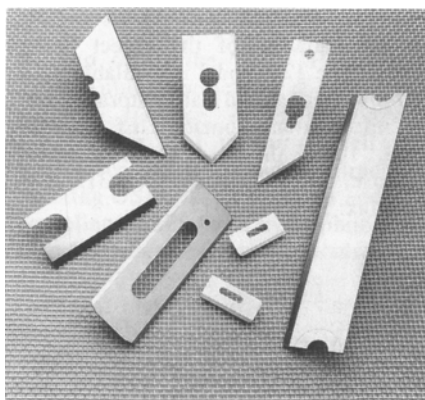


Materials/Products

General Magnaplate offers Goldenedge; an ultrahard, ultrathin *surface-enhancement treatment* for blades and other sharp-edged cutting tools. The treatment allows razor-sharp edges to have increased service life while maintaining their sharpness. The treatment, which can be applied to any sharp-edged cutting tool, creates a hard surface with a uniform thickness of 0.015 μm . For information, contact Candida Aversenti, General Magnaplate, 1331 Rte. 1, Linden, NJ 07036; tel: 908/862-6200; fax: 908/862-6110.

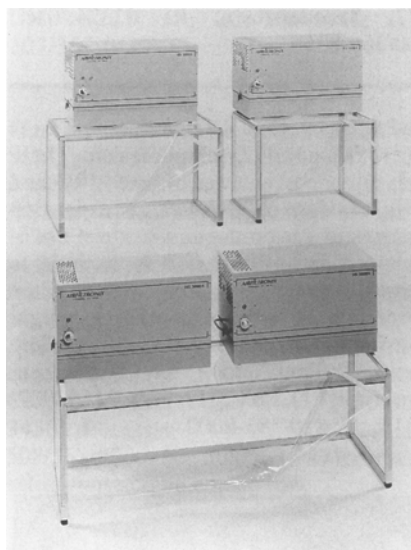


General Magnaplate

Aavid Thermal Technologies Inc. offers Thin-Fin *heat sinks for cooling low-power devices in surface mount packages*. The product, which uses highly conductive copper in a low profile (0.013 in.) configuration, increases the amount of available heat-dissipating surface area by extending the surface of the heat sink beyond the boundaries of the surface mount package. Integrated score marks on the surface of the heat sink allow these extensions to be easily folded to clear other components. For more information, contact Gary Kuzmin at Aavid, One Kool Path, P.O. Box 400, Laconia, NH 03247-0400; tel: 603/528-3400; fax: 603/528-1478.

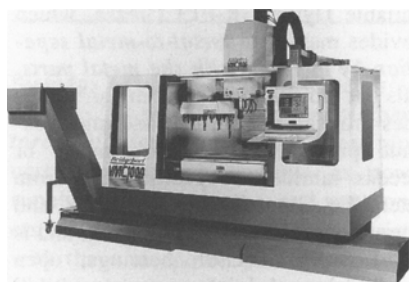
Airfiltronix offers *recirculating containment hoods* for capture of hazardous

fumes and particles. With custom models also available, standards models have controllable fan speed and airflow, measure 18 x 18 x 24/30/50 in., and use a variety of filters. For more information, contact Michele Cantwell, Airfiltronix, 154 Huron Ave., Clifton, NJ 07013; tel: 800/452-8510.



Airfiltronix

Bridgeport Machines offers their VMC 1000/22 now with *PC-based, 32-bit control* for fast programming. The DX-32 control should make full CNC control easy, even for inexperienced operators. Its open architecture design allows software and hardware upgrades and is compatible with most previous Bridgeport controls



Bridgeport Machines

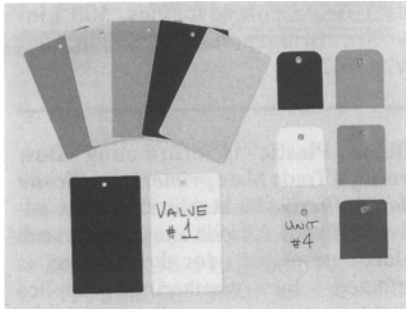
and software. For more information, contact Bridgeport Machines, 500 Lindley St., Bridgeport, CT 06606; tel: 800/243-4292.

Cadillac Plastic is distributing **Dow Corning's Trade Mate primerless silicone sealant/adhesive** for acrylic sheet. The adhesive will not corrode most substrates, produces no acidic odor during cure, is unaffected by weathering, applies smoothly at any temperature, and has a consistent bead size from its reusable/removable/resealable nozzle. For information, contact Cadillac Plastic, 143 Indusco Court, P.O. Box 7035, Troy, MI 48007-7035; tel: 1-800-322-TRADE.



Cadillac Plastic

Carlton Industries Inc. is producing 3 × 5 in. *heavy-duty tags*. Made of 040 aluminum and available in 7 colors, the tags hold up in harsh conditions. Also available are rigid 2 × 2.5 in. vinyl tags for on-the-spot marking in pen, pencil, or marker. For information, contact Carlton Industries Inc., P.O. Box 280, 4225 W. State Hwy. 71, La Grange, TX 78945; tel: 800/231-5988; fax: 800/231-5934.



Carlton Industries

Carpenter Technology Corp. has available *two powder tool steels*, Micro-Melt 9 and 10, with superior wear resistance, and good strength and toughness. MM9 has higher toughness and less wear resistance than MM10. Both alloys have a refined microstructure with smaller, more uniformly distributed carbide particles and a finer grain size. Both alloys change size only slightly after hardening, and machinability of the annealed alloys is rated at 35 to 40% of 1% carbon tool steel. For technical data sheets, contact Harrison Garner, Carpenter Technology Corp., P.O. Box 14662, Reading, PA 19612-4662; tel: 610/208-2932; fax: 610/208-3172.

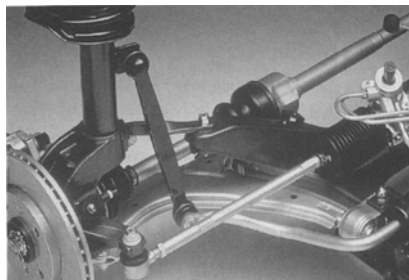
Cleveland Pigment and Color has *Amoplast dyes* produced by Color-Chem International, Atlanta, GA. Available in a number of different colors, these dyes have good heat stability, light fastness, and color clarity. They are compatible with nylon, ABS, and high-temperature engineering resins and alloys. For information, contact Cleveland Pigment & Color Co., 1680 E. Market St., Akron, OH 44305-4246; tel: 800/688-3884.

