
News

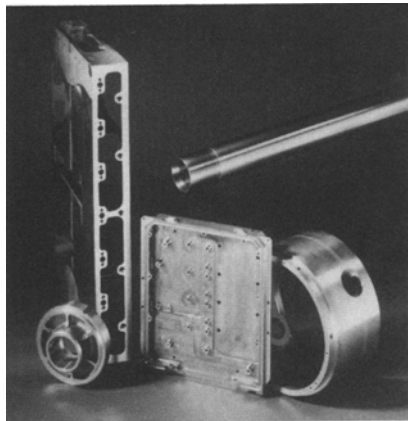
Materials/Products

Anomet Products is producing *metallurgical-bonded precious metal clad rod and wire* for manufacturing electronic devices and connectors in sizes from 0.01 to 0.32 cm (0.005 to 0.125 in.) outside diameter. The copper- and nickel-base wire has at least two layers of 0.635 μm (25 $\mu\text{in.}$) of 10k to 24k gold, silver, platinum, or palladium. Other alloys are also available. For more information, contact: Anomet Products, 830 Boston Tpke., Shrewsbury, MA 01545; tel: 508/842-3069; fax: 508/842-0847.



Anomet Products

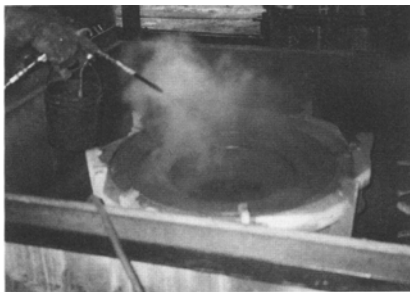
Beralcast BeAl alloys from **Nuclear Metals** are a patented family of *beryllium-aluminum alloys for investment cast*



Nuclear Metals

components used in aerospace and electronics applications. The alloys combine the strength of stiffness of beryllium with the ductility and toughness of aluminum. For more information, contact: Nuclear Metals, 2229 Main St., Concord, MA 01742; tel: 508/369-5410; fax: 508/369-4045; e-mail: sales@nucmet.com; web: <http://www.nucmet.com>.

Dylon Industries has developed Grade CW, *an insulating wash for centrifugal casting molds.* The graphite wash produces smooth surfaces that help release the casting. The material dilutes in water and can be sprayed on steel, iron, or graphite molds. For more information, contact: Keith Partee, Dylon Industries, 7700 Clinton Rd., Cleveland, OH 44144; tel: 216/651-1300; web: 1/800/237-8246.

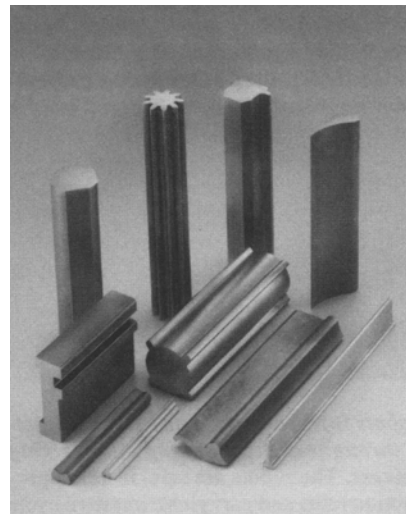


Dylon Industries

Colorite Polymers has introduced *Vinyl-Bond, a flexible PVC compound that bonds well to CPVC, ABS, polyester, and rigid PVC materials.* The compound was designed for use in coextruded applications and for easy processing. For more information, contact: Unichem Products Div., Colorite Polymers, 101 Railroad Ave., Ridgefield, NJ 07657; tel: 201/941-2900; fax: 201/941-0308.

Rathbone Precision Metals has available *metal parts produced by cold drawing bar stock to achieve near-net shapes that require little or no machining,* from carbon, alloy, and stainless steels; nickel alloys, brass, copper, nickel-silver, and other metals. Parts have outside diameters of 0.8

to 5 cm (0.03125 to 2 in.) with tolerances of ± 0.001 cm (± 0.0005 in.) and surfaces finishes to RMS 63. For more information, contact: Rathbone Precision Metals, 241 Park St., Palmer, MA 01069; tel: 413/283-8961; fax: 413/283-9722.



Rathbone Precision Metals

Tribocor 532N from **Zyp Coatings** is a *surface-nitrided refractory alloy of niobium, 30% Ti, 20% W that can be machined, welded, and brazed into complex shapes* for such applications as seal rings, valve seats and balls, acid handling equipment, spray nozzles, injectors, pump components, and mixer. The material resists deformation to 815 $^{\circ}\text{C}$ (1550 $^{\circ}\text{F}$). For more information, contact: Zyp Coatings, 120 Valley Ct., Oak Ridge, TN 37830; tel: 423/482-5717; fax: 423/482-1281; e-mail: zypcoatings@worldnet.att.net; web: <http://www.zypcoatings.com>.

MicroTec steels from **Timken** include *more than 20 grades of medium-carbon microalloy steels for applications that require moderate levels of strength and ductility.* The company will supply the steels as machining bars, forging bars, or seamless tubing. For more information, contact: Timken, GNW-37, 1835 Dueber Ave. S.W., P.O. Box 6932, Can-

ton, OH 44706-0932; tel: 330/471-3502; fax: 330/471-7032; web: <http://russelle@timken.com>.

Hoechst Technical Polymers has available *laser-markable Celcon LM90Z acetal copolymer*. The strong material is resistant to ultraviolet light, chemicals, and heat, and is ideal for automotive applications. For more information, contact: Hoechst Technical Polymers, Hoechst Celanese, 90 Morris Ave., Summit, NJ 07901-3914; tel: 908/598-4162 or 4161; fax: 908/598-4165.

Courtaulds Performance Films has introduced *deep-dyed black plastic polyethylene naphthalate and polyester films* for indoor decorative, packaging, and electronic-component applications. Water-based deep-dyeing creates more uniform coloration than other surface coatings processes. Because the dye is applied to only one side of the film, the dyeing proc-

ess can accommodate films that have had one side previously treated with other surface enhancements. The PEN film provides temperature tolerance and electrical resistance for float-soldered electronic component and flexible circuit applications. The PET film costs less than solvent-dyed black PET with the same performance values. For more information, contact: Courtaulds Performance Films, P.O. Box 5068, Martinsville, VA 24115; tel: 1/800/746-8661; fax: 540/627-3500.

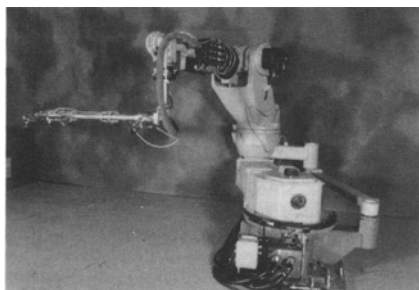
K-Lite benzoyl peroxide from **Diab Group** is a *polymer-based core bedding adhesive*. The sprayable material is specifically formulated to be used with the company's Klegecell structural PVC foam core material. For more information, contact: Diab Group, 315 Seahawk Dr., DeSoto, TX 75115; tel: 972/228-7600; fax: 972/228-2667.

