410; fax: 508/369-4045.



Insul-Tab, Inc.

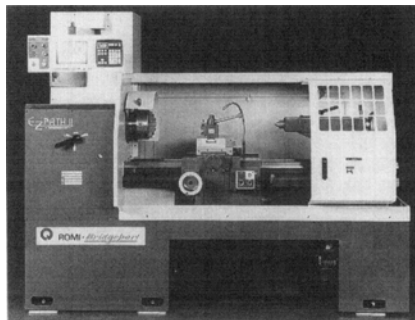
Custom fabricated PTFE-coated foils that are suitable for use as release liners in manufacturing and converting processes, and as EMI/RFI shields in electronics have been introduced by **Insul-Tab, Inc.** The foils feature uniform thickness throughout (± 0.0003 in. across the width and running direction) and combine the properties of PTFE such as chemical resistance, wide operating temperatures, a low coefficient of friction and low dielectric constant with the foil. The foils can range from 1 to 15 mils thick, and the PTFE coating can be deposited down to 0.0005 in. thick. For further information, contact Kathleen Costello, Insul-Tab, Inc., 50 Everberg Rd., Woburn, MA 01801; tel: 800/468-4822 or 617/935-0800; fax: 617/935-0879.

A stainless steel has been developed by **Carpenter Technology Corporation** as a prospective upgrade for Type 316 stainless in applications requiring superior self-mated galling and metal-to-metal wear resistance. Gall-Tough PLUS stainless has chloride corrosion resistance equal to or better than that of Type 316 stainless, along with equivalent high temperature oxidation resistance. *The new alloy is a high silicon, high manganese, nitrogen strengthened, austenitic stainless that offers nearly twice the yield strength of Type 316.* For further information, contact John Magee or Gunnar Maniar, Carpenter Technology Corp., PO Box 14662, Reading, PA 10612-4662; tel: 610/208-3152 or 610/208-2783.

Processing/Equipment

A major improvement in mold-making technology that can reduce cycle time by as much as 25%, reduces manufacturing costs by as much as 50%, and improves product quality has been developed as part of an agreement between **Metallamics, Inc.**, and the **Oak Ridge Centers for Manufacturing Technology** located at Oak Ridge Y-12 plant. The technique uses a variety of thermal plasma techniques to coat the surface of specially designed molds with a layer of specific metals. This improves the heat transfer efficiency of the mold, thereby reducing temperature variation in the mold. Applications are plastic parts made by blow molding, foam molding, and sheet molding processes. For further information, contact Bill Wilburn, Oak Ridge Centers for Manufacturing Technology at 615/241-4937.

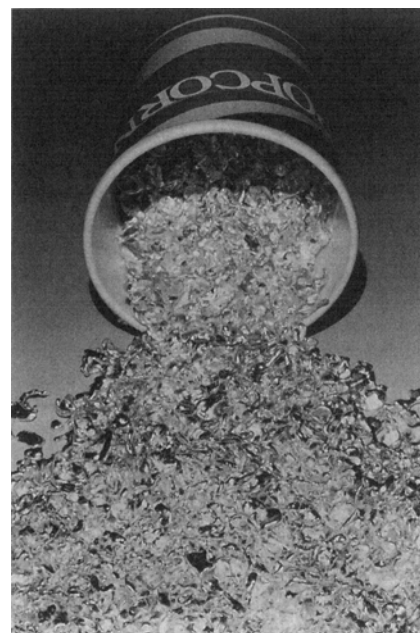
The EZ-PATH II ROMI lathe has been introduced by **Bridgeport Machines,**



Bridgeport Machines, Inc.

Inc., with a larger bar capacity and bigger swing than the original model. It is designed to let users turn parts manually or automatically, or a combination of both, for an operator-paced transition to automated turning. *Automatic operation allows customers to increase productivity by up to 400% over manual lathes.* Other features include programmable speeds and constant surface speeds. For further information, contact Steve Miller at 203/367-3651.

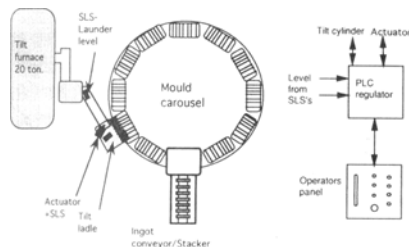
A patent pending silver plating system that improves efficiency has been introduced by **RFE Industries.** The Oxy-free silver plating system replaces conventional slab or bar silver anodes with baskets that are filled with 99.95% pure oxygen free silver granules. The granules are formed by a proprietary process using an inert gas to reduce silver oxide formation by 98.2% compared to other granulated silver anodes. The anodes also increase effective anode surface area more than 600% resulting in a substantial increase in production rates and a more uniform plating distribution on the target product. Silver salt consumption is reduced by up to 50% and anode scrap and dust is completely eliminated. For further information, contact RFE Industries, 19 Crows Mill Road, Keasby, NJ 08832; tel: 800/327-7938; fax: 908/738-5319.