Davy International, a subsidiary of Tralfalgar House plc, offers "fastcast," a *high-speed 4-high aluminum thin-strip caster*. The product, developed with Oxford University and Granges AB and produced in Luxembourg, is able to cast a wide range of alloys at strip gages down to 1 mm at

up to twice the production rates normally achieved with conventional twin roll casters and offers roll-bend for gage and profile control and back-up roll drive. For more information, contact Shelli Cosmides, Marketing Manager; tel: 412/566-3330.

DeWal Industries has developed a porous ultrahigh molecular weight polyethylene film (D/W 402P) for *semiconductor polishing applications*. With a nominal pore size of 32 μm, the film has uniform z-axis pore size distribution, accurate gage control, hydrophilic CMP formulation, high abrasion resistance, and a pressure-sensitive adhesive applied on one side. For more information, contact DeWal Industries Inc., 15 Ray Trainor Dr., P.O. Box 372, Saunderstown, RI 02874; tel: 800/366-8356.

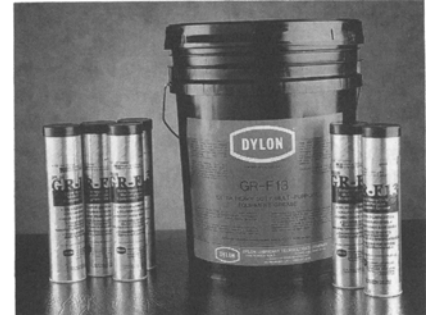
DuPont has available *stabilizer bar linkage rods* made of Zytel nylon resin. These rods allow cost savings of up to 10% and weight savings of 20 to 46% on suspension systems of car production models. Stabilizer (or anti-roll) bars help to resist a vehicle's tendency to roll outward when cornering, as well as improving weight distribution on wheels. For information contact DuPont Automotive, 950 Stephenson Hwy., P.O. Box 7013, Troy, MI 48007-7013; tel: 810/583-8000.



DuPont

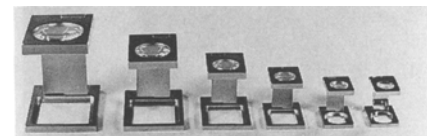
Dylon Lubricant Technologies Co. has available Dylon GR-F13 Grease, which provides maximum *metal-to-metal separation by bonding with the metal parts*, seals out moisture and contaminants, provides protection to 450 °F and under extreme pressure. The grease meets or exceeds lubrication specifications from Caterpillar, Case, John Deere, Mack, and International Harvester equipment, and is useful for antifriction bearings, open gears, universal joints, conveyors, mill heads, cranes, and ladles. For information,

contact Bill Schneider, Dylon Industries Inc., 7700 Clinton Road, Cleveland, OH 44144-1045; tel: 216/621-7522; fax: 216/651-1777.



Dylon Lubricant Technologies

GEI International produces six Folding Magnifiers with 5× to 12× magnification. These pocket-sized products use *optically ground silicate glass biconvex lenses* in satin-chrome-plated brass frames and allow manipulation of the object being viewed. The 12x model is available with gold-plated finish and leather storage case. For information, contact GEI International, 100 Ball St., P.O. Box 6849, Syracuse, NY 13217-6849; tel: 315/463-9261; fax: 315/463-9034.



GEI International

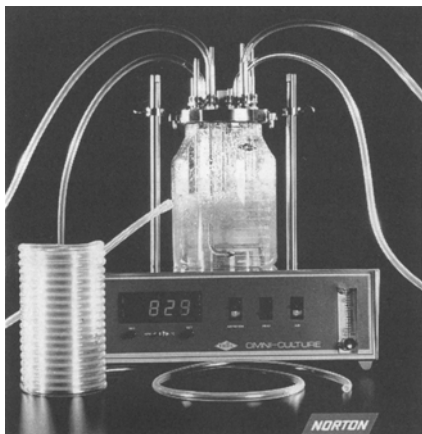
Hoechst Celanese has developed Vectra E130i, a *high-flow liquid crystal polymer* with good thermal stability and 50% re-grind approval for greater molding economy and circuit board dimensional stability. The LCP drops required molding temperatures by 15 °C, makes consistent parts despite process variations, is UL 94 V-O rated in sections 0.8 mm thick, and has a deflection temperature under load of 280 °C. For information, contact Hoechst Celanese Information Center, 114 Mayfield Ave., Edison, NJ 08837; tel: 800/235-2637; fax: 908/598-4165.

Hoechst Celanese is producing Celanex 2001 *thermoplastic polyester*, which offers a combination of good hydrolytic stability, processing and cost. HC created this hydrolytically stable grade by modifying the polyester molecular structure to resist

hydrolysis, which reduces polymer strength and elongation. Developed to meet Bellcore specifications for fiber optic buffer tubes, the product has high tensile strength while allowing for bending. For more information, contact Hoechst Celanese Information Center, 114 Mayfield Ave., Edison, NJ 08837; tel: 800/235-2637.

Newport Corp. offers the 850F Series **Precision Linear Actuators**. This small precision linear actuator is designed to replace existing manual micrometers and costs \$995+. Performance includes 0.5 μm bidirectional repeatability and minimum incremental motion, consistent 0.1 μm magnetic encoder resolution, and a nonrotating tip which eliminates undesirable torque on the drive components during motion reversal. For information, contact Newport Corp., 1791 Deere Ave., Irvine, CA 92714; tel. 800/222-6440.

Norton offers the Tygon High Purity 2275 Tubing, which is a *clear, sterilizable, flexible, deterioration-resistant tubing* that performs well with aggressive chemicals and in extractions. Meeting USP Class VI criteria and FDA compliant, 2275 has a hydrophobic surface for reducing absorption/adsorption of aqueous fluids and an ultrasMOOTH bore that reduces particle retention and improves fluid delivery. A similar tubing, 2075, is available for applications that do not require FDA compliance. For information, contact Norton Performance Plastics Corp., 150 Dey Rd., Wayne, NJ 07470-4699; tel: 201/696-4700; fax: 201/696-4056.

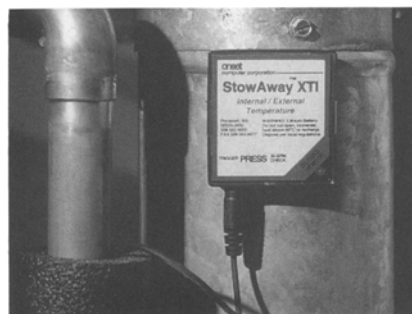


Norton

Novachem has available *chemical purging compounds* for handling difficult-to-clean negative flow areas and 90° angles in plastics processing systems outside the flow path. For information, contact Frank Winner, VP—Marketing/Sales, Novachem, 955 Connecticut Ave., Bridgeport, CT 06607-1222; tel: 203/366-4081; fax: 203/367-0647.