Cadillac Plastic has available Lexan MR10 *polycarbonate sheet*. The material has about 30 times the impact strength of acrylic, and is protected by a UV-, chemical-, and abrasion-resistant coating. The material is backed by a 10-year warranty against yellowing, breakage, loss of light transmission, or coating delamination. For more information, contact: Cadillac Plastic, P.O. Box 7035, Troy, MI 48007-7035; tel: 1/800/CPG-1000.

Cogebi has developed a rigid, machinable, *mica-based thermal insulation plate* available in thicknesses to 7.6 cm (3 in.), for use in electrical or thermal barriers, industrial heaters, and heating elements. Cogetherm P withstands heat to 1000 °C (1832 °F); Cogetherm M resists pressure to 400 MPa (58 ksi). For more information, contact: Customer Service, Cogebi, 14 Faraday Dr., Dover, NH 03820; tel: 603/749-6896; fax: 603/749-6958; e-mail: cogebi@nh.ultranet.com.

Processing/Equipment

Robots from Motoman handle *sheet metal throughout the blanking and forming process*. The robots are safe, increase production rates and part yield, improve cycle time, and let the manufacturer exercise consistent control over production output and control. Eight models are available, for various payloads and pitch applications. For more information, contact: Motoman, 805 Liberty Ln., W. Carrollton, OH 45449; tel: 937/847-6200; fax: 937/847-6277.



Motoman

Alliance Scale has developed the *Explorer analytical balance*. The balance uses an international calibration system to sense changes in ambient temperature and indicate when to recalibrate. The system can also generate an audit trail for ISO-9000

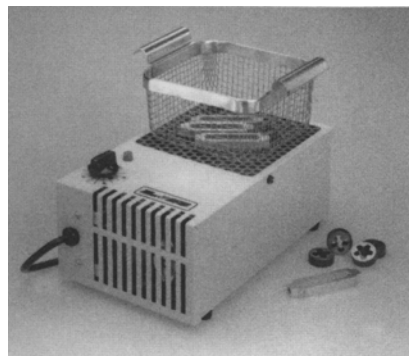


Alliance Scale

requirements. Standard features include auto-zero tracking, RS232 interface, spill gutter, and removable draft shields. For more information, contact: Alliance Scale, 1020 Turnpike Rd., P.O. Box 509, Canton, MA 02021-0509; tel: 1/800/343-6802 or 617/828-8386; fax: 617/828-9510; e-mail: asicanton@aol.com.

The Balston *nitrogen gas generation system* from **Whatman** uses a membrane to separate 95 to 99.5% pure nitrogen from compressed air. Typical applications include purging tanks and vessels, solvent blanketing, chemical transferring, sparging, and mixing. For more information, contact: Whatman, 260 Neck Rd., P.O. Box 8223, Haverhill, MA 01835-0723; tel: 508/374-7400; fax: 508/274-7070.

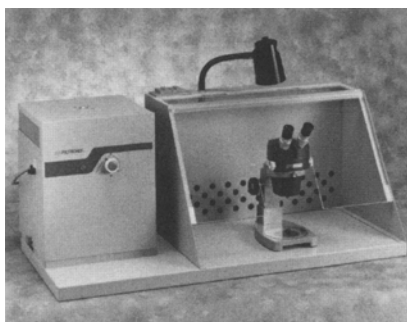
L&R Manufacturing has available an *industrial dryer designed to dry parts quickly and thoroughly*, eliminating spots and preventing corrosion. The convection



L&R Manufacturing

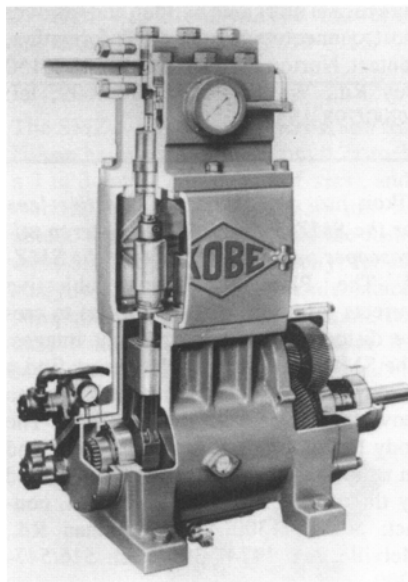
air flow from the heat deflector creates an even distribution of hot air at a stable temperature that will not remove lubricants. The dryer is ideal for batches or small, delicate items. For more information, contact: L&R Manufacturing, 7 Old Hwy. 28, Whitehouse Station, NJ 08889; tel: 908/534-4041; fax: 908/534-5023.

The HS-4500 *tabletop workstation* from AirFiltronix provides protection against toxic chemical and particulate contamination during analysis of such materials as asbestos, organic vapors and solvents, or soldering fumes. The system uses a 265 CFM variable-speed blower and one of several filters: charcoal, three-stage dacron, aluminum mesh, or HEPA. The workstation has a clear flexiglass face shield, worklight, and a duplex outlet for microscopes or other equipment. For more information, contact: AirFiltronix, 154 Huron Ave., Clifton, NJ 07013; tel: 201/779-5577.



AirFiltronix

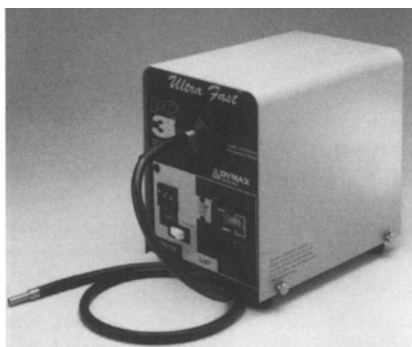
Trico Industries produces Kobe *hydraulic pumps* in pressures of 14 MPa (2 ksi), 35 MPa (5 ksi), 69 MPa (10 ksi), 138 MPa (20 ksi), and 207 MPa (30 ksi). The pumps can be used for operating hydraulic molding presses, testing large-diameter welded pipe, or driving a 454 metric ton (500 ton)



Trico Industries

press. For more information, contact: Trico Industries, San Marcos, TX; tel: 512/353-4200.

Dymax has available the PC-3 Ultra *medium-intensity ultraviolet spot curing system for curing of adhesives, sealants, coatings, and encapsulants*. The system delivers light in the UVA range at an intensity of 2500 mW/cm². For more information, contact: Dymax, 51 Greenwoods



Dymax

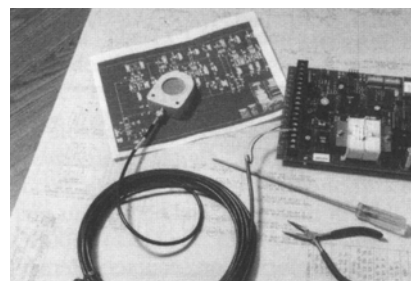
Measurement/Testing/Evaluation

TM85 Test Station System, from Fischer Technology performs *nondestructive coating thickness measurement of coatings* as thin as 0.001 mm (0.00004 in.) on *nonferrous substrates*. This eddy-current instrument measures coatings on inside or outside diameters of cylindrical objects

without indenting the coating or substrate. For more information, contact: Fischer Technology, 750 Marshall Phelps Rd., Windsor, CT 06095; tel: 1/800/243-8417 (in CT: 860/688-8496); e-mail: fischer-technology@worldnet.att.net.

