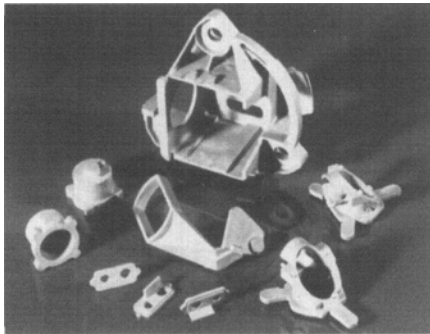


MATERIALS/PRODUCTS

A new BeAl alloy that was developed for producing precision cast net shape parts for applications requiring a lightweight and high stiffness material with a good surface finish is being introduced by **Nuclear Metals, Inc.** NMI's Beralcast BeAl alloys are *20% lighter than aluminum, offer stiffness comparable to carbon steel, and provide the overall strength of cast Al alloys.* Suitable for producing net shape parts featuring up to 6% elongation



Nuclear Metals, Inc.

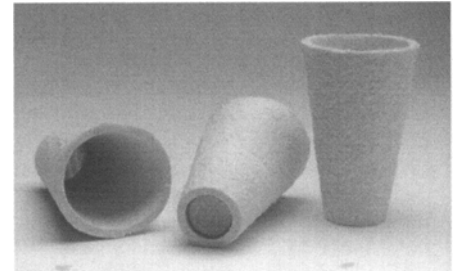
or 50,000 psi tensile strength, these alloys can be formulated with strength, ductility, thermal conductivity, impact and fatigue properties to customer specifications. Two standard grades are available: BeAl-191 for electronic heat exchanger applications, and BeAl-363 for structural components. For further information, contact John D. Nicholson, Nuclear Metals, Inc., 2229 Main St., Concord, MA 01742; tel: 508/369-5410; fax: 508/369-4045.

In an effort to protect the environment, reduce waste, and save money for its customers, **Hobart Brothers Co.**, (Troy, OH) will begin to offer its *welding electrodes in recyclable plastic and cardboard packaging*, and spooled wire on recyclable wire spools. The new packaging includes 5 and 10 lb plastic and cardboard packages, a 50 lb easy-opening, hermetically sealed can, a mini-pallet, and a wire spool. For further information, contact Hobart Brothers Company, Filler Metals Division, 101 Trade Square East, Troy, OH 45373; tel: 513/332-4000; fax: 513/332-4336.

Answering requests from injection molders who need deep-hardening mold steels for such large applications as automotive bumper molds, **A. Finkl & Sons Co.** has introduced Hi-Hard P-20. Following the AISI P-20 compositions, this steel has a *hardness of 321-352 BHN, excellent wear resistance, and polishability that exceeds regular P-20 steels.* The material is forged with a minimum 5-to-1 reduction, and is 100% ultrasonically tested. The company has also introduced Maxi-Bloc steel for petroleum fluid-end pump and down-hole tooling applications. For further information, contact James J. Doyle, A. Finkl & Sons Co., 2011 N. Southport Ave., Chicago, IL 60614; tel: 312/975-2516.

A new composite material, said to be stronger than steel, has been introduced by Sweden's **Applied Composites**. The composite is made of carbon, aramid, and glass fibers and *can reduce the weight of drive shafts, wheel shafts, rudder shafts, and rods by up to 70%.* It is already in use by the Royal Navy in an experimental vessel, and shafts of the material has shown no signs of fatigue in four years. Shafts made of these composites transmit over 10x more torque by weight than a steel shaft, or about 3300 Nm/kg compared to 150 Nm/kg for a steel shaft. For further information, contact Bjorn F. Hoijer, Editor, SIP, S-131 84 Stockholm, Sweden; tel: 46/87169180; fax: 46/87185390.

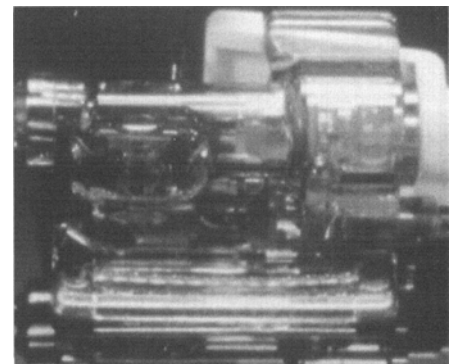
The Surepour "T" Series from **Pyrotek, Inc.** is a new line of direct pour risering cups, which provide an alternative to ceramic foam filter-type cups. Surepour cups feature a larger, nonchilling filtration area, which can be tailored to provide a number of different flow rates. Compared to direct pouring cups with ceramic foam filters, Surepour cups deliver the metal closer to the mold cavity since the filter is positioned lower in the riser. Surepour cups also act as a riser to help prevent shrinkage during the cooling of castings. The conical shape of these cups is said to *provide better directional solidification characteristics that minimize scrap and cosmetic*



Pyrotek, Inc.

repairs. They are easily removed from the casting with a hammer and break cleanly at the risering plane. For further information, contact Anna Henry, Pyrotek, Inc., 9503 E. Montgomery Ave., Spokane, WA 99206; tel: 509/926-6212; fax: 509/927-2408.