Novachem has introduced SuperNova XB, a *chemical purging compound for extrusion blow molding maintenance challenges*. The compound removes die marks, persistent residual colors, and specks of degraded resin. For information, contact Frank Winner, VP—Marketing/Sales, Novachem, 955 Connecticut Ave., Bridgeport, CT 06607-1222; tel: 203/366-4081; fax: 203/367-0647.

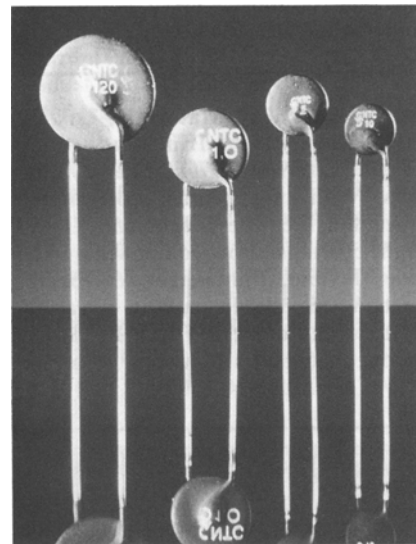
Onset Computer Corp. introduces the \$121 pocket-sized StowAway XT*i Enhanced Temperature Logger* for recording temperature anywhere. Also available is \$69 LogBook software to select length of deployment, recording intervals, and to readout, plot, and analyze collected data. Data is also exportable to standard spreadsheet programs. For information, contact Karen D'Elisa, Onset Computer Corp., 536 MacArthur Blvd., P.O. Box 3450, Pocasset, MA 02559-3450; tel: 508/563-9000; fax: 508/563-9477; e-mail: sales@onsetcomp.com.



Onset Computer Corp.

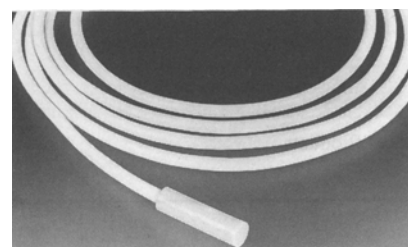
Siemens has been awarded UL approval for its S234 and S364 *negative temperature coefficient thermistors*. These products limit in-rush currents in power supplies, electric motors, and transformers more effectively than a fixed resistor with the same power consumption. For additional information, contact Siemens Components Inc., Special Products Div.,

186 Wood Ave. S., Iselin, NJ 08830; tel: 800/689-3717.



Siemens

Siemens has introduced NTC Thermistor M2020, a *temperature sensor designed for refrigerators and freezers*. The product replaces electromechanical devices with an electronic component for more sensitive temperature regulation. It can withstand harsh temperature conditions, and achieves fast temperature cycling. For a sample or information, contact Siemens Components, 774 Weemac Rd., Martinsville, NJ; tel: 1/800-689-3717; fax: 908/563-7996.



Siemens

Tetrafluor Inc. offers MetaPlast seals, made of DuPont's Teflon PTFE fluoropolymer resin, which curtail lubricant loss and block contaminant entry in ball screw actuators thus reducing maintenance and extending service life in aircraft flight controls. These *low-friction seals* mate precisely with shaft threads and reduce operating torque for actuators and allow smooth movement without overshooting. For information, contact David Rossi,

Tetrafluor Inc., 2051 E. Maple Ave., El Segundo, CA 90245; tel: 310/322-8030; fax: 310/322-9148. For more information about Teflon, contact DuPont Fluoropolymers at 800/292-0181.

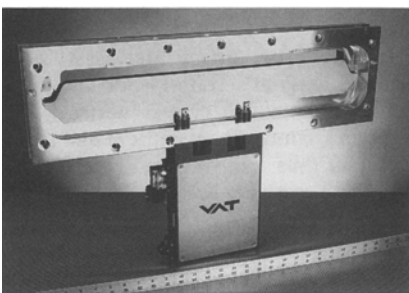
Textron Specialty Materials, Lowell, Mass., offers Bright Trim *coatings for use on exterior automobile components*. With an appearance of chrome finish, the Flexible Bright and Liquid Bright coatings allow components to be made flexible, lightweight, corrosion-resistant, recyclable, and in a variety two-tone and color finishes. For information, contact Maureen Collins-Brown; tel: 508/934-7502.

Tracer Products has available Tracerline TP-1680 Tracer-Stick/Dye-Lite Master Kit, for *detecting refrigerant, oil, coolant, ATF, and power-steering leaks*. Through a two-step procedure, the kit can pinpoint the exact source of every leak with a bright yellow-green fluorescent glow and confirm that the leak was repaired properly. For information, contact Tracer Products, P.O. Box 10324, Westbury, NY 11590; tel: 800/641-1133 (outside USA/Canada: 516/333-1254); fax: 800/354-2353 (516/876-8411).



Tracer Products

Vat Inc. produces Monovat Series 02 *rectangular slit valves for use on cluster tools, transfer between chambers, and*



Vat Inc.

load-lock applications during flat-panel display manufacture. Available in several sizes, the valves, for FPD process applications, can go 1m cycles between maintenance. Prices are from \$6000 (list) depending on size and actuator requirements. For information, contact John A. Freeman, VAT Inc., 500 W. Cummings Pk., Woburn, MA 01801; tel: 617/935-1446; fax: 617/935-3940.

Videojet offers InkSource ink #16-1900, for *ink jet printing on ceramic tiles prior to the firing process*. Usable for product look-up codes, the ink can withstand firing processes up to 2190 °F. As the ink fuses with the ceramic material during firing, the printed message is permanent. For information, contact Videojet Systems International Inc., 1500 Mittel Blvd., Wood Dale, IL 60191-1073; tel: 800/654-4663.

Videojet Systems International has released InkSource ink #16-2960 for *applications requiring a high-contrast ink* which can operate in standard Videojet Excel nonpigmented printers. The new ink has the contrast and opacity of pigmented fluid, without the operational and maintenance requirements of pigmented printer models. The ink also allows for stock reduction of fluids, since only one ink will be necessary to code on both dark- and most lighter-colored materials. For information, contact Videojet Systems International Inc., 1500 Mittel Blvd., Wood Dale, IL 60191-1073; tel: 800/654-4663.