Rd., Torrington, CT 06790; tel: 860/482-1010; fax: 860/482-1308; e-mail: info@dymaxcorp.com; web: <http://www.dymax.com>.

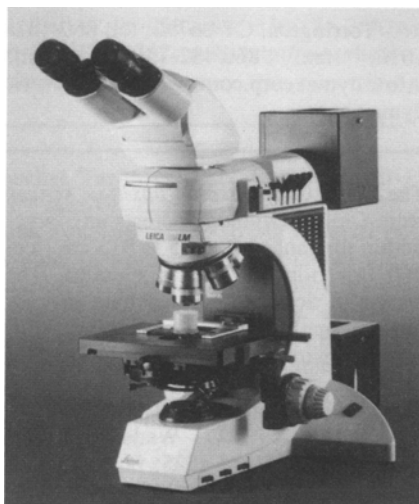
The CS-6100 *ultrasonic position sensor* from Coil Technology detects any target within the range of 1 to 15 to 915 cm (6 to 360 in.) from its sensing element. The sensor is designed for machine process control applications in stamping, roll-forming, wire drawing, plastic and rubber extrusion, and conversion processing. For more information, contact: Coil Technology, P.O. Box 477, Wadsworth, OH 44282; tel: 330/334-1525; fax: 330/336-2046; e-mail: coiltek@bright.net; web: <http://www.coiltek.com>.



Coil Technology

The M100 *milling cutter system* from Widia uses an insert with a tough, high-cobalt cutting edge that is capable of plunging straight into parts without requiring ramping. The system produces an excellent finish with accurate insert locations for *die- and mold-making applications*. Inserts are available in steel, stainless steel, or cast iron; uncoated or cermet; and wet or dry grades. For more information, contact: Widia North America, 4701 Marburg Ave., P.O. Box 92950, Cincinnati, OH 45209; tel: 1/888/872-9434; fax: 513/841-8239; e-mail: tushar_desai@milacron.com.

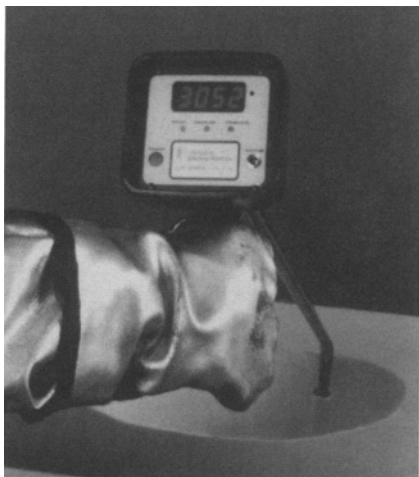
For routine materials examinations and demanding materials research tasks, the *DM-LM modular microscope*, from Leica, uses Delta infinity optics, a five-function focus system with three-gear focusing. For more information, contact: Leica, 111 Deer Lake Rd., Deer-



Leica

field, IL 60015; tel: 1/800/248-0123; fax: 847/405-0147.

Heraeus Electro-Nite has available the DT-260 *portable digital temperature measurement system for molten metal*, usable for iron, steel, and nonferrous metals from 226 to 1815 °C (440 to 3300°F). For more information, contact: Heraeus Electro-Nite, 9901 Blue Grass Rd., Philadelphia, PA 19114-1080; tel: 215/464-4200; fax: 215/698-7793.

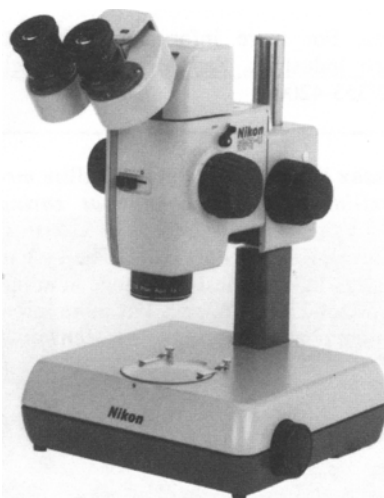


Heraeus Electro-Nite

Norton Performance Plastics is producing *Tygon Laboratory tubing*. This pump tubing last up to twice as long in peristaltic pumps as other clear plastic tubing and demonstrates excellent chemical resistance to a broad range of acids, alkalis, and corrosive salt solutions. This flexible, transparent tubing with a smooth inner

bore resists inorganic buildup and fits over most connectors. For more information, contact: Norton Performance Plastics, 150 Dey Rd., Wayne, NJ 07470-4699; tel: 1/800/798-1554.

Nikon has introduced *an objective lens for the SMZ-U and SMZ-10A stereo microscopes and a zoom body for the SMZ-U*. The Plan Apochromat objective corrects for chromatic aberrations to create distortion-free, clear, bright images. The SMZ-U zoom body lets users find a specific magnification without having to move their eyes from the eyepieces. The body has nine preset magnifications, and an additional magnification can be added by the user. For more information, contact: Nikon, 1300 Walt Whitman Rd., Melville, NY 11747-3064; tel: 516/547-4200.



Nikon

SIP has introduced the SIP 300M and 750M *linear measuring machines for measurement of cylindrical plug and ring gages, thread gage plugs and rings, snap gages, end standards, micrometers calipers, and dial indicators*. The models have



SIP

resolution to 0.0003 μm (0.01 $\mu\text{in.}$) and can be used for ISO certification. For more information, contact: American SIP, 530 Saw Mill River Rd., Elmsford, NY 10523; tel: 914/592-8006; fax: 914/592-2383.

The *Ci4000 Xenon Weather-Ometer* from **Atlas Electric Devices** has been redesigned to incorporate features of the *Ci5000 for accelerated weathering tests*. The control systems and SmartDamper system have been revamped. A water purity monitor flashes a warning when water quality falls below user-defined limits, and a Smart Light monitor prevents test calibration if an incorrect monitoring filter has been installed. The control system memory stores twelve standard and five user-calibrated tests. The SmartDamper has finer control of temperature, humidity, and variability. For more information, contact: Atlas Electric Devices Co., 4114 N. Ravenswood Ave., Chicago, IL 60613; tel: 773/327-4520; fax: 773/327-5787.