The **Dymax Corporation** has introduced a line of light curing adhesives for *rapid, solvent-free bonding to a variety of clear and tinted plastics.* Designated Ultra Light-Weld, the adhesives form tough, durable bonds in seconds upon exposure to moderate intensity visible or ultraviolet light (from 300 to 500 nm). Even UV absorbing grades of acrylic, polycarbonate, polyester, and other plastics not penetrable by UV light are readily bonded with these adhesives. No cure occurs until the adhesive is exposed to light, which allows precise alignment of parts and generous adjustment time prior to instant light-driven cure. Grades are available that also cure with chemical activator or heat to form bonds between opaque surfaces. For



Dymax Corporation

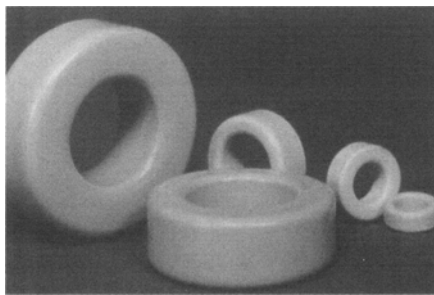
further information, contact Dymax Corporation, 51 Greenwoods Rd., Torrington, CT 06790; tel: 203/482-1010; fax: 203/496-0608.

ITW Fluid Products Group has introduced a semisynthetic machining coolant that is 100% biodegradable, adds lubricity, and protects machine tools. Designated Rustlick SS-400A, the coolant utilizes highly refined vegetable oils and contains boundary lubricants, which *improve grinding performance by keeping wheels and belts clean and true cutting*. The coolant also allows grinding swarf to settle quickly, easing filtration requirements and preventing poor finishes from a contaminated coolant. Another similar product from ITW is a heavy-duty synthetic oil, Rustlick SN-100A, for metalworking operations. The product contains proprietary lubricity and corrosion inhibition additives, which improve tool/wheel performance. For further information, contact ITW Fluid Products Group, 4366 Shackelford Road, Norcross, GA 30093; fax: 800/323-9536.

The **Arnold Engineering Company** has introduced SUPER MSS pressed powder magnetic cores with *low loss and high energy storage*. In addition to exhibiting very low noise characteristics, the 10,000 gauss saturation level means greater energy storage, as compared to mPP and gapped ferrite material. For high-frequency applications, SUPER MSS also offers the advantages of low core losses and better temperature stabilization than conventional iron powder. The new cores are also ideally suited for unipolar drive applications, such as pulse transformers and fly-back transformers. Made from iron, aluminum, and silicon, SUPER MSS cores

PROCESSING/EQUIPMENT

The EZ-PATH ROMI lathe from **Bridgeport Machines, Inc.** is designed to let users turn parts manually or automatically, or a combination of both. The operator can override automated sequences when manual turning is more appropriate to the application. A fill-in-the-blank format makes it easy to enter part dimensions and machining data. Built-in routines allow *automatic turning, facing, threading, drilling, and boring without the need to program "G" codes*. Users can also cut a taper, chamfer, or radius by hand with the use of one dial. For a copy of the video describing the machine, contact Bridge-

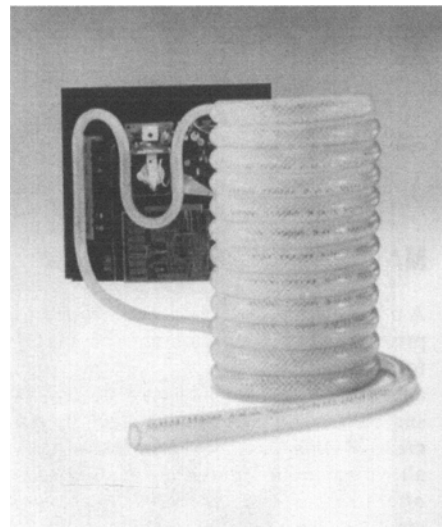


The Arnold Engineering Company

are available in diameters from 0.356 to 5.72 cm (0.140 to 2.25 in.) in four standard permeabilities of 125, 90, 75, and 60. For further information, contact Arnold Engineering, 300 North West Street, Marengo, IL 60152; tel: 815/568-2000; fax: 815/568-2228.

APM Hexseal Corporation introduces the E-SEEL series of economical, silicone rubber, environmental sealing boots that fit snugly around switches, panel meters, and circuit breakers to *provide maximum protection against contaminants* such as salt water, fungus, lubricants, dust, dirt, corrosive gases, and frequent washdowns. Featuring a patented design, the boots provide optimum sealing integrity with a sealing rib that also seals the panel hole in which the protected component is mount. The E-SEEL boots have a temperature range of -80 to +400 °F, and exceed 15 psi (internal) and 1400 psi (external). They have a minimum life of 50,000 actuations. For further information, contact APM HEXSEAL Corp., 44 Honeck St., Englewood, NJ 07631; tel: 201/569-5700; fax: 201/569-4106.