Videojet Systems International

Videojet Systems International Inc. is manufacturing the Videojet 37ez, a *small-character ink-jet printer for low-output manufacturing facilities with noncomplex coding requirements*. The printer is low-cost, easy-to-use, has simplified electronics, advanced printhead design, innovative hydraulic design, and a rugged steel cabinet. For information, contact Videojet

Systems International Inc., 1500 Mittel Blvd., Wood Dale, IL 60191-1073; tel: 800/654-4663.

Videojet Systems International offers a Synchro-Card for their Excel 273se *dual-head, small-character ink-jet printer*. The product prevents out-of-synch conditions, automates web applications, increases electronic noise protection, and simplifies use of a dual-printhead serializer. A print-verification feature ensures code integrity, and a programmable counter allows the printer to print a code over a specified distance on a substrate. The product also has a recovery feature for web applications, analog/digital filtering, and signal/power isolation. For information, contact Videojet Systems International Inc., 1500 Mittel Blvd., Wood Dale, IL 60191-1073; tel: 800/654-4663.

W.G. Enterprises is producing vinyl-coated nylon Freeze Barrier Curtains, which *retain enough heat inside cooling tower cells* to eliminate ice formation and keep water temperature at plant operation levels during cold weather while allowing tower fans to operate normally. For information, contact W.G. Enterprises, P.O. Box 5686, Pasadena, TX 77508; tel: 800/341-3110; fax: 713/479-3110.

Watlow Electric Manufacturing Co. is producing the Anafaze 8LS standalone 1/4 DIN eight-channel *temperature controller with 175 volts of isolation for input channels*. The device accepts thermocouples, RTDs, linear current or voltage as sensor inputs. It also has 31 digital outputs for heat/cool control, alarms or ramp/soak events, and twelve digital inputs for ramp/soak triggers and remote job selection. For more information, contact Watlow Anafaze, 334 Westridge Dr., Watsonville, CA 95076; tel: 408/724-3800; fax: 408/724-0320.



Watlow Electric Manufacturing

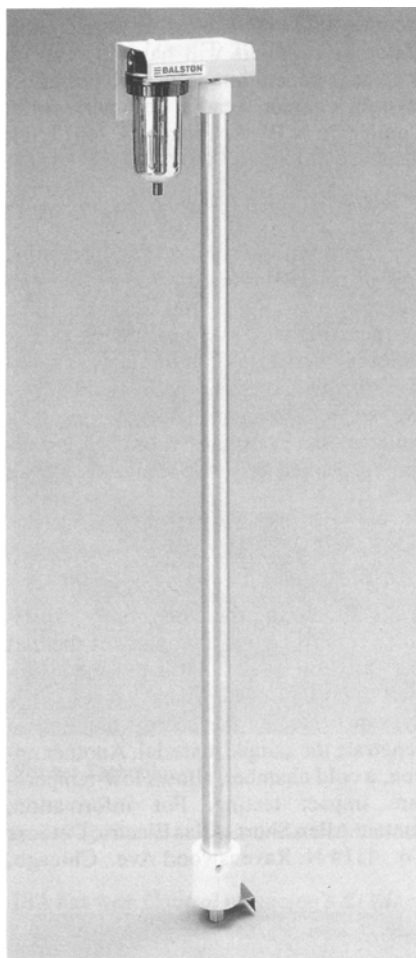
Whatman Inc. has available their compact Nitrogen Gas Generation System. The *generators produce up to 1100 cc/min of high-purity nitrogen gas* and can transform standard compressed air into 99.9995% nitrogen (exceeding the specification of UHP cylinder gas). This product is packaged in a small cabinet for benchtop placement. For information, contact Whatman Inc., 260 Neck Rd., Box 8223, Haverhill, MA 01835-0723; tel: 800/343-4048; fax: 508/374-7070.



Whatman Inc.

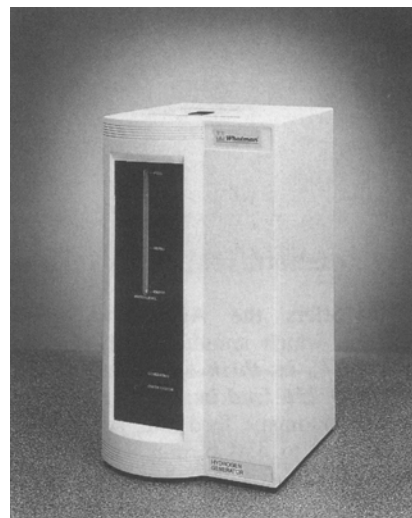
Whatman Inc. is producing a new Balston Membrane Air Dryer that *provides pure dry-compressed air as an alternative to pressure-swing and refrigerant dryers.* With the ability to dry compressed air to dewpoints as low as -40°F at flow rates up to 40 SCFM, the machine is suitable for low dewpoint instrument air, pneumatic equipment, pressurizing electronic cabinets, analytical instrumentation, prevention of freeze-ups, dry air for hazardous

areas, pneumatic autosamplers, and general laboratory air supply. For further information, contact Whatman Inc., 260 Neck Rd., Box 8223, Haverhill, MA 01835-0723; tel: 800/343-4048; fax: 508/374-7070.



Whatman Inc.

Whatman Inc. is producing their Hydrogen Gas Generator, which produces *600 cc/min of pure hydrogen gas (99.99999%) at regulated pressures from 0 to 60 psig*, thus eliminating the need to interrupt analysis to change tanks. The product has a fail-safe system shutdown, water reservoir, low water level warning indicator, electrolyte leak detection, overtemperature and overpressure indicators, and O₂ vent port. It complies with current OSHA regulations and uses deionized water and electricity to operate. For information, contact Whatman Inc., 260 Neck Rd., Box 8223, Haverhill, MA 01835-0723; tel: 800/343-4048; fax: 508/374-7070.



Whatman Inc.

Processing/Equipment



Acadia Polymers

Acadia Polymers has available *polymer processing technology* for production of business machine components. The polymeric components that must function in hostile fuser environments are necessary for the performance of business machines. As machine manufacturers strive for faster copying and roll life up to 5m copies, materials suppliers will have to keep up with next-generation polymers. For information, contact Acadia Polymers, 1420 Coulter Dr. N.W., Roanoke, VA 24012; tel: 703/265-2700; fax: 703/265-2767.