Atlas Electric Devices

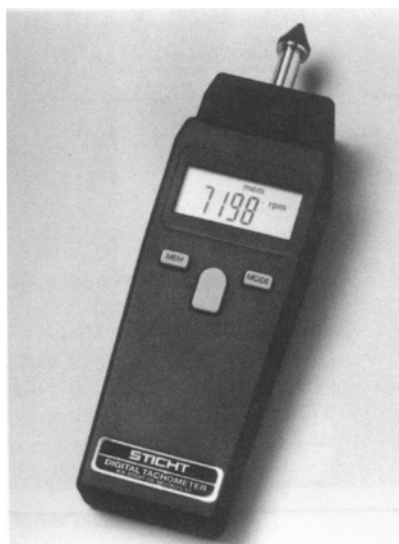
Varian Associates has introduced a *fast-sequential atomic absorption spectrometer that performs elemental determinations on samples rapidly*: up to 10 elements in 20 samples in 50 min. To accommodate the operating speed, the lamps mounted in fixed positions are operated simultaneously to ensure narrow line widths and improve linear calibrations. An optional Sample Introduction Pump System prepares standards, dilutes samples, adds reagents, and performs standard additions. For more information, contact: Varian Associates, 3050 Hansen Way, Palo Alto, CA 94304-1000.

Lima 5 from Q.Ex is *CMM inspection software for CAD measurement and analysis* of sheet metal, mold making, injection molding, and press tool manufacturing. The software displays CAD files through such interfaces as Spac, Unisurf, Set, Iges, and VDA, for measurement, evaluation, and analysis of complex shapes and surfaces. For more information, contact: Q.Ex Corp., P.O. Box 80964, Rochester Hills, MI 48308-0964; tel: 810/608-2530; fax: 810/608-2532.



Q.Ex Corporation

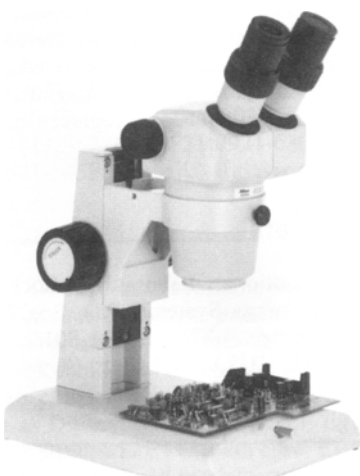
The Herman H. Sticht Company has introduced the MF-2 *digital tachometer*. In the contact mode, the instrument measures to 19,999 rpm. In the noncontact mode, the instrument uses a visible light beam to measure to 99,999 rpm. Accessories measure surface speed in fpm, ipm, and mpm, as well as length in feet or meters. For more information, contact: Herman H. Sticht Co.,



Herman H. Sticht Company

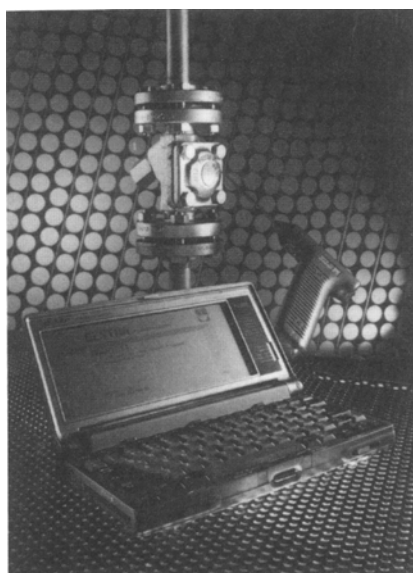
57 Front St., Brooklyn, NY 11201; tel: 1/800/221-3203; fax: 718/852-7915.

The SMZ-1 ESD *stereo microscope* from Nikon has a zoom range from 0.7× to 3×, a 7 to 3 cm (1.2 in.) field of view, and a working distance of 10 cm (3.9 in.). Antistatic material and paints let the instrument discharge static electricity, for safe study of electronic and semiconductor components. For more information, contact: Nikon, 1300 Walt Whitman Rd., Melville, NY 11747-3064; tel: 516/547-4200.



Nikon

The VKP 20 from Gestra is a *computer-based steam trap that helps control costly*

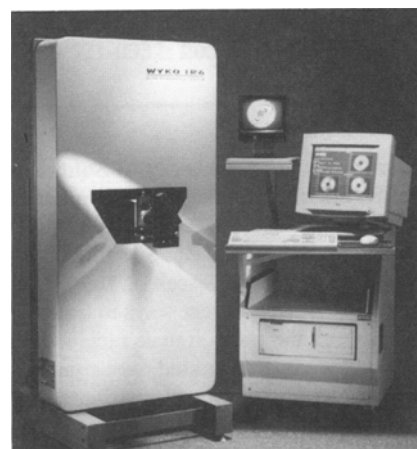


Gestra

steam losses. The system operates by measuring ultrasonic vibration emitted by steam traps when liquid or steam flows through. The record sound curves are evaluated against predetermined threshold limit criteria to determine when traps have failed and which traps are likely to fail soon. For more information, contact: Gestra, 10 York Ave., W. Caldwell, NJ 07006; tel: 1/800/GESTRA-1; fax: 201/403-1557; web: <http://www.gestra.de>.

Varian Analytical Instruments has developed *three accessories for the Saturn 2000 GC/MS system*: the Chromatoprobe, a sample introduction device; an LCI inlet for liquid chemical ionization reagents; and a CI manifold for multiple CI reagents. The Chromatoprobe performs spectra estimates on solids, liquids, and slurries. The LCI inlet performs qualitative identification through CI reagents. The CI manifold operates similarly, using three different reagents. For more information, contact: Varian Analytical Instruments, Dept. VWC090, P.O. Box 9000, San Fernando, CA 91341-9981; tel: 1/800/926-3000.

Wyko has available the IR6 *disk and blank substrate flatness inspection system*. Designed for disk and drive manufacturers, the system's laser optics measures global flatness of an extremely rough substrate, such as unpolished aluminum, with runout to 53 μm (0.002 in.) across one radius. Three models are available. The M1 performs single-sided surface flatness and local defect measurements with manual disk loading. The M2 performs consecutive parallelism and surface flatness measurements of both sides of a single disk with manual loading. The A2 simultaneously measures the single side of two



Wyko

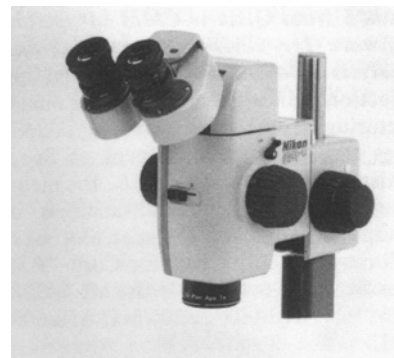
disks, and can be integrated into high-volume, automated production lines. For more information, contact: Wyko, 2650 E. Elvira Rd., Tucson, AZ 85706; tel: 520/741-1044; fax: 520/294-1799; web: <http://www.wyko.com>.

A portable stainless steel test kit from **Koslow Scientific** performs color spot tests for molybdenum and etch tests for carbon *to distinguish 316 from 304 stainless, as well as identifying low-carbon "L" grades*. The kit gives results in about 1 min and has enough material to perform 200 tests. For more information, contact: Koslow Scientific Co., 75 Gorge Rd., Edgewater, NJ 07020; tel: 201/941-4484 or 1/800/556-7569; fax: 201/941-4485; e-mail: qkos@aol.com.