Light and extremely flexible, Tygon B-44-4X IB innerbraid tubing from **Norton Per-**



Norton Performance Plastics Corporation

formance Plastics Corporation readily bends around corners and obstructions where other tubings frequently collapse. The improvement in flexibility *minimizes the need for costly couplings and fittings while also reducing labor required for installation*. The tubing is reinforced with a tough and resilient innerbraid, and will handle working pressures four times greater than nonreinforced tubings. The smooth and dense bore resists particulate buildup, including that which can promote bacterial growth. Tygon B-44-4X IB meets FDA, 3A Plastics Standard and NSF criteria, making it suitable for food and beverage processing, transfer, and dispensing applications. Its chemical resistance also makes its suitable for pharmaceutical, cosmetic, and pulp and paper applications. For further information, contact Norton Performance Plastics Corporation at 216/798-9240.

port Machines, 500 Lindley Street, Bridgeport, CT 06606; tel: 800/243-4292.

DCD Corporation has introduced two factory job shop software systems. Vista is designed for small- to medium-size job shops from 5 to 30 employees, and has a full Windows graphical user interface. Vantage is designed for medium to large job shops, custom manufacturers, and mixed-mode manufactures. Both software systems *can handle virtually every shop function*, including estimating/quoting, order entry, job control (tracking/costing),

Part	Qty	Unit	Quantity	Setup	Unit	Setup	Unit	Setup
M/1001	1	H	73.00	2.00	0	0.25	0.25	100
M/1001	1	H	10.00	0.00	0	2.25	2.25	200
M/1001	1	H	10.00	0.00	0	1.10	1.10	200
M/1001	1	H	42.00	0.00	0	0.00	0.00	100

DCD Corporation

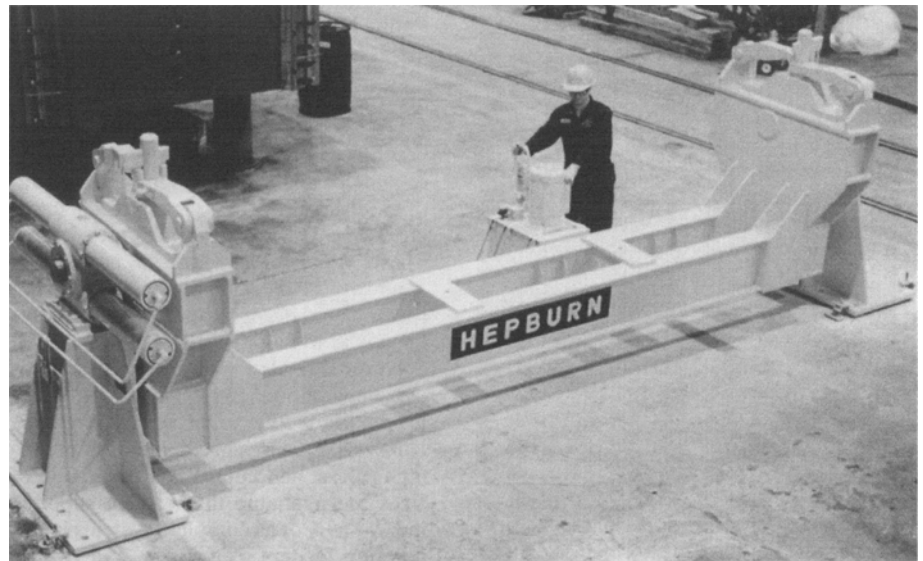
shop floor data collection, inventory/purchasing, bill of materials, and job scheduling.

Several unique features include: Vista-Touch and VantagePoint, touch screen technology for instantly capturing labor and quality information from the shop floor; Drag 'n' Drop Scheduling, an electronic scheduling board; and VistaMail, an audio messaging system. For further information, contact DCD Corporation, 1000 Shelard Parkway, Suite 400, Minneapolis, MN 55426; tel: 800/457-3015 or 612/544-7077.