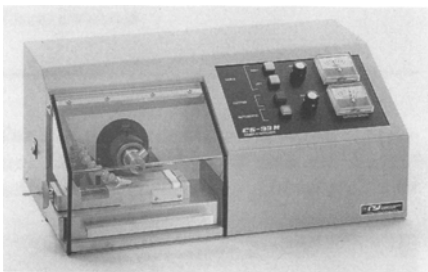
Sheldon Manufacturing Inc., Cornelius, OR, offers a 10-minute video on Bactron Anaerobic/Environmental Chambers. The chamber permits such procedures as *unpacking media to inoculation, incubation, inspection, and recovery without exposure to oxygen*. With an air-lock module that exchanges room air for anaerobic mixed gas, the chamber allows

glove-free handling of samples in a controlled environment. The four models, with 100 to 600 plate capacity incubators, of this permanent system is cheaper to use than disposable pouches and jars. For a video, contact Sheldon Manufacturing, Inc., P.O. Box 627, 300 North 26th Ave., Cornelius, OR 97113, tel. 800/322-4897, 503/640-3000, fax: 503/640-1366.

Xerox is using its Virtual Printroom technology to unify engineering and manufacturing documentation on four continents. The technology uses *digital document capture, management, and distribution to allow document delivery in organizations of any size*. For more information, contact Xerox Engineering Systems, 607 Herndon Pkwy., Herndon, VA 22070; tel: 703/787-2111; fax: 703/787-2110; e-mail: xeroxvp@aol.com.

Measurement/Testing/Evaluation

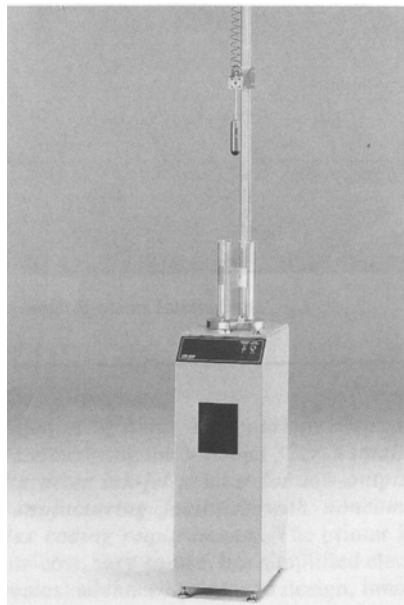
Atlas offers the Automatic Sample Notcher, which simultaneously *notches up to 12 1/8 in.-thick specimens for the ASTM D 256 Izod impact test*. Features include automatic feed rate, cutter speed range of 0 to 450 ft./min, an air jet to remove chips and cool the cutting blade, and a notch verification tester. For information, contact Gigi Johnson, Polymer Evaluation Products, Atlas Materials Testing Solutions, 4114 N. Ravenswood Ave., Chicago, IL 60613; tel: 312/327-4520; fax: 312/327-5787.



Atlas

Atlas Polymer Evaluations Products has available the Dart Drop Impact Tester for *measuring the impact resistance*. A dart is suspended from an adjustable release mechanism at 18 to 60 in. and then

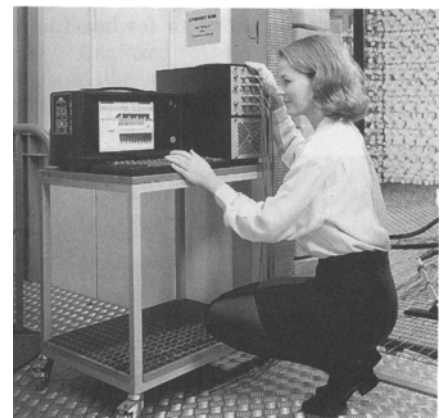
dropped onto the specimen. Impact resistance is derived from the mass of the dart and the drop height that cause the specimen to rupture. An optional Total Energy System measures the energy required to penetrate the sample material. Another option, a cold chamber, allows low-temperature impact testing. For information, contact Allen Short, Atlas Electric Devices Co., 4114 N. Ravenswood Ave., Chicago,



Atlas Polymer Evaluations Products

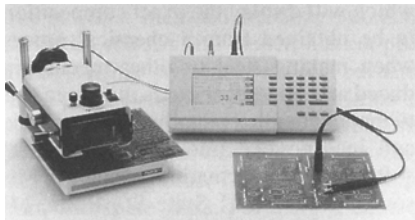
IL 60613; tel: 312/327-4520; fax: 312/327-5787.

Bruel & Kjaer have available Pulse, a *Windows-based measurement system which adds sound to industrial design products*. The complete system has several microphones or accelerometers (depending on whether noise or vibration is to be measured), a front-end unit, a DSP card for the PC, and software modules. For information, contact Bill Wirkus, Bruel & Kjaer Instruments, 2364 Park Central Blvd., Decatur, GA 30036-3987.



Bruel & Kjaer

Fischer Technology has introduced the Fischerscope MMS, which uses electromagnetic, eddy current, and beta backscatter NDT methods to *measure coating thicknesses in PCB manufacturing*. The unit can measure nickel coatings deposited under a gold coating as a diffusion barrier, surface copper cladding, and copper plating thickness in through holes, and gold coatings on contacts, tin-lead alloy coatings on solder pads and traces, and photoresist coatings. For information, contact Fischer Technology Inc., 750 Marshall Phelps Rd., Windsor, CT 06095; tel: 800/243-8417 (in CT: 203/683-0781); fax: 203/688-8496.



Fischer Technology

Foerster Systems Inc. offers complete *turnkey services* for production line and maintenance testing applications, in the form of fully integrated nondestructive testing and dimensional gaging systems for flaw and impurity detection in metal surface and parts or for determining composition and specifications. These systems are intended for production lines of bar, tube, and wire products as well as for component parts inspection. For more information, contact Robert D. Shaffer, President, Foerster Systems Inc., 140 Industry Dr., RIDC Park W., Pittsburgh, PA 15275-1028; tel: 800/635-0613 (outside U.S.A.: 412/788-8976); fax: 412/788-8984.

Fischer Technology offers literature on the Fischerscope X-Ray System XDV,

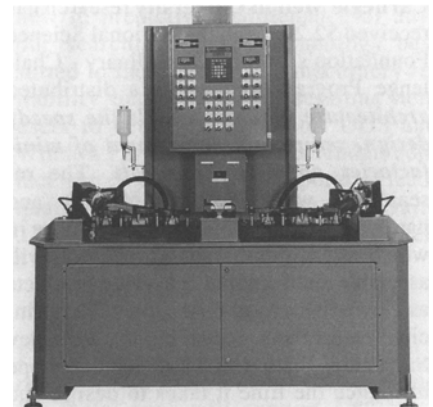
which performs nondestructive, automated *coating thickness measurement* and analysis of dual and triple coatings, alloy coatings and P% in electroless nickel coatings. The product has a programmable measuring head, a color monitor, and thickness measurement software. For more information, or a free brochure, contact Fischer Technology Inc., 750 Marshall Phelps Rd., Windsor, CT 06095; tel: 800/243-8417 (in CT: 203/683-0781); fax: 203/688-8496.