Koslow Scientific

Nikon has available *a tilting eyepiece tube for its SMZ-U and SMZ-10A stereo microscope systems*. The binocular tube tilts from 20 to 60° with 1.25× magnification to let the microscope eyepieces be ad-



Nikon

justed for operator comfort. For more information, contact: Nikon, 1300 Walt Whitman Rd., Melville, NY 11747-3064; tel: 516/547-4200.

International Research/Manufacturing Centers

Controls Research Engineering Workbench (CREW), developed by **Oak Ridge National Laboratory**, *designs, analyzes, and troubleshoots automated control systems*. The portable system consists of a laptop computer, a digital signal processor board, analog and digital input/output, and control engineering software. CREW fills the gaps between theoretical knowledge about control system design and practice. The system acquires data, designs control-loop systems, pinpoints process problems, tests control hardware, and simulates potential problems. The tool can also test algorithms that have not been implemented in practice. A test model is being used to control a pneumatic actuator system. A similar system could be developed for use in a robotic arm in semiconductor, steel, or automotive manufacture facilities. For more information, contact: Oak

Ridge National Laboratory, Lockheed Martin Energy Systems, P.O. Box 2009, Oak Ridge, TN 37831-8015; tel: 1/800/356-4USA; web: <http://www.ornl.gov/orcmt>.

Research performed at the Combustion Research Facility, **Sandia National Laboratories**, could help *reduce emission of unburned hydrocarbons from automotive engines*. Some fuel escapes combustion in cool crevices in the cylinder and is later emitted in the exhaust. Using a laser imaging system to view the corner formed by the intersection of the cylinder wall and the piston top that contains the exit of the piston ring crevice, researchers observed how fuel that has escaped combustion while trapped in a

small crevice volume is transported from the crevice to the exhaust. With the ring gap located at the image plane, the rising piston, late in the expansion stroke, scrolled a thin layer of unburned fuel on the cylinder wall into a corner vortex during the exhaust stroke. On the other hand, when the ring gap was located away from the image plane, the unburned fuel exited the crevice as an impulsively driven wall jet early in the exhaust stroke. These crevice volumes account for about half the unburned fuel that exits the engine. However, once the catalytic converter is warmed up, most of this fuel is oxidized before the emissions can exit the tailpipe. For more information, contact: Rod Geer, Sandia National Laboratories; e-mail: wrgeer@sandia.gov.

University View

Scientists at the **University of Southern California** are *adapting organic plastics for photonics applications* under a Multi-University Research Initiative funded by the Office of Naval Research. The MURI is seeking more efficient ways to transmit and process the radio signals received by radar antennas, transmitted over commercial wireless systems, or distributed on ships and aircraft. The scientists are designing and synthesizing plastic materials that can convert the incoming radar signal

into a photonic signal. For more information, contact: USC, 3620 S. Vermont Ave., Los Angeles, CA 90089-2538; tel: 213/740-2215; fax: 213/740-7600; web: <http://www.usc.edu>.

Case Western Reserve University and **UBE Machinery** are forming a *squeezecasting development center*. The prototype and research center will specialize in a process that produces a net aluminum

shape for heat treating and welding. The Center is located at the university foundry in Cleveland, OH, and will be available for research, testing, or prototyping of parts. For more information, contact: UBE Machinery, 5700 S. State St., Ann Arbor, MI 48108; tel: 313/741-7000; fax: 313/741-7017.

Researchers at the **University of Rochester** and **Xerox** have developed a *polymer-*

based light-emitting diode that changes color. The device, the first plastic material and the first LED able to emit light of multiple colors, could make light-emitting plastics viable in a host of devices, such as

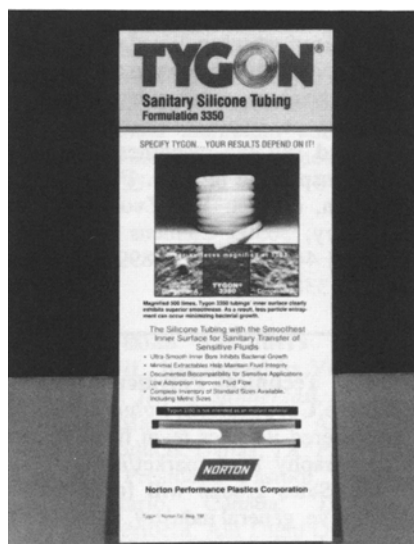
computer screens, television monitors, and fluorescent lighting. In addition, unlike current gallium nitride or gallium arsenide LEDs, the plastic LED requires fewer layers of material and less electric-

ity to create light. For more information, contact: Public Relations Office, University of Rochester, Rochester, NY 14627-0033; tel: 716/275-4119.

Literature/Data Sources

The Technical Services Committee, Aluminum Extruders Council has announced **recommendations for standard bar code identification of aluminum billet and ingot.** Voluntary use of the standard is intended to help producers and users streamline shipping and warehousing procedures. Included in the standard are provisions for identifying customers, suppliers, alloys, dimensions, weight, cast and bundle numbers, PO numbers, and shipping dates. Free copies of the recommendations are available from AEC, 1000 N. Rand Rd., Ste. 214, Wauconda, IL 60084; tel: 847/526-2010; fax: 847/526-3993; e-mail: aec@mc.net.

A brochure from Norton Performance Plastics on **Tygon sanitary silicone tubing** includes a sample of the tubing. The smooth surface of the tubing is unlikely to trap particles or encourage bacterial growth, aiding in cleaning and sterilization. It also improves fluid-flow characteristics by reducing surface area and lowering adsorption. For a copy, contact: Norton Performance Plastics Corp., 150 Dey Rd., Wayne, NJ 07470-4699; tel: 201/696-4700; fax: 201/696-4056.



Norton Performance Plastics

Degradable Plastics, a study from The Freedonia Group, forecasts that U.S. degradable plastics demand will grow 6.3% annually to 215 million kg (475 million lb). Growth will be driven by widening applications brought about by a more competitive pricing structure, improved quality, and greater awareness of the attributes of degradable plastics. For a copy (\$3300), contact: The Freedonia Group, 3570 Warrensville Center Rd., Ste. 201, Cleveland, OH 44122-5226; tel: 216/921-6800; fax: 216/921-5459; e-mail: tfgi@ix.netcom.com.

Diab Group has available **technical data for their complete product line of structural core materials on diskette.** The disk facilitates access and reference to the physical properties of products such as Divinycell and Klegecell lightweight structural PVC foam core; Estercore polyester-based semistructural foam core; ProBalsa end-grain balsa wood core; Pro-Matt print barrier; and Divillette, K-Lite, and ProBalsa core bedding adhesives. For a copy, contact: Diab Group, 315 Seahawk Dr., DeSoto, TX 75115; tel: 214/228-7600; fax: 214/228-2667.