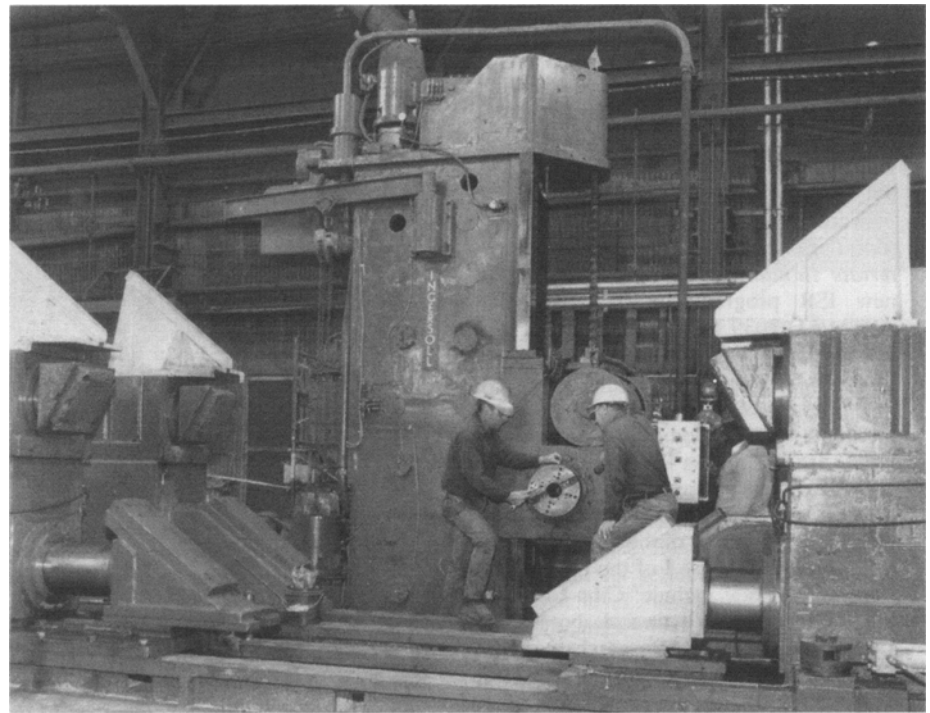
John T. Hepburn, Limited has recently designed and built a tundish tilter stand for Mannesmann Demag. The tilter will be used on a 3-strand, expandable to 4-strand continuous casting line at Courtice Steel in Cambridge, Ontario. The tilt stand features a stand-alone hydraulic power unit capable of rotating the 27 ton loaded tundish up to 180 degrees in either direction. A "skull" removal system *allows hardened pours to be easily jacked out of the tundish*. Overall dimensions of the entire unit are approximately 7 ft wide by 21.5 ft long by 6.5 ft high. For further information, contact Don Eckhart, John T. Hepburn, Limited, 7450 Torbram Road, Mississauga, Ontario, Canada L4T 1G9; tel: 905/671-2200; fax: 905/671-0499.

The installation of two pieces of equipment will help **Bethlehem Structural Products Corporation's** ingot mold foundry improve service and quality for its customers. The foundry has installed a milling machine to achieve 250 micro finish. An 800-ton hot metal mixer has also been returned to operation to improve efficiency. The metal mixer is a holding vessel that improves both quality and efficiency by providing molten iron with *controlled temperature and composition on an as-needed basis*. Capital improvements for 1994 will total \$1.1 million. For further information, contact Bethlehem Steel Corporation, 1170 Eighth Avenue, Bethlehem, PA 18016-7699; tel: 610/694-3711; fax: 610/694-1509.

Optimization has introduced automatic "blank-to-size" *single part programming for CNC punch presses* in its Optipunch product. Optipunch can now be configured to automatically tool and determine clamping methods for "blank-to-size" single parts. This new feature allows the user to establish a hierarchy of decisions related to the clamping methodology of the part that can operate completely automatically. The system creates a machine-ready NC program and report in just seconds per



John T. Hepburn, Limited



Bethlehem Structural Products Corporation

part. Optipunch can operate in a batch mode if desired, creating hundreds of NC programs in a few hours. For further information, contact Optimization, 300 N. Osage, 2nd floor, Independence, MO 64050; tel: 816/836-2000 or 800/523-4744; fax: 816/836-8589.

Krupp Engineering has developed the KRUPP F2 process that broadens the capabilities of powder metallurgy. The pro-

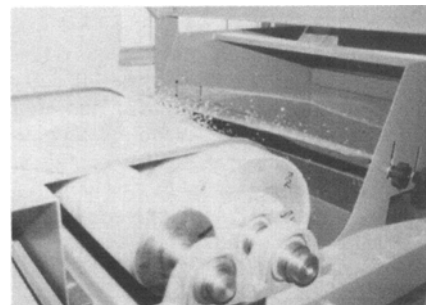
cess encompasses the full range of low alloy and plain carbon steels for structural, OEM, and other applications that require physical properties that normally cannot be met by conventional P/M. The process can *make virtually any part that can be uniaxially ejected from a rigid die*. Multilevel parts, parts with splines or teeth, parts with through holes or blind holes, and even helical gears can be pressed in net- or near-net shape. Higher temperatures and pressures are used to produce

According to a recently released **Business Communications Company, Inc.** study, "*Powder Metallurgy*," the North American powder metallurgy (P/M) industry is comprised of two distinct segments: metal powders producers and P/M product manufacturers. The P/M products industry in North America—composed of gears and bearings, structural parts, magnets, cemented carbides, and tool steels—accounted for shipments valued at \$2.7 billion in 1993. By 1998, this market will reach over \$3.4 billion, reflecting 4.9% average annual growth. For further information, contact Randall Wakeford, fax: 203-853-0348.

fully dense parts with superior mechanical properties. For further information contact

Philip Krupp or Jim Ross; tel: 313/426-2694; fax: 313/426-2450.