Fischer Technology

ISA has won *Control* magazine's **Reader's Choice Award for best training products and services in the measurement and control industry**. The fourth annual survey polled 5000 randomly selected readers, and the results of the survey were published in the January issue of the magazine.

Matrix Automation has introduced a new MTS-1000 Automated Leak Testing System that uses specific fluids *for accurate pressure decay, leak and flow testing of products, components and castings*. The system can be custom-designed with multistation testing, mass spectrometry, eddy-current thread verification, vacuum testing, machine vision systems, x-ray inspection, material handling, and robot loading. For a brochure, contact Matrix Automation Inc., 340 N. Main St., Huron, OH 44839; tel: 419/433-4013; fax: 419/433-6340.



Matrix Automation

Plant Engineering magazine has given its Gold Award in Maintenance Tools and Equipment to **Computational Systems Inc.** for its UltraSpec 8210 Laser Alignment Fixtures. The innovative device includes *dual built-in inclinometers and a sweep method allowing a solution to be calculated with only three measurement points anywhere in the rotation*. For more information, please contact Kathleen Rosecrance, Public Relations Rep., 835 Innovation Drive, Knoxville, TN 37932; tel: 423/675-2400 ext. 2333; fax: 423/675-3100.

International Research/Manufacturing Centers

Sandia National Laboratories, Albuquerque, NM, has developed *low-residue soldering processes* which save the electronics industry time and money while reducing pollution. Conventional processes for soldering printed wiring boards use an activated rosin-based flux, which leaves a tacky residue that previously was removed with ozone-depleting chlorofluorocarbon

(CFC) solvents, prior to soldering to remove oxidation. Low-residue processes eliminate the need for these CFC solvents by using a mild organic acid as the fluxing agent, leaving little residue and requiring no cleaning. One test company, Texas Instruments, reported lowering materials processing costs for printed circuit boards by 96% when using the new process. This

simple process saves time in the production process. For more information, contact A.C. Etheridge, tel: 505/844-7767.

The Department of Energy has awarded the 1995 Basic Energy Sciences Award to

Sandia National Laboratories, Albuquerque, NM, for their research into *sol-gels and aerogels*. Sol-gels may be able to improve reflectivity of solar mirrors and reduce unwanted electrical characteristics on integrated circuits. The Sandia/UNM ambient-pressure aerogel process reduced the expense of these high-performance in-

ulators by permitting their creation at room temperature and pressure.

The International Lead Zinc Research Organization has completed two *studies on zinc coatings and steels*. One study is a survey of future weight reduction in

automobiles by 2005. The second project is a study of steels that meet the requirements set forth in the first project. For information, contact ILZRO, P.O. Box 12036, Research Triangle Park, NC 27709-2036; tel: 919/361-4647; fax: 919/361-1957; telex: 261533.

University View

Carnegie Mellon University research has received \$2.2m from the National Science Foundation's Multi-Disciplinary Challenge Program to develop a distributed *architecture that will enable the speedy design, setup, and deployment of mini-factories operated by robots*. The researchers will develop software and hardware to run a tabletop-sized factory in which reconfigurable fist-sized robots will assemble such small, high-value products as Hewlett-Packard disk drives. The principal researchers, Ralph Hollis, Mahadev Satyanarayanan, and Mark Kryder, hope to reduce the time it takes to design and deploy an automatic assembly systems

from 4 months to a week, while increasing manufacturing precision from 50 to 100 μm to 1 μm , assembly flexibility, and the portability of the assembly system by reducing its size to 1/10 that of a conventional assembly line. For information, contact Department of Public Relations, Carnegie Mellon University, Bramer House, Pittsburgh, PA 15213-3890; tel: 412/268-2900.

The Center for Pyrometallurgy at University of Missouri—Rolla, is developing and disseminating *computer software for*

metallurgical processes, using data from the U.S. Bureau of Mines. The software, which will display the exact compositions to be obtained from a chemical process when making steel or other metals produced at high temperatures, has been used to model complex metallurgical processes and incorporated into other developer's software. For information, contact U. Missouri—Rolla, 1201 State St., Rolla, MO 65401-0249; tel: 314/341-4328; fax: 314/341-6157.

Literature/Data Sources

Heraeus Electro-Nite Co. has available a four-page, full-color brochure on its Data-cast 2000 system, for *measuring, calculating, and displaying the CE, C, Si and ΔT values of all iron grades in real time*. The system performs thermal analysis of the cooling curve 60 times/s, then calculates the first derivative and identifies inflection points on the curve to measure the temperature events during solidification. It also measures bath temperature. For a copy, contact Heraeus Electro-Nite, 9901 Blue Grass Rd., Philadelphia, PA 19114-1080; tel: 215/464-4200; fax: 215/698-7793.

919/549-8411; fax: 919/549-8288; telex: 802-540; e-mail: info@isa.org.

Executive Dr., Chelmsford, MA 01824; tel: 508/937-3700; fax: 508/453-2462.

GEI International has printed a 32-page color catalog of *products for accurate measurement, inspection, layout, and drafting*. The catalog runs the gamut from rulers to microscopes, collimators, depth gages, thickness gages, and optical comparators. For a free copy, contact GEI International, 100 Ball St., P.O. Box 6849, Syracuse, NY 13217-6849; tel: 315/463-9261; fax: 315/463-9034.

AutoSimulations Inc., a simulation and scheduling software company, offers a student version of AutoMod, its flagship *simulation software* tool. The \$100 package is a fully featured version that restricts the user to a limited number of simulation entities that can be defined (e.g., queues, resources, vehicles, conveyor sections) but still provides access to AutoMod's robust simulation language. For information, contact AutoSimulations, Inc., 655 Medical Dr., Bountiful, UT 84010; tel: 801/298-1398; fax: 801/298-8186.