RFE Industries

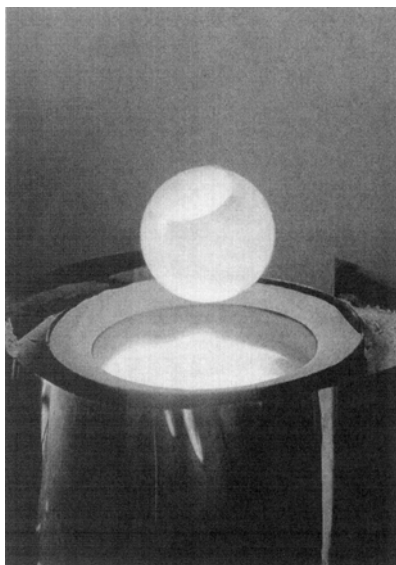
An extremely precise laser-based system for controlling the level of molten metal in multiple spout tilt ladles used for casting aluminum ingots in a conveyor or carousel type mold system is available from **Selective Electronic, Inc.** The system, LaserPour Aluminum Tilt Ladle Level Control System, is highly accurate, easy to operate, and automatically controls the flow rate from a tilt furnace through

the launder into a tilt ladle with stopper rod mechanism which pours molten metal into a mold on a carousel or conveyor. The system also controls the level of molten metal in the launder to secure a maximum and minimum level at the nozzle. For further information, contact Selcom, 21654 Melrose Ave., Southfield, MI 48075; tel: 818/355-5900; fax: 818/355-3283.



Selective Electronic, Inc.

Noble Alloy Valve has expanded its patented diffusion coating process for use on



Noble Alloy Valve

a variety of machined parts, including plungers, pump sleeves, and actuators, as well as in the automotive, marine, and aerospace industries. Using fluid bed technology, the **surface treatment can achieve hardnesses of 70+ Rockwell C in case depths up to 0.005 in.** with excellent dimensional stability for such materials as tantalum, titanium, and zirconium. For further information, contact Noble Alloy Valve, 10945 Day Road, Houston, TX 77043-4901; tel: 800/688-4893 or 713/984-0999; fax: 713/984-0099.

3D Systems has released QuickCast 1.1 part-building software, an upgraded version of the original QuickCast 1.0, which **enables manufacturers to cut the time from design to metal castings up to 80% by eliminating tooling for wax patterns in the shell investment casting process.** The software includes major improvements in surface quality, faster post-processing time, and better drainage of parts. A new "Thickskins" selection feature automatically creates triple skins for both the up-facing and down-facing surfaces of the part. This option results in more robust parts with a glass-like surface finish which results in higher grade metal castings. For further information, contact Terry Slavin, 3D Systems, 26081 Avenue Hall, Valencia, CA 91355; tel: 805/295-5600, ext. 256.

Davy International has added a **Facility Simulation Service capability, which produces functional, to-scale, computer models depicting the operation of a wide range of industrial processes.** The program generates true 3D graphics and can be programmed to run in real time. By graphically simulating plant operations, areas for cost improvements can be readily identified. For example, during a recent simulation of a steelmaking melt shop, this simulation confirmed that the equipment

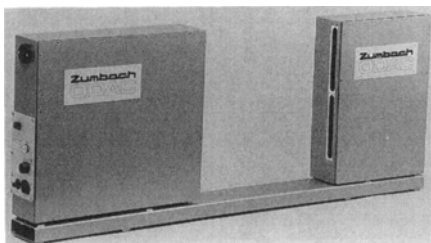
met tonnage and time limitations as planned but identified an idle crane that has since been put to better use. For further information, contact Shelli Cosmides, Davy International, at 412/566-3330.

Two fabrication machines have been introduced by **ASC Machine Tools.** For the roll forming industry, the Mechanical Under-driven Press is **designed for continuous in-line use for shearing and/or punching metal sheets to a specific part** and is constructed with heavy-welded, all steel ram, securely mounted on four large, high-alloy heat treated steel guide posts. The Swenson Shear is a portable, electrically controlled, self-contained hydraulically powered shear for cutting flat or profiled metal sheets and is of similar rugged construction. For further information, contact ASC Machine Tools, Inc., N. 900 Fancher Road, PO Box 11619, Spokane, WA 99212-1619; tel: 509/534-6600; fax: 509/536-7658.

British Technology Group has signed an option license agreement with **Mitsubishi Chemical Corporation** for innovative plastic processing technology. Under the agreement, MCC will **develop a full commercial process for the production of plastic pipes which have extremely high burst strength in comparison with those made by conventional methods.** The technology, known as die drawing, draws the plastic with the polymer molecules aligned axially and circumferentially around the pipe, known as biaxial orientation. Plastic pipes manufactured in this way have excellent mechanical properties, high resistance to chemical attack, very good barrier properties, and burst strength approximately two times better than conventional plastic pipe. For further information, contact Dr. Mike Rendell, British Technology Group USA at 610/278-1660.

Measurement/Testing/Evaluations

Zumbach Electronics has introduced the ODAC 300J, a **noncontact optical sensor that can easily and accurately measure objects as small as 2 mm (0.08 in.) or as large as 325 mm (12.5 in.) in diameter.** The gage has two parallel laser beams which cover a field of 325 mm (12.8 in.). Either beam is used to measure small objects, whereas both beams are required for diameters larger than 25 mm (1.0 in.). For

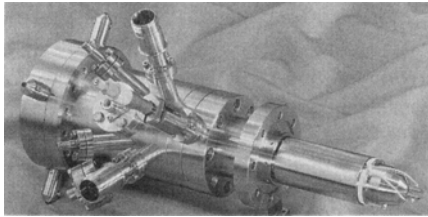


Zumbach Electronics

further information, contact Zumbach Electronics Corp., 140 Kisco Avenue, Mt. Kisco, NY 10549; tel: 914/241-7080; fax: 914/241-7096.