Businesses that sell or offer product and service information electronically can receive a free listing in the **Business & Industry edition of the Worldwide Directory of Electronic Addresses**, a Web publication of On-Line Information Services. Buyers worldwide can search companies by name, product, industry, or keyword. For more information, contact: Neal Anderson, On-Line Information Services, 1187 Coast Village Rd., Ste. 207, Santa Barbara, CA 93108; tel: 805/565-5119; fax: 805/565-5120; e-mail: neal@online-info.com; web: <http://www.online-info.com/worldwide>.

According to **Advanced Structural Fibers from Precursors: Carbon, Silicon Carbide**, a study from Business Communications Company, the global market for advanced structural fibers was worth \$383

million in 1996 and is forecasted to increase to \$634 million in 2001, for an average annual growth rate of 10.6%. The U.S. is the largest market for carbon and silicon carbide fiber, accounting for 76% of the world market in 1996 and a projected 73% in 2001. For a copy (\$3350), contact: Business Communications Co., 25 Van Zant St., Norwalk, CT 06855; tel: 203/853-4266.

American Foundrymen's Society has started a **Web site** at <http://www.afsinc.org> containing information on foundry and environmental services and facilities, software, research programs, publications, a listing of committees open to all metalcasting industry professionals, staff e-mail addresses, and links to the sites of the Cast Metals Institute and *Modern Casting* magazine. For more information, contact: AFS, 505 State St., Des Plaines, IL 60016-8399; tel: 1/800/537-4237 or 847/824-0181; fax: 847/824-7848.

A **Rolled Alloys** brochure highlights its **plasma burning, shearing, saw cutting, leveling, and cut-to-length capabilities** at plants in the U.K., Netherlands, and U.S. The brochure also describes the company's line of 23 corrosion- and heat-resistant alloys. For a copy, contact: Rick McIntyre, Rolled Alloys, 125 W. Sterns Rd., P.O. Box 310, Temperance, MI 48182-0310; tel: 313/847-0561 or 1/800/521-0332; fax: 313/847-6917.

DSM Engineering Plastics has printed six specification sheets on grades of its **glass-fiber-reinforced, flame-retardant Arnite thermoplastic polyester**: TV4-239 (15% GFR); TV4-269 (30% GFR); TV4-289 (40% GFR); TV4-260-SN (nonblooming flame-retardant, 30% GFR); TV4-239-SNF (nonblooming flame-retardant, high-flow, 15% GFR); and TV2-269-SNF (nonblooming flame-retardant, high-flow, 30% GFR). For copies, contact: Steve Urdanoff, DSM Engineering Plastics, P.O. Box 3333, 2267 W. Mill

Rd., Evansville, IN 47732-3333; tel: 1/800/333-4237.

The American Society for Testing and Materials will deliver *ASTM standards via fax within ten minutes* of receiving a request from the Webfax option on the society's web site, <http://www.astm.org>. Cost is \$0.75 per page in the U.S., Canada, and Mexico; \$1.50 per page elsewhere. For more information, contact: ASTM, 100 Barr Harbor Dr., W. Conshohocken, PA 19428-2959; tel: 610/832-9500; fax: 610/832-9635.

The Shapemakers Buyers' Guide, a thirty-six page directory, lists headquarters, plant locations, and press sizes for each member of the **Aluminum Extruders Council**. A capabilities chart details quality registrations (ISO or QS), maximum circle size of extrusion presses, forms produced, and finishing and fabricating services. For a free copy, contact: AEC, 1000 N. Rand Rd., Ste. 214, Wau-

conda, IL 60084; tel: 847/526-2010; fax: 847/526-3993; e-mail: aec@mc.net.

"CuproBraz Radiators: The New Competitive Alternative," a brochure from the **International Copper Association** explains a *brazing process used on brazed copper-brass radiators*, scheduled to begin production in the fall. These thin-walled radiators perform better and can be made smaller than aluminum radiators. For more information, contact: International Copper Assn., 260 Madison Ave., New York, NY 10016; tel: 212/251-7240; fax: 212/251-7245.

NACE Standards on CD-ROM, a publication of **NACE International**, contains a complete, searchable collection of standards on such topics as pipeline and piping systems; metals used in corrosive petroleum environments; corrosion caused by water offshore or in industrial settings; surface preparation of concrete and metals; rebar protection; and inhibitors used

in petroleum environments. Technologies covered include coatings, linings, metallurgy, materials selection, cathodic/anodic protection, and laboratory testing. For more information, contact: Membership Services, NACE International, P.O. Box 218340, Houston, TX 77218-8340; tel: 281/228-6223; fax: 281/228-6329; e-mail: msd@mail.nace.org.

A two-page specifications sheet describes *the molding services and capabilities of the Molded Rubber Products Div., Pelmor Laboratories*. A chart describes the properties and applications of 16 traditional and advanced elastomers, including natural rubber, fluoroelastomer, silicon, fluorosilicone, urethane, nitrile, butyl, EPDM, polybutadiene, and polysulfide. For more information, contact: Pelmor Laboratories, 401 Lafayette St., Newtown, PA 18940-0309; tel: 1/800/772-6969; fax: 215/968-6415.

In Business

Paramount Industries, Langhorne, PA, has agreed to acquire the rapid prototyping operations of **Jade Corporation**. The operations, currently located in Huntington Valley, PA, will be moved to the Paramount Rapid Technologies Center, Langhorne, PA.

Materials Resources International, a manufacturer of surfacing and brazing products, has moved its materials marketing laboratories and related offices from Blue Bell, PA, to 403 Elm Ave., N. Wales, PA 19454. The facility combines staff formerly spread among other facilities.

DuPont Automotive, Troy, MI, has completed the acquisition of the automotive finishes business of **Carrs Paints Ltd.**, a privately held company that supplies coatings to automakers in the U.K. The acquisition provides DuPont with a U.K. manufacturing base for finishes and entry into the growing coatings market for plastic parts in Europe.

Aavid Thermal Technologies, Concord, NH, has formed Applied Thermal Technologies, Santa Clara, CA. The wholly

owned subsidiary will offer thermal solution services for electronics.

Kvaerner Davy, Pittsburgh, PA, has consolidated its Clecim and Davy businesses under the name Kvaerner Metals. The companies within the Kvaerner Metals business that will retain their names are Davy Roll, Formet, Turner Chilled Rolls, Kvaerner Songer, Kvaerner Shearfer Townsend, and Kvaerner EES.

Volkswagen will produce the "New Beetle," an updated version of the classic car, at the Puebla plant of its Mexican subsidiary, Volkswagen de México. The company will invest about U.S.\$500 million in the plant by 1998. The New Beetle retains the exterior design of the Beetle, but has updated safety and environmental features.

Eurotherm International, Billerica, MA, has acquired LFE Industrial Systems from Mark IV Industries. Both companies develop process gaging systems. LFE has a strong presence in calendaring, coating, and extrusion markets.