Custom-engineered eddy current metal separators that provide high yield separation of small particles have been introduced by **O.S. Walker Company, Inc.** These separators feature a proprietary combination of magnetic material, pole spacing, and drum rotation, which creates the power to move small particles. Developed for shredded material and fine particle separation, they are capable of **producing a 99% yield with nonferrous conductive materials** including aluminum, brass, and copper. A wide range of sizes are available that can be supplied individually or as complete systems incorporating feeders, conveyors, and chutes.



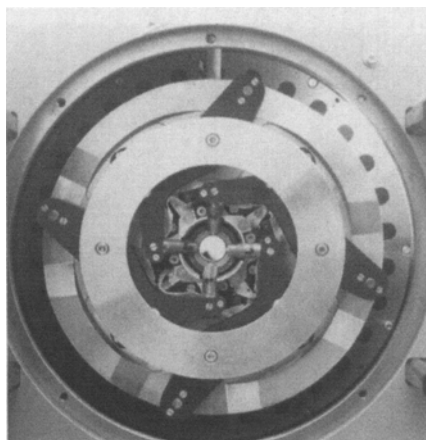
O.S. Walker Company, Inc.

For further information, contact Dick Longo, O.S. Walker Company, Inc., Rockdale St., Worcester, MA 01606; tel: 508/853-3232; fax: 508/852-8469.

TESTING/MEASUREMENT/EVALUATION

The **ASTM Institute for Standards Research** in cooperation with ASTM Committee D-30 on High Modulus Fibers and Their Composites has recently secured full funding from the National Science Foundation and the Carderock Division of the Naval Surface Warfare Center to move forward on a first phase of an **international effort to harmonize composite materials standards**. The objectives of the new ISR program are to: harmonize ASTM's D 3039 Tensile Test with its ISO counterpart; validate these methods through an international interlaboratory testing program; and develop the basis for a critically needed composite material database for improving the engineering design of advanced composites. Ten labs have already agreed to voluntarily participate for the U.S. part of the D 3039 round-robin program, phase I of the harmonization effort. They include: Ciba Composites, Cincinnati Testing Laboratories, University of Dayton Research Institute, Martin Marietta, Hexcel, Texas A&M, DuPont, U.S. Army Research Laboratory, Integrated Technologies, and L.J. Broutman. For further information, contact Kathleen Riley, Executive Director, ASTM Institute for Standards Research; tel: 215/299-5527; or Dr. Peter Sjoblom, University of Dayton Research Institute; tel: 513/229-3812.

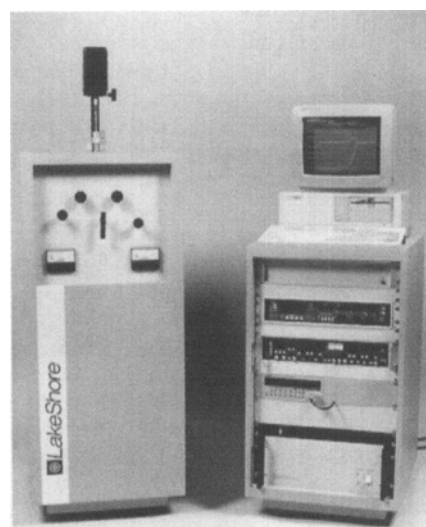
Testing speed in "coil to coil" examination of wires or tubes in drawing lines can be significantly increased with the newly updated Circograph now available from **Foerster Instruments, Inc.** The new Circograph Ro 30 LOA (lift off automatic)



Foerster Instruments, Inc.

allows material to be **tested from start to finish at consistently high production speeds**, in contrast to conventional transmitter systems that undergo unproductive idle time resulting from indirect testing when the ends of the material are fed into and out of the equipment. The new LOA system allows the test heads to be lifted off or lowered onto the material in the transmitter system while rotating. The system can also set the test heads to a new material diameter externally without opening the transmitter system. For further information, 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.

Lake Shore Cryotronics, Inc. has been awarded a patent for the development of



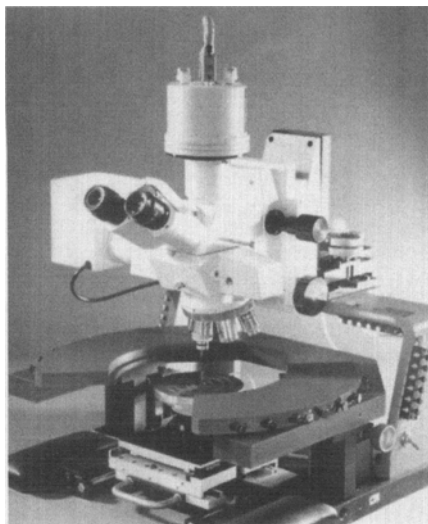
Lake Shore Cryotronics

the means to make both AC susceptibility and DC magnetization measurements using a common sensing coil arrangement. Users can thus **conduct AC and DC measurements successively without removing the sample from the cryogenic chamber sample space at considerable cost savings**. By adding frequency domain measurement capability to an AC susceptometer, the harmonic components of the induced magnetic response in superconducting materials can be determined in superconducting, spin glass, and other novel materials. In superconductors, the measurement of the harmonic components of the response also provides novel methodology for studying the phenomena of flux penetration, flux pinning and motion,

and may permit the measurement of parameters, such as lower critical field, critical temperatures, and the irreversibility line. For further information, contact Lake Shore Cryotronics, 64 East Walnut Street, Westerville, OH 43081-2399; tel: 614/891-2243; fax: 614/891-1392.