A high performance Liquid Metal Ion Gun has been introduced by **Hessler Technical Services** for TOF/SIMS analysis. The IOG 25 has **excellent lateral resolution to bet-**

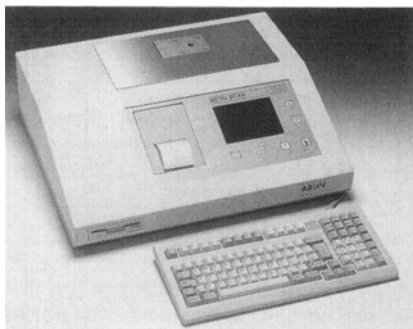
ter than 500 A, a wide range of beam currents to over 50 nA, and motionless beam blanking. The system can be operated manually or by computer and is available with the RSU 1000, an advanced design raster scanning system. For further information contact, Robert J. Hessler, Hessler Technical Services, 44 Strawberry Hill Avenue, Stamford, CT 06902; tel/fax: 203/358-0266.



Hessler Technical Services

Computational Mechanics has updated its crack growth analysis program, which uses the boundary element method for analysis of crack problems in linear elastic fracture mechanics. Software features include the use of quadratic continuous and discontinuous elements, evaluation of boundary stresses, displacements and tractions, element or point constraint, including skew constraints and mixed-mode path independent integrals for the accurate evaluation of stress intensity factors. The update includes several new modules, Crack Growth Analysis in Stiffened Sheets, Crack Growth Analysis in Anisotropic Materials, and Thermoelastic Crack Growth Analysis. For further information, contact Computational Mechanics, Inc., 25 Bridge Street, Billerica, MA 01821; tel: 508/667-5841; fax: 508/667-7582.

The world's first desktop metals spectrometer utilizing a CCD array detector and argon flushed spark source has been introduced by Arun Technology. The



Arun Technology

Metalscan 2000 is designed to give high precision analysis of ferrous and nonferrous metals in a small, robust, low-cost, and easy-to-use package. It can be supplied as a single base or multibase instrument using the same hardware. Extra bases can be added without any hardware changes as analytical lines are selected by software. For further information, contact Arun Technology at 800/355-2786.

Engineers at Lambda Research have developed an adaptation of standard x-ray diffraction retained austenite measurement techniques (ASTM E 975) to correct for errors caused by the presence of $M_{23}C_6$ carbides in 440C stainless steel. Measurements which do not correct for the presence of the carbide are high, by as much as a factor of two. Use of the correction is especially vital when measuring low levels, 5% or less, of austenite, since the carbide intensity may be greater than the austenite intensity. The intensity of a single carbide peak is measured and used to correct the intensities of the austenite and martensite peaks. For further information, contact Thomas Easley, Lambda Research, 5521 Fair Lane, Cincinnati, OH 45227, tel: 513/561-0863; fax: 513/561-0886.

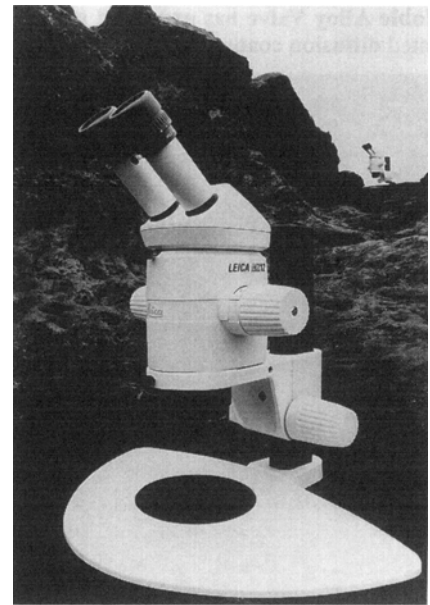
Quick, accurate testing of electrical conductivity in all nonferrous metals is easy using the Sigmatest EC eddy-current tester introduced by Foerster Instruments, Inc. The Sigmatest EC is a hand-held eddy current test instrument which measures specific electrical conductivity in the range from 0.5 to 65 MS/m (1 to 110% IACS). Four selectable measurement frequencies for use with workpieces of different thicknesses are available, without any correction factor required for thin sheet material. Other features include a lift-off compensation system for nonconductive layers up to 0.5 mm thickness and an easy-to-read LCD display. For further in-



Foerster Instruments, Inc.

formation, contact William J. Kitson, Jr., Foerster Instruments, Inc., 140 Industry Drive, RIDC Park, Pittsburgh, PA 15275; tel: 800/635-0613 or 412/788-8976; fax: 412/788-8984.

Leica has introduced several stereomicroscopes: the Leica MZ12 with 12.5:1 zoom, the Leica MS5 with five-step magnification changer, and the Leica MZ6 with 6:1 zoom. The latter two are modular, have a wide range of accessories, and use two parallel beam paths with a common main objective, ensuring fatigue-free observation. The Leica MZ12 offers continuous observation of three dimensional objects from lowest to highest magnification, which can be increased from 8 to 100x in a single zooming movement. For further information, contact Leica Inc., 111 Deer Lake Road, Deerfield, IL, tel: 800/248-0123; fax: 708/405-0030.