Trion, Sanford, NC, has acquired worldwide rights to manufacture and market industrial dust collection and air-filtration products developed by **Diversi-Tech**, Montreal, Canada. The products are used to remove smoke, fumes, and other indoor manufacturing pollution in industrial plants.

Pines Manufacturing, Westlake, OH, has established **PR Machinery**, a division that rebuilds the company's benders to original specifications, replace or repair worn parts, and run the machines through a quality inspection process. For more information, contact: Tim Zvoncheck, PR Machinery, 30505 Clemens Rd., Westlake, OH 44145; tel: 216/899-3360; fax: 216/899-3361.

Hoechst Technical Polymers, Hoechst Celanese Corporation, Summit, NJ, has reengineered its sales team from a product/geography to a market/industry approach. Sales groups will focus on the automotive, general industry, Latin America, and distributor/compounder markets. The automotive group is further subdivided into teams that will concentrate on electrical/electronics and fuel systems; interior/exterior; powertrain/chassis; and

automotive applications development engineers. The general industry group includes teams dedicated to appliance/electrical, consumer, industrial, information technology, and general industry application development engineers.

PLV 2100, a fluoroelastomer rubber produced by **Pelmor Laboratories**, Newtown, PA, was used to bond in place an "up-stop bumper" inside the landing gear well of the Space Shuttle Atlantis.

Mitchell Industries, Birmingham, AL, a diversified manufacturer, has acquired **Quality Machine Works**, Trussville, AL, a contract manufacturer of OEM equipment for the steel, paper, pulp, and mining industries.

Sales at **Howmet Corporation**, Greenwich, CT, the world's largest investment casting company, rose 5.8% in 1996 to top the \$1 billion mark. The company attributes the record revenue to its position in growing markets such as aerospace and land-based gas turbines, along with the internal corporate restructuring efforts.

DSM Engineering Plastics, Evansville, IN, will build a nylon-6 polymerization plant at its Augusta, GA, site. Expected to be on-line in the fourth quarter of 1998, the plant will produce nylon-6 for engineering plastics and carpet fiber applications.

Chicago Steel, Gary, IN, plans to open its third tension leveling facility in Gadsden, AL. The line will handle 185 cm (73 in.) wide steel and aluminum coils up to 27,200 kg (60,000 lb) in thicknesses ranging from 0.25 to 0.33 cm (0.10 to 0.130

in.). The facility will add 162,000 metric tons (180,00 tons) of annual capacity to the company's existing 288,000 metric tons (320,000 tons).

M.A. Hanna, Cleveland, OH, has agreed to acquire the Sadolin Masterbatch plastic color and additive concentrates business from **Akzo Nobel Inks A/S**. The business has annual sales of about U.S.\$6 million.

Motion Industries, subsidiary of Genuine Parts Company, has opened a branch in Marietta, OH, to provide manufacturers in Washington County, OH, and Wood County, WV, with bearings, mechanical, electrical, and fluid power equipment.

The Filtration Group, **Parker Hannifin**, Cleveland, OH, has purchased for cash Norco Products, Troy, MI, a manufacturer of filtration products primarily used by the automotive industry. The Hydraulic Filter Div., Filtration Group, Metamora, OH, will market Norco products.

DTM Corporation, Austin, TX, a supplier of rapid prototyping and tooling systems, services, and materials, offered 2,852,191 shares to the public at \$8 a share on 1 May 1997, on the NASDAQ National Market under the symbol DTM. DTM, a majority-owned subsidiary of **B.F. Goodrich Company**, Richfield, OH, will use the proceeds of the initial public offering to reduce debt, to fund working capital requirements, and for other general corporate purposes.

In May, the **Steel Alliance**, a coalition of steel industry companies and organizations, began a five-year, \$100 million advertising campaign with the theme, "The

new steel. Feel the strength." The campaign is designed to help consumers recognize the material's attributes: strength and recyclability. The advertising strategy was based on research that found good news for the steel industry: consumers already recognize the material's strength and durability, and any negatives that exist are based on outdated information and misconceptions about the product and the industry. The television and print campaign will reinforce three main points: that steel is the most recycled material on earth, more than all other materials combined; that resistance to fire, severe weather, and earthquakes makes steel increasingly the material of choice in housing; and that the steel and automotive industries have partnered to apply high-strength steels to reduce body weight while improving safety.

Sermatech Technical Services, Limerick, PA, and **ISPA Company**, Baltimore, MD, have formed **Sermatech-ISPA Inc.**, Sugar Land, TX, a joint venture to provide fluoropolymer coating and lining products to customers in the Gulf Coast region for equipment used in the chemical, petrochemical, pharmaceutical, and microelectronic manufacturing industries.

Metal Management, Chicago, IL, has completed its acquisition of all the partnership interests in **Reserve Iron & Metal L.P.**, Cleveland, OH, a scrap metal recycling company with 1996 gross revenues of \$117 million. Metal Management also owns the MacLeod Group, Los Angeles, CA, a wire processor; HouTex Metals, Houston, TX, a ferrous scrap metals supplier to minimills; and EMCO Recycling, Phoenix, AZ, a scrap metal recycler.

Kudos

The **Aluminum Extruders Council**, Wauconda, IL, has named its Volunteers of the Year: **James Sanderson**, Division Technical Manager, Kaiser Aluminum Extruder Products, Dallas, TX; **Paul Robbins**, Vice President, Castool, Scarborough, Ontario, Canada; **Lawrence Robbins**, President, Alu'Diem Div., Exco Technology Ltd., Markham, Ontario, Canada; and **Bert McBride**, General Manager, Caradon Indalex, Montreal, Canada.

MetCut Research, Cincinnati, OH, a materials engineering and testing company, has named **Dr. Philip Bretz** to the position of Technical Director. Dr. Bretz obtained his Ph.D. in metallurgy and materials engineering from Lehigh University.

Ronald Pierce will be the president for 1997 to 1998 of the **American Welding Society**, Miami, FL. Mr. Pierce is Presi-

dent of Welding Engineering Supply Company, Prichard, AL.

The **Society of Manufacturing Engineers**, Dearborn, MA, named its Outstanding Young Manufacturing Engineers for 1997: **Paul Bradley**, general manager, Peterson Industries Pty., Edwardstown, Australia; **Dr. Saifallah Benjaafar**, assistant professor, Dept. of Mechanical Engineering, University of

Minnesota, Minneapolis, MN; **Dr. Shing Chang**, assistant professor, Department of Industrial and Manufacturing Systems Engineering, Kansas State University, Manhattan, KS; **Dr. Hyunbo Cho**, assistant professor, Department of Industrial Engineering, Pohang University of Science and Technology, Pohang, South Korea; **Subir Chowdhury**, quality and systems engineer, Delphi Saginaw Steering Systems, General Motors, Saginaw, MI; **Dr. Sanchoy Das**, associate professor, Department of Industrial and Manufacturing Engineering, New Jersey Institute of Technology, Newark, NJ; **Dr. Fangming Gu**, senior research engineer, General Motors R&D Center, Warren, MI; **Dr. Yuan-Shin Lee**, assistant professor, Department of Industrial Engineering, North Carolina State University, Raleigh, NC; **Dr. James Noble**, assistant professor, Department of Industrial Engineering, University of Missouri, Columbia, MO; **Ronald Rinke**, senior design engineer, Western Lithotech, Springfield, MO; **Keith Sekera**, manager of tube forming, Westinghouse Specialty Metals Plant, Blairsville, PA; and **Dharmaraj Veeramani**, assistant professor, University of Wisconsin, Madison, WI.