Dickerson Vision Technologies, Inc. has introduced the next generation of its integrated machine vision system, the Series 800 Model 810, which integrates an entire system into a single package rugged enough for use in a manufacturing environment. Because of its flexibility, the system can handle such tasks as character reading, edge counting, label checking, precision measurement, shape checking, and inspection of continuous web materials. The proprietary processing system obtains image information directly from the charge-coupled device and converts it to a digital signal understood by the system's built-in computer. This design provides *performance comparable to machine vision equipment costing two to four times as much*. For further information, contact Hal Williams, DVT, Inc.; tel: 404/872-2189.

The probe station microscope from **Carl Zeiss** is ideally suited for the most recent and advanced techniques in failure analysis. In addition to having extremely high transmittance for photoemission imaging, the PSM extends the capabilities for spectral analysis, backside emission, infrared imaging, UV fluorescence, and liquid crystal. The PSM has *high optical efficiency and a wide spectral range*, from the near-UV to the near-IR. UV fluorescence



Carl Zeiss, Inc.

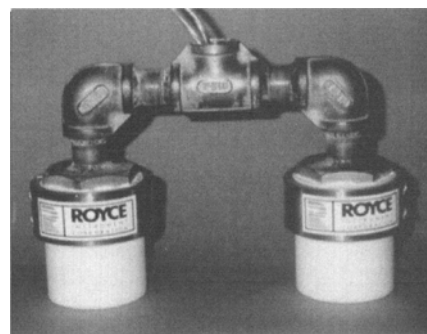


ibg NDT Systems Corp.

enables a new technique being tested today to complement emission imaging and liquid crystal for defect localization. The PSM can also be configured for the following image modes: brightfield, darkfield, fluorescence, polarized light, and interference contrast. For further information, contact Carl Zeiss, Inc., Microscope Division, Thornwood, NY 10594; tel: 800/233-2343; fax: 914/681-7446.

A German manufacturer of nondestructive testing equipment has established an American subsidiary in Farmington Hills, Michigan. The subsidiary, **ibg NDT Systems Corp.** will offer eddy current testing equipment for quality control. The eddy detector is *developed specifically to test components for surface cracks or flaws*. The system is capable of testing with 8 probes at a time, each channel an individually adjustable eddy current instrument. Other systems being offered are the eddyliner and the eddylinerP. The latter is based on an ultrafast multifrequency test that provides a greater degree of reliability and accuracy than single frequency eddy current instruments. For further information, contact ibg NDT Systems Corp., 20793 Farmington Rd., Suite 8, Farmington Hills, MI 48336; tel: 810/478-9490; fax: 810/478-9491.

Royce Instrument Corp. has opened new applications for its *ultrasonic level sensors in hot, chemically aggressive environments* by protecting them with covers of DuPont Teflon PTFE fluoropolymer resin. Such sensors can operate in alumina refining tanks containing a 25% solution of sodium hydroxide at up to 104 °C in an



Royce Instrument Corp.

ore slurry, and in brine tanks used in chlorine manufacturing facilities. The sensors use ultrasound to locate interfaces between clear liquids and suspended solids. A signal transmitted from a sensor head is reflected by an interface and then detected by another head. Electronic analysis of the signal and its reflection determines the interface level. The sensors are used in water treatment, petroleum refining, water clarification, and other processes. For further information, contact Royce Instrument Corp., 13555 Gently Road, New Orleans, LA 70129; tel: 504/254-8888; fax: 504/254-8855.

The American Council of Independent Laboratories has changed its name to **ACIL: the Association of Independent Scientific, Engineering and Testing Firms**. This name change was a result of a membership survey to determine what best describes their businesses. The 400-member companies offer a wide range of services, including *environmental analysis, testing of industrial and military parts and hardware, pharmaceutical re-*

WESTEC, North America's largest annual metalworking and manufacturing exposition, will welcome its *one-millionth visitor at its show in 1995*. This year, the show drew 26,025 attendees, increasing the 31-year total to just over 986,000. WESTEC is sponsored by the Society of Manufacturing Engineers, ASM International, the American Machine Tool Distributors' Association, and the Association for Manufacturing Technology. For further information, contact SME, One SME Drive, PO Box 930, Dearborn, MI 48121-0930; tel: 313/271-1500; fax: 313/271-2851.

search, food chemistry, product safety certification, soils and foundation studies for construction, and the evaluation