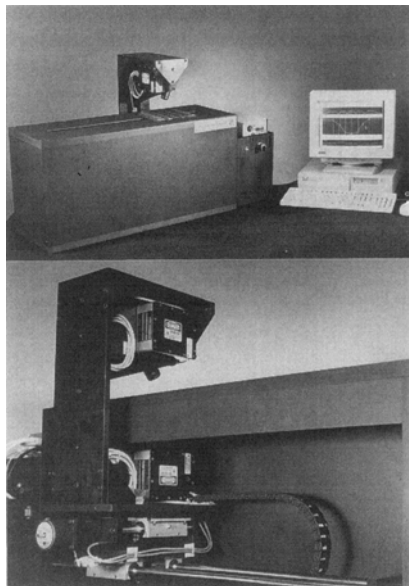


Leica Inc.

A state-of-the-art weathering chamber for accelerated weatherability testing, the XENOTEST Beta, has been introduced by Heraeus DSET Laboratories, Inc. The system features a menu-driven microprocessor for fast, easy programming of up to 10 test programs simulating a variety of end-use conditions. It continuously measures and controls UV irradiance and Black Standard Temperature at the sample level to ensure consistent test results. Heraeus also offers outdoor accelerated

weathering testing using the EMMA-UG under-glass method, which can perform the equivalent of a one-year real-time exposure test in as little as three months for materials exposed to the sun through window glass. For further information, contact Heraeus DSET Laboratories, Inc., 45601 N. 47th Ave., Phoenix, AZ 85027-7042; tel: 800/255-3738; fax: 602/465-9409.

A fully automated high precision laser-based noncontact measurement system for fast, accurate, and operator independent high volume off-line profiling of extruded rubber or related components up to 63.5 mm (2.5 in.) thick has been introduced by **Bytewise Measurement Systems**. Available in a single- or dual-axis system, the Bytewise SC Class Profilometer automatically depicts variations from design parameters by providing comparative analysis of multiple measurements and identifying potential conicity effects based on the difference between weighted mass moments of the left and right sides of the tread. For further information, contact Bytewise Measurement Systems, 5637 Whitesville Road, PO Box 7331, Columbus, GA 31908-7331; tel: 706/323-5142; fax: 706/323-0178.



Bytewise Measurement Systems

Computational Systems Inc. has been awarded a patent on **an infrared thermography system that merges several heat-sensing and analysis devices into one portable unit**. The invention is designed to help thermographers collect data

easily and prepare reports and store records efficiently. The system includes a mobile infrared thermography system and a computer base station. The computer is linked to the infrared camera or video recorder in order to store images of problem areas. These can be recalled in the field or back in the office to analyze repetitive or root-cause equipment problems. For further information, contact Frank Siegler at 615/675-2400, ext. 2333.

The eddyliner P2/16 is a sequential multi-channel test instrument offered by **ibg NDT Systems Corp.** that operates under the principle of Preventive Multi-Frequency Testing (PMFT) checking numerous positions on a part in extremely short test intervals with multiple frequencies. The system is **capable of testing the hardness at up to 16 locations on a part at 8 frequencies in each location** based on the principle of PMFT and can test more than 10,000 parts within one hour. For further information, contact ibg NDT Systems Corp, 20793 Farmington Rd., Suite 8, Farmington Hills, MI 48336; tel: 810/478-9490; fax: 810/479-9491.

International Research/Manufacturing Centers

The **U.S. Bureau of Mines** has **opened its Strategic Structures Testing Laboratory to industry and other users on a cost-reimbursable basis**. The Laboratory features a massive hydraulic press for evaluating large-scale structures and equipment and testing bulk materials. The press provides simultaneous vertical and horizontal loading and can apply compressive loads up to 3 million lbs, shear loads up to 1.6 million lbs, and tension loads up to 1.6 million lbs. For further information, contact the Strategic Structures Testing Laboratory, U.S. Bureau of Mines, PO Box 18070, Pittsburgh, PA 15236; tel: 412/892-6557 or 6550; fax: 412/892-6591.

The **National Institute of Standards and Technology** has established a **\$13.5 million Advanced Technology program to continue development of the Seemann Composite Resin Infusion Molding Process (SCRIMP) technology**. This project will be carried out by a team led by Hardcore DuPont Composites, LLC, and including the Dow Chemical Company, Brunswick Technologies, Inc., DuPont Composites, and Johns Hopkins University. The goal of this program is to develop composites materials and manufacturing processes that can cost-effectively transfer advanced composites technology from leading-edge military and aerospace applications to commercial markets.

An Innovative Concepts grant from the **Department of Energy** is helping establish a **new manufacturing technique for the bulk powder industry**. The new method eliminates agglomeration, inadequate mixing, and thermal gradient concerns by mechanically fluidizing the powder in a sealed retort under precise temperature and partial pressure conditions. The patented machine, under development by Kemp Development Corporation, combines the atmosphere control capability of a vacuum furnace with the heating speed and precise uniformity of a fluidized bed. For information, contact KDC at PO Box 218943, Houston, TX 77218; tel: 713/492-6767; fax: 713/492-7026.