The International Society for Measurement and Control has available a *course catalog* for their ISA Training Institute. Included are training programs in measurement and control. Most courses are two to three days; have a flexible, modular curriculum; and are application-oriented targeted to a specific audience. For a copy, contact ISA, 67 Alexander Dr., P.O. Box 12277, Research Triangle Park, NC 27709; tel:

Adra Systems Inc. has developed Matrix 3.1, an enhanced version of its Matrix 3.0 PDM solution. The software, which now can be used with all Windows platforms, integrates *complex data management, workflow, and communications in a distributed computing environment* through an easy-to-use, graphical user interface. For information, contact Adra Systems Inc., Two

Belzona offers a folder of color brochures detailing their capabilities in *repair and production of roofs, floors, walls, and structures*. Subjects include roofs: joints and seams, gutters and standing water areas, parapet walls and coping stones, glazing bars and skylights, flashings; floors: areas subject to abrasion, impact and chemical attack,

expansion and building joints, nonslip safety surfacing, anchoring and secure fixing; walls: areas subject to abrasion, impact and chemical attack, environmental damage, internal surface condensation, seamless hygienic surfaces, below ground structures; structures: environmental corrosion, chemical attack of steel and concrete, environmental damage of concrete, and joints, seams and entry points. For a copy, contact Belzona America, Inc., 2000 NW 88th Ct., Miami, FL 33172; tel: 305/594-4994; fax: 305/599-1140.

Bickley Inc. has available a 12-page brochure of specifications for their complete line of *kilns*. Included are descriptions of their kiln retrofit and modernization programs; firing systems; iso-jet burners; rapid pulse firing; such specialty kilns as rotary, meshbelt, roller hearth, and custom pusher slab; and services like modernizing and retrofitting older kilns, technical support, and spare parts. For a copy, contact Bickley Inc., 550 State Rd., P.O. Box 369, Bensalem, PA 19020; tel: 215/638-4500; fax: 215/638-4334.

Carl Zeiss Inc. has issued a catalog (T-8178) of *replacement bulbs and burners for all models of Zeiss microscopes produced in the last 40 years*. The \$20 catalog includes a \$20 coupon toward the first order of replacement bulbs and burners. For information, contact Bulb Catalog, Irv Toplin, Carl Zeiss Inc., One Zeiss Dr., Thornwood, NY 10594; tel: 914/681-7670.

Coopers & Lybrand Consulting's SyteCon Division offers a *white paper on the benefits of reducing materials costs*. Subjects covered include: How many partners do you need?, Custom vs. Standard Packaging, Matching Shelf Life to Real Life, High Value/Low Volume Purchase, and six principles to purchasing prowess. For a copy, contact Coopers & Lybrand Consulting, SyteCon Division 400 Northridge Rd., Ste. 1000, Atlanta, GA 30350; tel: 770/643-5100; fax: 770/643-5200.

Corro Therm offers a two-page bulletin on the properties, uses, and specifications of *CT-334 aluminum filler*. The product is a single-component, ceramically bonded inorganic filler for voids, cracks, porosity, and other surface defects in aluminum or ferrous metal castings, and it performs well to 1000+ °F. The bulletin also includes packaging, storage, application,

handling and clean-up procedures. For a copy, contact Corro Therm Inc., 175 Philmont Ave, Feasterville, PA 19053; tel: 800/726-7948; fax: 215/322-3023.

Courtaulds Performance Films offers a *swatchbook of samples of 52 standard colors available in clear, matte or opaque deep-dyed polyester film*. For a free copy, contact Courtaulds Performance Films, Attn: Deep-Dyed Polyester Films, P.O. Box 5068, Martinsville, VA 24115; tel: 800/746-8661; fax: 540/627-3500.



Courtaulds Performance Films

Daniel Woodhead Co. has literature on the Brad Harrison Mini-Change Molded Tee, which uses *flex-circuit technology and constant pressure from a stainless steel sleeve to minimize resistance on the bus line and eliminate signal intermittence*. The compact device also has pins and sockets of gold flash/palladium-nickel-plating for corrosion-resistance and extended life. For a copy, contact Daniel Woodhead Co., 3411 Woodhead Dr., Northbrook, IL 60062; tel: 800/225-6243.

DSM Engineering Plastics Products offers their color *Advanced Engineering Plastics Material Guide* free to qualified design or manufacturing engineers and fabricators. The brochure details high-performance material products, including 29 extruded, compression, and injection molded products. The guide also has tips on how to select an advanced material, material positioning charts, and material properties and specifications. For a copy, contact DSM Engineering Plastics Products Inc., Polymer Corp., 2120 Fairmont Ave., P.O. Box 14235, Reading, PA 19612-4235; tel: 610/320-6600; fax: 610/320-6868.

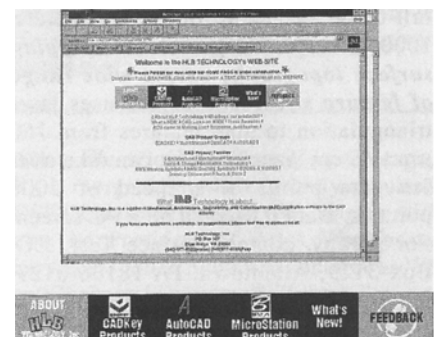
DSM has available their *full-color Advanced Engineering Plastics Material*

Guide. The guide has sections on Selection and Design Guidelines, Fluorosint, Techtron and Ryton PPS, Ketron PEEK, Torlon PAI, Duratron PI, Celazole PBI, and Material Performance Comparison. For a copy, contact DSM Engineering Plastics Products Inc., Polymer Corporation, Reading, PA 19612-4235; tel: 800/366-0300; fax: 610/320-6638.

Entek Scientific Corp. has released its 1996 *calendar for predictive maintenance training and user group sessions*. The PM seminars are for anyone new to predictive maintenance or anyone searching for the technology best suited to their needs. The machinery reliability and monitoring sessions help users to better use Emonitor DOS and Windows programs. For a calendar, contact Entek Scientific, Corporate Headquarters, 4480 Lake Forest Dr., Suite 316, Cincinnati, OH 45242; tel: 513/563-7500; fax: 513/563-7831.

Freedonia Group Inc. has completed a *report which predicts that U.S. demand for metal cans will expand 1.8%/year through 2000*. The company bases their predictions on continuing healthy demand for soft drinks, expanding vending opportunities, and a growing consumer interest in single-serving packaging. Possible adverse factors include competition from plastic bottles and containers and a flat beer market. Aluminum cans will continue to gain market share from steel and bimetal cans, despite rising raw material costs. For information, contact The Freedonia Group, 3570 Warrensville Center Rd., Ste. 201, Cleveland, OH 44122-5226; tel: 216/921-6800; fax: 216/921-5459.