UNIVERSITY VIEW

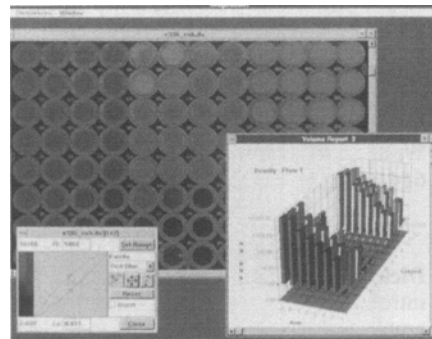
The **EPRI Center for Materials Production at Carnegie Mellon University** has announced that the U.S. Department of Energy selected its proposed project for final negotiations for a cooperative research agreement. Joe Goodwill, Director of the Center, said, "Disposing of electric arc furnace dust is a \$100 million dollar/year expense for the steel industry. Reducing the dust in need of treatment could also save the

LITERATURE/DATA SOURCES

NACE International has released the second and third volume in its *Corrosion Testing Made Easy* series of books: *Galvanic Corrosion Test Methods* and *The Basics*, respectively. The series was designed in response to the need for easy-to-follow guidelines on specific types of corrosion testing, allowing the entry-level technician to perform corrosion testing procedures with little or no assistance. *The Basics* describes techniques and equipment for most corrosion tests, outlines scientific and mathematical principles, and introduces laboratory procedures and equipment. *Galvanic Corrosion Test Methods* thoroughly describes the theory of galvanic corrosion and the factors that can influence test results, as well as descriptions of current testing methods. For further information, contact NACE Membership Services Department, PO Box 21830, Houston, TX 77218-8340; tel: 713/492-0535, ext. 81; fax: 713/579-6694.

of building materials. For further information, contact ACIL, 1629 K Street NW, Suite 400, Washington, DC 20006; tel: 202/887-5872; fax: 202/887-0021.

Molecular Dynamics has upgraded its ImageQuaNT software for the Molecular Dynamics line of scanners. ImageQuaNT v4.1 offers users such new features as automatic volume integration and push-button reporting. Users can now analyze images faster than ever and go from image to hard-copy report with the push of one button. Image viewing tools include unlimited image zooming, fast image scrolling, real-time grey/color adjustment, and FluorImager system two-color image support. Other tools include automatic band or spot finding, user-drawn regions of interest, and automatic volume integration.



Molecular Dynamics

For further information, contact Molecular Dynamics, 928 East Arques Avenue, Sunnyvale, CA 94086-4520; tel: 800/333-5703 or 408/773-1222; fax: 408/773-1493.

country approximately 5 trillion Btu's annually and minimize the need to transport and handle a hazardous material. Electric furnace dust is about 20% zinc and other heavy metals; the remainder is mainly iron oxide and lime. Some dust will still be in need of treatment but it should be of much higher value to companies recovering zinc."

The planned research program will involve *data gathering at several operat-*

ing electric furnace shops, benchscale testing, and trials of promising technology at both the pilot-plant scale and on commercial units. The project will begin with a scoping study to fully identify all promising approaches and will identify systems or operating practices that can be applied to current furnaces at minimal cost.

A literature review entitled *Effects of Welding on Health VIII* (EWH-8) has been published by the **American Welding Society**. The review cites 193 sources on various aspects of welding-related health issues. Study topics include fumes, gases, radiation, and noise produced in a welding operation. It also discusses environmental and lifestyle factors, where they are identified, as significant in health studies. For further information, contact AWS Order Department, American Welding Society, 550 NW LeJeune Rd., Miami, FL 33126; tel: 800/334-WELD or 305/443-WELD.

Recognizing customers' needs to receive information quickly and efficiently, **Dow Corning Corporation** offers *information about its aerospace/defense and electronic product offerings* through a full-time FAX service accessible through a toll-free telephone number, 1-800-443-2932. It is accessible 24 hours a day, seven days a week. To request an index of aero-

space/defense products, the literature code is 11. The literature code for electronic products, is 17.

A new video training course, *SPC: Decision Support for the Plant Floor*, is now available from **Kline and Company**. The video is designed for the average employee and uses state-of-the-art computer graphics, broadcast-quality dramatization, and candid interviews to help the student retain the material more completely. The video comes with a workbook and covers charting, interpretation, and corrective action. For further information, contact Matthew Kline, Kline and Company, 4908 North Hamlin, Chicago, IL 60625; tel: 312/588-1188; fax: 312/588-5949.

United States Filter Corporation offers a product catalog sheet describing the *Lancy Corrugated Plate Separator for ef-*

fective removal of oil and solids from wastewater by gravity. The bulletin details the design elements, specifications, and operating process that combines to provide consistent operating results for simple and effective separation. It describes effluent quality, solids toleration numbers, flow rates and provides a diagram of how the gravity design separates light from heavy materials in an efficient automatic flow. For further information, contact Molly Tschang, 4669 Shepherd Trail, PO Box 560, Rockford, IL 61105-0560; tel: 815/877-3041; fax: 815/877-0172.