University View

Pennsylvania State University has developed **a process to create more uniform polymers and to design copolymers that seamlessly combine hard-to-join compounds for tailor-made plastics**. A borane initiator is used that creates free radicals right in the processing batch. In free radi-

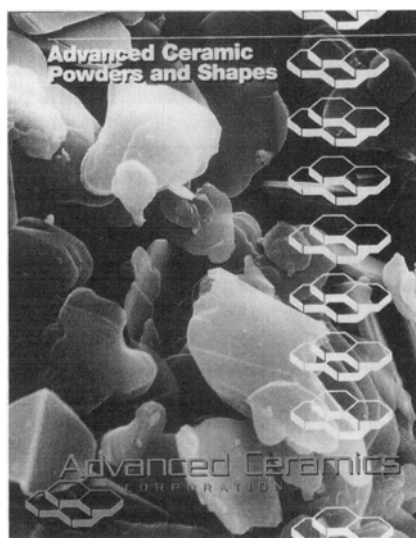
cal polymerization, chain growth is stopped by coupling—two chains join at the active sites and both chains become inactive. The boron atom is substituted with 9-boro-bicyclic-nonane, which creates a bond between the chain and the boron that is much more easily attached

than any in the 9-BBn portion. Using this approach, polymer batches with varying molecular weights have been produced. For further information, contact Dr. T.C. Mike Chung at 814/863-1394.

Literature/Data Sources

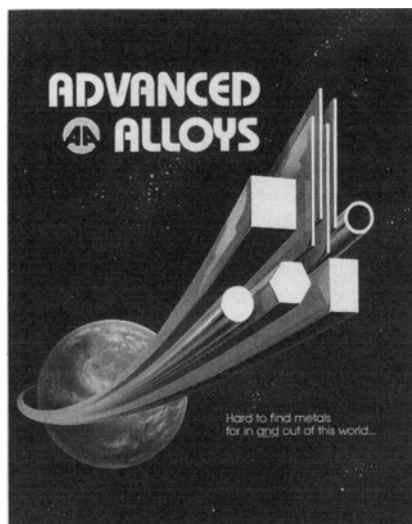
Universal Alloy Corporation has published a *full-color 14-page brochure describing the company's state-of-the-art high-tech methods of producing hard alloy extrusions for the aircraft industry.* UAC is capable of producing circle sizes from 1/16 to 9.0 in. under its current TQM programs. For a free brochure, contact Robert Lobb, Universal Alloy Corp., 2871 La Mesa Avenue, Anaheim, CA 92816-6316; tel: 800/331-7772.

The properties of boron nitride, titanium diboride, and other nonoxide ceramic powders are described in a full-color brochure from Advanced Ceramics Corporation. Also included is information on various electronic and metallurgical applications, and the company's manufacturing, quality analysis, and customer service capabilities. For a brochure contact, Advanced Ceramics Corporation, tel: 800/822-43222; fax: 215/529-3975.



Advanced Ceramics Corporation

Advanced Alloys, Inc. has produced a *six-page brochure that provides details on metal sources, approvals, guarantees, and certification of all standard and specialty metals in semifinished and fabricated forms.* The brochure is supplemented with Products Availability inserts listing specific metals immediately available from inventory, high-temperature and corrosion-resistant metals and alloys. For a brochure, contact Donald Glassman, Advanced Alloys, Inc., 1014 Grand Blvd., Deer Park, NY 11729; tel: 516/595-7000.



Advanced Alloys, Inc.

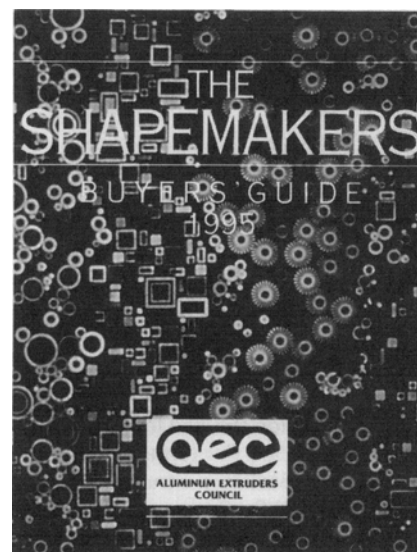
A 14-page brochure from Fischer Technology provides *information on the industry's only interchangeable Smart Probes for use with the company's complete line of hand-held and benchtop coating thickness measuring devices.* These devices use magnetic induction and eddy current methods for nondestructive coating thickness measurement on steel or nonferrous alloys. For a free brochure, contact Fischer Technology, Inc. 750 Marshall Phelps Rd., Windsor, CT 06095; tel: 800/243-8417 or 203-683-0781; fax: 203/688-8496.



Fischer Technology, Inc.

A ten-page color brochure from Hoechst Celanese Corporation details *the improved processibility, part-performance advantages and cost savings of Celanex 16 Series polybutylene terephthalate polyesters* compared to competitive thermoplastic polyesters. The brochure provides an overview of the features of the Series, which consist of one unreinforced and three glass-reinforced grades. For a copy, contact Hoechst Celanese Information Center, 114 Mayfield Avenue, Edison, NJ 08818-3053; tel: 800/235-2637.

The 1995 edition of the *Shapemakers Buyers' Guide*, published by the Aluminum Extruders Council, contains an alphabetical directory, listing each member company headquarters, plants and press sizes. Detailed capability charts indicate data such as maximum circle size of extrusion presses, forms produced, finishing and fabrication services available, and special services and forms. For a free copy, contact AEC at 1000 N. Rand Road, Suite 214, Wauconda, IL 60084; tel: 708/526-2010; fax: 708/526-3993.