Dr. Stephen Holditch, a trustee of the American Institute of Mining, Metallurgical, and Petroleum Engineers, New York, NY, has been inducted into the **Russian Academy of Natural Sciences**, Moscow, Russia. Dr. Holditch is also a professor of petroleum engineering at Texas A&M University.

Cabot Corporation, Billerica, MA, has named **William Brady** its Vice President for Special Blacks, the company's carbon black manufacturing division. Mr. Brady has been with Cabot for more than a decade.



W. Webb

Carl Zeiss, Thornwood, NY, and the **Royal Microscopical Society** have chosen **Watt Webb**, Professor of Applied and Engineering Physics, Cornell University, Ithaca, NY, as the 1997 winner of the Ernst Abbe

Lecture Award, in recognition of his contributions to quantitative microscopy, fluorescence microscopy, and spectroscopy.

Wyle Laboratories, El Segundo, CA, has appointed **Robert Rieth** to the position of Chief Executive Officer. Mr. Rieth had served as Vice President, Business/Corporate Development at Teledyne, Los Angeles.

Arthur Braun, manager of the Aerospace Structures and Materials Marketing and Operations Group at MTS Systems Corporation, Eden Prairie, MN, was named a Fellow of ASTM, W. Conshohocken, PA, in recognition of his work in developing standards on fatigue and fracture. Mr. Braun had performed graduate research at the University of Missouri, Columbia, MO, into fatigue-crack growth in steels exposed to NACE hydrogen sulfide solution.



K. Carruthers

The **Aluminum Extruders Council**, Wauconda, IL, has elected **Keith Carruthers**, president, Indalex, Div. Caradon Ltd., Mississauga, Ontario, Canada, as its Chairman. The other officers elected were:

John Parrish Jr., president, Loxgreen, W. Columbia, SC; **Howard Solot**, executive vice president, Werner, Greenville, PA; **Manfred Schroeder**, Director, V.A.W. of America, St. Augustine, FL; **Lewis Rink**, president, Anodizing, Portland, OR; **Shaul Ivtsan**, president, KLIL Industries, K. Motzkin, Israel; **Douglas Monk**, president, Bonnell Company, Newnan, GA; **David Maxwell**, executive vice president, Brazeway, Adrian, MI; **Albert Styring**, president, V.A.W. of America, St. Augustine, FL; **François Dalla Bona**, executive vice president, Pechiney Sales Corporation, Greenwich, CT; **Martin Tellkamp**, president, Tellkamp Systems, Santa Fe Springs, CA; **Arthur Bidwell**, chairman, Magnode, Trenton, OH; **Richard Gaugler**, chairman, Macklanburg, Oklahoma City, OK; **Herbert Schuler**, president, General Extrusions, Youngstown, OH; **Richard Werner**, chairman, Werner Company, Greenville, PA; and **Richard Ziehm**, president, Precision Extrusions, Bensenville, IL.

Stanley DeGreve will fill the positions of Vice President, European fiber glass operations, and Executive Vice President, PPG Europe, for **PPG Industries**, Pittsburgh, PA. Mr. DeGreve has been Vice

President of the company's U.S. fiber glass operations since 1991.



T. Miller, Jr.

Carl Zeiss, Thornwood, NY, has named **Thomas Miller, Jr.**, as the President of Zeiss Optical Systems. Mr. Miller had been the Vice President for imaging systems at Siemens, Iselin, NJ.

The **Institute of Scrap Recycling Industries**, Washington, DC, has named **Robin Wiener** to the position of executive director. Ms. Wiener had been ISRI's assistant counsel and director of environmental compliance.

The **Institute of Materials**, London, has appointed **Dr. Bernard Rickinson** as its chief executive. Dr. Rickinson received his doctorate in metallurgy from Sheffield University and had been a director at Bodycote International plc.

The **Aluminum Extruders Council**, Wauconda, IL, presented the 1997 Distinguished Service Award to the late **George Levy**, a former chairman of the Council, in recognition of his dedication to seeking new applications for aluminum extrusions and his marketing knowledge. Muriel Levy, his widow, accepted the award on his behalf.



H. Smith III

Leica Microscopy Group North America, Deerfield, IL, has named **Henry Smith III** to the position of president. Mr. Smith had worked in several executive positions at Becton, Dickinson & Company.

The **Society of Manufacturing Engineers**, Dearborn, MI, has selected recipients of its Awards of Merit, for contributions to the society's professional activities: **John Dockstader**, project engineer, Hewlett-Packard, Waltham, MA; **Wayne Frost**, supply management specialist, John Deere, Waterloo, IA; **Richard Gray**, manager of

quality assurance and technical services, B&M Precision, Ruskin, FL; **Louis Puricelli**, facility engineer, City of Colonial Heights, Colonial Heights, VA; **Fred Salzmänn**, president, O&A Tool Specialties, Verona, WI; and **James Spillane**, owner, Mitrix, Madison, CT.



Craig Jennings

Craig Jennings has been named president of **Motoman Inc.**, Dayton, OH, a manufacturer of robotics for arc welding, material handling, and assembly. Mr. Jennings also serves as president of Yaskawa

Motoman Mexico S.A. de C.V. and Yaskawa Motoman Canada Ltd.

Sam Ruzick Jr. has been named Controller of **American Steel Foundries**, Chicago, IL. Mr. Ruzick will be responsible for the company's finance and MIS functions.

Andrew Mueller has been appointed executive vice president for operations at **International Specialty Products**, Wayne, NJ, a specialty chemical producer. Mr. Mueller had been group vice president for colorants and textile/leather chemicals at BASF, Mt. Olive, NJ.

The **Society of Manufacturing Engineers**, Dearborn, MI, presented International Honor Awards to **James Barcus, Jr.**, retired senior vice president, Black & Decker Corporation, Towson, MD; **Dr. Richard Kegg**, vice president of technology and manufacturing development, Cincinnati Milacron, Cincinnati, OH; **Dr. Warren Worthley**, president, Technical Services, Punta Gorda, FL; **George Perry**, president, Siemens Automotive U.S., Auburn Hills, MI; **Charles Hull**, president, 3D Systems, Valencia, CA; **Dr. Alexander Slocum**, associate professor of mechanical engineering, MIT, Cambridge, MA; and **Kevin Harding**, manager of the electrooptics team, Industrial Technology Institute, Ann Arbor, MI.