Molten Metal Analysis by Laser Produced Plasmas, is a technical progress report available from the **U.S. Department of Energy.** The report describes a research program at Lehigh University to develop a new method of molten metal analysis, consisting of time- and space-resolved spectroscopy of a laser produced plasma plume off a molten metal surface. Included are Phase I and II accomplishments, description of the DOE contract milestone tasks, and tables describing parameters of the method. Available from the U.S. Department of Commerce, Technology Administration, National Technical Information Service, Springfield, VA 22161; tel: 703-487-4650.

An application report (#18) from **General Magnaplate Corp.** details how **a serious corrosion problem** in an immunostaining system was solved by enhancing the surface of its aluminum parts with a "synergistic" surface enhancement treatment,

General Magnaplate Spotlight Report
Corrosion Resistance on Medical Equipment

Space-age coating for aluminum eliminates corrosive attack on medical testing equipment.

Magnaplate hi-tech surface enhancement technology provides over 15,000 hours salt spray resistance and reduces wear up to 90%.

A corrosion-resistant, space-age coating for aluminum testing equipment... The coating is applied to the surface of the aluminum parts, creating a protective layer that resists corrosion and wear. This technology is particularly useful for medical testing equipment, where high levels of salt spray and moisture are common. The coating significantly extends the life of the equipment and reduces the need for frequent maintenance and replacement of parts.

Other Problems... The coating also helps to reduce the risk of contamination, which is a critical concern in medical applications. By providing a smooth, non-porous surface, the coating prevents the accumulation of dirt and bacteria, ensuring that the equipment remains clean and hygienic.

General Magnaplate Corporation

Magnaplate HCR. The report is available from General Magnaplate Corporation, 1331 Route 1, Linden, NJ 07036; tel: 908/862-6200; fax: 908/862-6110.

A new product bulletin, featuring **Metaullics Systems'** molten metal filter pumps, is available. The two-page bulletin highlights **major advantages of this combined pumping/filtration technology**, which is designed to provide transfer of clean-filtered aluminum. For a copy, contact Dr. David V. Neff, Metaullics Systems Co. L.P., 31935 Aurora Rd., Solon, OH 444139; tel: 216/349-8864.

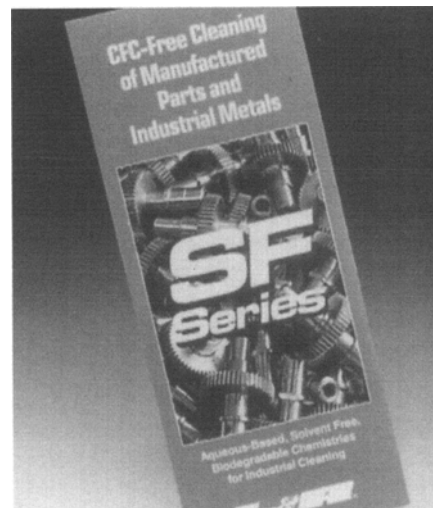
A comprehensive capabilities brochure is now available from **Metaullics Systems Co. L.P.** This eight-page, color brochure details Metaullics **capabilities in the fields of molten metal pumps and systems, molten aluminum filtration and degassing, chemical processing, and specialty graphite products.** For a free copy, contact Metaullics Systems Co. L.P., 31935 Aurora Rd., Solon, OH 44139; tel: 216/349-8864.

The 1994 Materials Research Society Publications Catalog Supplement, which contains 56 new books exploring interdisciplinary research on advanced materials, is now available. The books span many subject areas, including electronic materials and processing, ceramics and composites, metals and alloys, biomaterials, and polymers. Also included in information about a new database product, the **Advanced Engineering Materials Research Profile**, which contains more than 1500 North American materials scientists and their research. For a free copy of the catalog, contact Materials Research Society, Publications Department, 9800 McKnight Road, Pittsburgh, PA 15237; tel: 412/367-3012; fax: 412/367-4373.

The Structure and Properties of Polymeric Materials, by D.W. Clegg and A.A. Collyer, presents the basic principles underlying the properties of polymeric materials, including thermoplastics, thermosets, and rubbers. It explains mechanical and flow behavior and how these properties can be manipulated in terms of the molecular structure of the polymers. Published by the **Institute of Materials**, it is intended for students of engineering and science with no prior knowledge of plastics materials. For further information, contact Ashgate Publishing Co., Old Post

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Fatigue Design for PM Components, by F.J. Esper and C.M. Sonsino, is now available from the **European Powder Metallurgy Association.** This manual provides a comprehensive description of the components design procedure and highlights potential pitfalls. It also provides knowledge derived from statistically supported S-N curves for different loading modules (axial, bending), stress ratios (pulsating loading or alternative loading), notch factors, monotonic and cyclic yield stresses and fracture mechanical data for a selection of P/M steels as related to material and manufacturing parameters. For further information, contact Mrs. Pauline Davies, European Powder Metallurgy Association, Old Bank Buildings, Shrewsbury, UK, SY3 8AY; tel: 44/743248899; fax: 44/743362968.