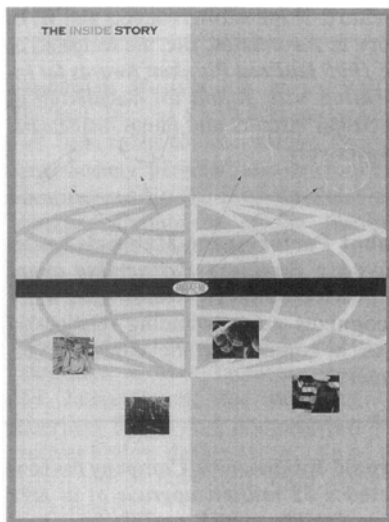


Aluminum Extruders Council

The European Powder Metallurgy Association has published *Quality Assurance Guidelines for Structural P/M Parts and Porous Bearings*, which includes an introduction to the process, standardized P/M materials and test methods, and a list of suppliers who have QA systems accepted by the EPMA. Also recently published is a database containing details of

over 600 European research projects, covering all sectors of powder metallurgy called the *PM Research Database*. For further information, contact the European Powder Metallurgy Association, Old Bank Buildings, Bellstone, Shrewsbury SY1 1HU, UK, tel: 44/1743-248899; fax: 44/1743-362968.

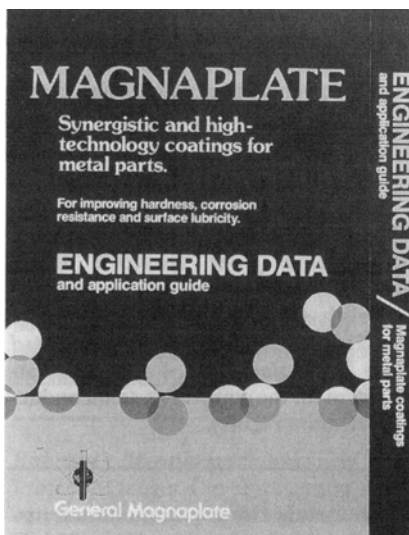
The Fabricators & Manufacturers Association, International has recently published a number of books on various processes. These include several *collections of articles and technical papers on: tube fabricating, tube producing, roll forming, sheet metal cutting, and sheet metal punching*. Several manuals are also available: *Pipe and Tube Bending Manual, High-Involvement Training: How to Set Up ISO-Compliant In-House Training Programs, and Cost Estimating for Metal Stampers and Fabricators*. To order, contact Kelly Ryan at: Tel: 815/399-8700; fax: 815/399-7279.



Fairprene Industrial Products, Inc.

Fairprene Industrial Products, Inc. offers a *brochure explaining their complete capabilities in product development, manufacturing and quality assurance of premium elastomeric sheet, coated fabrics, and elastomer/film composites*. For a copy, contact Fairprene Industrial Products, Inc., 85 Mill Plain Road, Fairfield, CT 06430; tel: 203/259-3351; fax: 203/254-2481.

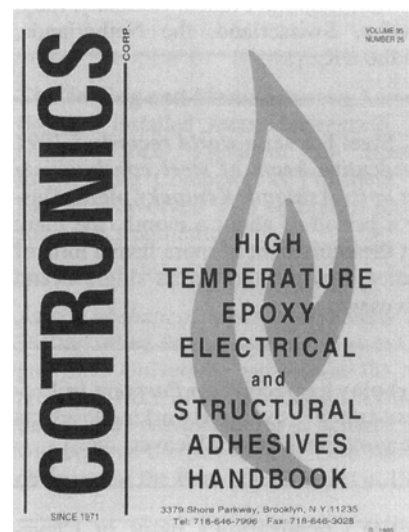
An 9-page fold-out chart from **General Magnaplate Corp.** provides *engineering data for thirteen synergistic and high-technology surface enhancement treatments for metals*. Case histories illustrate ten instances in which specific problems were solved by the use of Magnaplate treatments. For a free copy, contact General Magnaplate Corp., 1331 Route 1, Linden, NJ 07036; tel: 908/852-3301; fax: 908/862-6110.



General Magnaplate Corp.

NACE International has announced **COR*AB, Corrosion Abstracts on CD-ROM**, a searchable on-line database containing over 55,000 literature citations. The abstracts are searchable by keywords, phrases, title, or authors using Boolean search operators. More than 4,000 new abstracts are added every year. To order or to request a free demonstration disk, contact the NACE Membership Services Department at 713/492-0535, ext. 81, or write to PO Box 218240, Houston, TX 77218-8340.

Cotronics 1995 Handbook provides the *latest information and data on epoxy, electrical, electronic, structural, and high-temperature adhesives*. In an easy-to-use format, technical data is presented, as well as typical applications, literature, photographs, and illustrations. For a copy, contact Cotronics Corporation, 3379 Shore Parkway, Brooklyn, NY 11235; tel: 718/646-7996; fax: 718/646-3028.



Cotronics

In Business

Republic Engineered Steels has restructured its organization into two separate profit centers, the Bar Products Division and the Specialty Steel Products Division, in anticipation of the company's continued expansion. **James T. Anderson and Stephen S. Higley** have been elected president of the divisions, respectively.

3D Systems Corporation has signed a distribution agreement with **ROBTEC, SA**, to *market 3D's stereolithography systems for rapid prototyping and manufacturing* in Argentina, Chile, Paraguay, and Uruguay.

United States Filter Corporation has acquired **Arrowhead Industrial Water Inc.**

from the **BFGoodrich Company**. It has also formed a joint venture with **Nalco Chemical Company** to build, own, and operate water purification facilities.

The Budd Company has acquired **Complex Components Corporation's** composite plastics business located in Cobourg, Ontario. **Budd's Wheel &**

Brake Division has been sold to **Allied-Signal**.

Monitoring Technology Corporation has received a *patent for its rotational vibration monitoring system*, which allows noninvasive monitoring of rotating machinery.

Companhia Siderurgica Nacional of Brazil has received a *license to produce BIEC International Inc.'s 55%Al-Zn coated sheet steel*. CSN is planning to revamp one of its four existing hot-dip galvanizing lines or build a new line to meet the growing demand for coated sheet steel.

DTM Corporation has received an *European patent for its Sinterstation 2000 rapid prototyping system*. This patent will be valid in several countries, including Austria, Belgium, France, Germany, Italy, Sweden, Switzerland, the Netherlands, and the UK.

AK Steel has set a *world record of 1091 consecutive heats of steel continuously cast at its Ashland, Kentucky plant*. During a period of about a month, the plant cast the equivalent of more than a mile of quality steel per day on its single-strand slab caster.

Carboloy has received a *Partners in Progress Award* in the Metalworking Products Category from Briggs-Weaver, Inc.

Loctite Corporation's plant in Cleveland has received *Honda of America's Plant Manager's award for a silicone sealant*, which has enabled Honda to realize significant cost savings in manufacturing Accord and Civic car engines and Honda Goldwing motorcycle engines.

Acme Metals Incorporated is building the *world's first Minigrated steel mill*, which will use the latest steelmaking and finishing technology and will be able to produce high-grade specialty steel in 90 minutes.

Davy International and Voest-Alpine Industrieanlagenbau have formed a joint venture, **Conroll Technology**, which will *provide integrated continuous casting*

and hot rolling mill systems. Davy has also installed a System 21 automatic flatness control system at Granges Eurofoil Luxembourg Works and is installing an iron ore feed preparation and pelletizing facility at Ispat Mexicana S.A. de C.V. In addition, the company is upgrading AK Steel's existing electrogalvanizing line at Middletown, OH.

Cold Metal Products, Inc. has announced plans for a *\$13 million expansion* at its Ottawa, Ohio, plant, including the purchase of a rolling mill, annealing equipment, a temper mill, and other processing equipment. Operation is expected to begin in the first quarter of 1996. The company has also purchased North America's only laser roll-texturing system from Ohio Camshaft, Inc.

Chicago Cold Rolling Corporation is constructing a *\$40 million plant* in the South Chicago/Northern Indiana area, which will focus primarily on processing material for customers rather than direct steel sales. Full production is scheduled for mid-1996.

PRI Automation, Inc. has received an *\$11 million order from Taiwan's Mosel Vitelic* to provide an interbay automated materials handling system for 6-in. wafers and a *\$10-million order from Integrated Device Technology, Inc.* for an automation system for the company's semiconductor fabrication facility.

Walter Metals Corporation, an international distributor of tool steels and high-speed steels, is *constructing new corporate headquarters* in Hudson, OH. The new facility will give the company additional warehouse space and allow for future expansion.

Metal Samples Co., Inc. has received the *highest corporate award from NACE International, the Distinguished Company Award*. The company was honored for its innovation in materials evaluation equipment, specifically its test coupons corrosion probes, and specialized instruments.

Nano Instruments, Inc. has moved into a 4,800 square foot facility at 1001 Clarence Larson Drive, Oak Ridge, TN 37830. *The*

new facility has two laboratories in full operation.

Foerster Instruments, Inc. has selected **Trikon Technologies, Inc.** of Montreal, Quebec, as the exclusive representative of their electromagnetic NDT instruments, systems, and services in Canada.

UCAR International Inc. has announced a *\$31 million project that will provide process improvements* at its Monterrey, Mexico, and Clarksville, TN, facilities. Completion is scheduled for mid-1996.

Waukesha Foundry, Inc. has acquired **Refinery Products Corporation**, a manufacturer of cast parts for petroleum and petrochemical industries, from UK's APV Corporation.

Packard-Hughes Interconnect and W. L. Gore & Associates, Inc. are recipients of the *1995 DuPont Plunkett Awards for Innovation with Teflon* for manufacture of electrical circuits and pump diaphragms, respectively.

Cabot Performance Materials has received a *Business Partnership award* from **Metropolitan Edison Co.**, which recognizes an outstanding relationship with a commercial or industrial customer.

Arnold Engineering Company has completed a *\$5 million upgrade of its MPP Core facility*, which manufactures magnetic materials used in the manufacture of transformers, inductors, and filters.

PPG Industries, Inc. has begun construction of the company's *first original equipment automotive coatings plant in Tianjin, China*. Operation will begin in early 1996.

American Steel Foundries is investing more than *\$20 million in its manufacturing facilities* at Alliance OH, and Granite City, IL, in an extensive modernization program designed to upgrade the facilities and add manufacturing capacity.

AGA Gas, Inc. has acquired **Beck Welding Supply, Inc.** of Richmond, IN, in an effort to expand its services to existing customers and support new customers.

Kudos

Bridgeport Machines, Inc. has promoted **Richard Bailey** to the position of manager, National Applications. He will report directly to the vice president of Marketing and Sales. **Timothy Rogers** has been appointed to the position of Manager, Sales & Support Training, assuming all responsibility for in-house and field product training activities.

Edward Escalante, a metallurgist at the National Institute of Standards and Technology, has received ASTM's **Sam Tour Award**. The award is given annually to the author of an outstanding paper evaluating corrosion testing methods.

Sundarajan Mutialu has joined **Miller Thermal, Inc.**, as Special Projects Manager. He is on the Council for the Thermal Spray Society of ASM and is Publicity Chairman and Co-Chair of the Sales and Marketing Committee of the National Thermal Spray Conference.

John Nandzik, president and CEO of the Fabricators & Manufacturers Association, International, has received the **American Society of Association Executives Fellow designation**, one of the highest honors bestowed upon association executives.

The **American Foundrymen's Society** has elected the following officers: **President, Dwight J. Barhard** of Superior Brass & Aluminum Foundry; **Vice President, Henry W. Dienst** of National Engineering Co.; and **Second Vice President, George G. Boyd, Sr.**, of Goldens' Foundry & Machine Co., Inc.

Kent J. Darragh has been named President and Chief Executive Officer of **Cadillac Plastic and Chemical Company**. He was previously Vice President of Operations.

Fel-Pro, Inc., a leading independent gasket manufacturer for the transportation industry, has formed an engineered gasket company called **Specialty Sealing Products L.P.** The new company provides en-

Wayne H. Gross has been named managing director of the **International Gas Turbine Institute of the American Society of Mechanical Engineers**.

Cam F. Tissington has been named global commercial manager for **Dow Magnesium Fabricated Metals** in Aurora, CO. He has been marketing manager for magnesium alloys in Midland since 1990. **Robert J. VanFleteren** has also been named marketing manager for **Magnesium Metal Alloys** in the Chemicals & Metals marketing group in Midland, MI.

Donald E. Zakman has joined **Washington Steel Corporation** as senior commercial advisor. Washington Steel is a leading producer of stainless steel plate, sheet, strip and continuous mill products.

Chicago Extruded Metals Company announces the promotion of **Peter J. Cochrane** to President, from Senior Vice President and Managing Director.

Robert D. Wronkiewicz has been named Project Manager-Development at **American Steel Foundries**. In his new position, Wronkiewicz will be guiding the company's Family of Trucks project, assisting with the 2001 Truck project, and managing several other project areas.

Republic Engineered Steels has named **Edward J. Blot** as Vice President, Sales and Marketing, Specialty Steels Division. This division is responsible for integrating Baltimore Specialty Steels Corporation's assets with existing specialty facilities to make Republic a premier stainless and specialty steel supplier.



Edward J. Blot

gineering support services and product resources to industrial manufacturers in need of gasket or sealing solutions for products or operations.

Paul E. Sitzes has been named Manager, Plant Engineering at **Macwhyte Company**. In his new position, Sitzes will be responsible for facilities and maintenance at both the Kenosha and Sedalia, MO plants.

NSL Analytical Services Inc., an environmental and materials testing laboratory, has appointed **Jack Fox Jr.** as Sales Manager of Environmental Testing.



Jack Fox Jr.

The **Tooling and Manufacturing Association** has installed **James Mengarelli**, Executive Vice President of Ramcel Engineering Company, as President. He has been involved with several of the association's committees.

Jane Lubchenko, MacArthur Fellow and Distinguished Professor of Zoology at Oregon State University, has become the next president-elect of the **American Association for the Advancement of Science**. She will become the president in 1996 and the chairman of the Board of Directors in 1997.

MQS Inspection Inc. has named **Walter Asmus, Jr.**, as Director of Training. His



Walter Asmus



Ken Baits

responsibilities will include coordinating and planning training sessions, teaching, and developing new programs. **Ken Baits** has been named Sales Representative for the Pittsburgh facility.

Bertram M. Lederer has been named a group vice president of **Teknor Apex Company**, a leading manufacturer of plastic compounds, colorants, rubber compounds, and related products. He will be responsible for the Teknor Apex Plastics Division.



Robert Lobb

Universal Alloy Corporation, a producer of aircraft extrusions, has promoted **Robert Lobb** to Vice President of Sales in North America, **Yukio Murakawa** to Vice President of Sales for Asia-Pa-



Yukio Murakawa



Nancy Newmyer

cific, and **Nancy Newmyer** to Sales Manager for North America.

The following have received Honorary Membership, the Society's highest honor, from the **Society of Manufacturing Engineers**: **Mary L. Good**, undersecretary for technology, U.S. Department of Commerce; and **Father William T. Cunningham**, executive director of Focus: HOPE and its Center for Advanced Technologies. International Honor Awards and recipients are: **Robert D. Grear** (deceased), ALBET M. Sargent Progress Award for accomplishments in manufacturing processes; **Joseph M. Juran** of Juran Institute, Inc., Eli Whitney Productivity Award; **Swraj Paul**, Donald C. Burnham Manufacturing Management Award; **Finn Ola Rasch** of Norwegian Institute of Technology, SME Gold Medal; **Albert F. Welch**, Joseph A. Siegel Service Award; and **Hiroyuki Yoshikawa** of the University of Tokyo, SME Education Award.

Lumonics/Oxnard Operations has named **Julia P. Farrell** engineering manager responsible for all engineering and R&D activities. **Charles M. Bosnos**



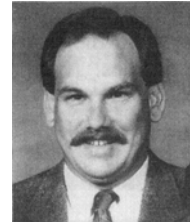
Julia P. Farrell



Charles M. Bosnos



Roger Cross



Tom Pasienski

has become product line manager for LightWriter and SYM systems and **Roger Cross** has become manager of inside sales. **Tom Pasienski** has been named WaferMark product line manager.