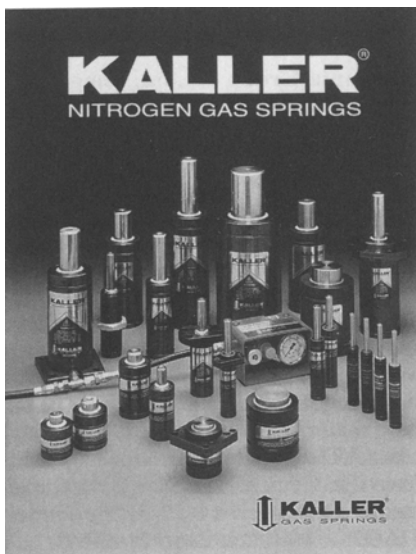
HLB Technology now has a *web page* (<http://www.hlbtech.com>) containing Cadkey- and MicroStation-related infor-



HLB Technology

mation and third party software. CAD-related software developers are encouraged to submit any recommendations for additions to the page to hlbtech@roanoke.infi.net. For more information, contact HLB Technology; tel: 540/977-6520; fax: 540/977-6531.

Kaller Gas Springs has published a new 40-page catalog of its complete line of *nitrogen gas springs*, with initial forces ranges of 60 to 41,000 lb/spring. New products described include R-19³/₄ in. diameter disposable springs available in seven incremental stroke lengths and four color-coded groups, an ultrashort 1/2 ton model KS-500 and 3/4 ton model KS750, and short-style 1/2 and 3/4 ton models K500 and K750. For information, contact Michael Ambrogio, Kaller Gas Springs, 33382 Groesbeck Hwy., Fraser, MI 48026; tel: 800/525-5377; fax: 810/415-6699.



Kaller Gas Springs

MicroPhotonics Surface Test offers a full-color brochure on their Proscan 1000 laser profiling tool for *mapping surface topography over a wide range of feature sizes*. The device uses laser triangulation to map features from 160 μm to 8 cm size. The unit can take over 1m data points at a speed of 2000 points/s. Data is viewed on a PC screen. For a copy, contact Surface Test, P.O. Box 3129, Allentown, PA 18106-0129; tel: 610/366-7103; fax: 610/366-7105; e-mail: surfstest@aol.com.

MRS has published *Amorphous Silicon Technology 1995*, which *reports on devices using amorphous silicon (a-Si) and efforts to understand a range of a-Si-based materials*. The 897-page book includes 135 papers from the 1995 MRS Spring Meeting in San Francisco on such topics as deposition studies, plasma, and films; fundamental studies and defects; hydrogen's role and metastability, optoelectronic properties and transport studies; modified band-gap materials and doping studies; solar cells; thin-film transistors; image sensors and novel devices; and flat-panel displays. Price in hardcover or microfiche is \$66 (members), \$75 (U.S. list), and \$85 (non-U.S. list). For information, contact the Materials Research Society, Customer Service Dept., 9800 McKnight Rd., Pittsburgh, PA 15237-6006; tel: 412/367-3012; fax: 412/367-4373.

MRS has published *Beam-Solid Interactions for Materials Synthesis and Characterization*. The 746-page book *includes 111 papers on such topics as ion-beam processing, defects and diffusion, ion-beam modification of polymers, analysis and characterization, and sputtering—laser-assisted and induced processes*. Price in hardcover or microfiche is \$67 (members), \$75 (U.S. list), and \$80 (non-U.S. list). For information, contact the Materials Research Society, Customer Service Dept., 9800 McKnight Rd., Pittsburgh, PA 15237-6006; tel: 412/367-3012; fax: 412/367-4373; e-mail: info@mrs.org.

NTK Cutting Tools has available their 120-page catalog, detailing their line of *ceramic, cermet, and silicon nitride inserts, toolholders, and tooling systems*. New catalog entries include: HC5 ceramic material for machining hardened steels up to 58 to 62 HRC, SP2 (gold) extremely pure wear-resistant grade silicon nitride, and ten cermet chipbreaker designs. Also printed are VGT grooving and TB tooling for CNC screw machine back turning and a technical information section. For a copy, contact NTK Cutting Tools, 39205 Country Club Dr., Ste. C-30, Farmington Hills, MI 48331; tel: 810/489-0123; fax: 810/489-0095.

Pelmor Labs, a manufacturer of rubber products, has published a six-panel brochure, "On the Cutting Edge of Elastomer Technology," on *its capabilities*

and management philosophy. For a copy, contact Pelmor Laboratories Inc., 401 Lafayette St., Newtown, PA 18940-0309; tel: 800/772-6969; fax: 215/968-3334.

SAE has published *An Engineer in the Courtroom for lawyers and engineers involved in product liability and accident investigation cases*. Chapters include Avoiding Litigation, The Litigation Process, How the Engineer Can Help the Attorney, Accident Reconstruction, War Stories, and others. The 364-page hardbound book (order #R-155) is available for \$49.00 from SAE, Dept. 2786, 400 Commonwealth Dr., Warrendale, PA 15096-0001; tel: 412/776-4970; fax: 412/776-0790.

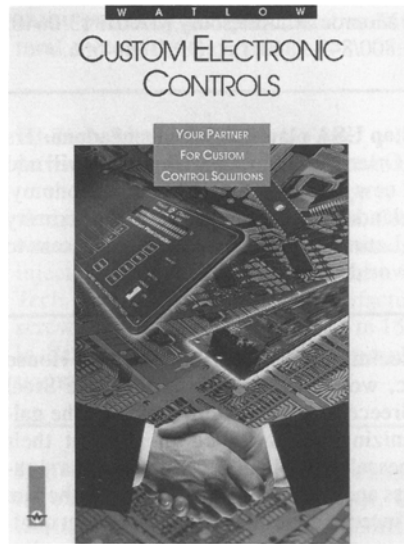
Sollac has published, in English and French, *The Book of Steel*, a 1424-page hardback volume for \$217.50. The book details the possibilities offered by low-carbon sheet steels, generally those with less than 1% alloying elements, including advances during the last decade in melting techniques, continuous casting, thermomechanical processing, and heat treatment and coating technology. Contents include *general aspects of steel, crystallography, microstructure, equilibrium diagrams, functional properties, surfaces, surface treatments and coatings, secondary processing, major families of plain carbon sheet steels, and the manufacture of plain carbon sheet steels*. One reviewer notes that the book makes an entire technical culture accessible to the reader. For a full-color brochure or to order, contact Lavoisier Publishing Inc., c/o Springer Verlag, Customer Service, 333 Meadowlands Pkwy., Secaucus, NJ 07094; tel: 201/348-4033 or 800/Springe; fax: 201/348-4504; e-mail: creys@springer-ny.com.

The Aluminum Extruders Council has opened a *web page* at <http://www.aec.org>. The page will include a listing of all member companies with manufacturing capacities, technical information on tolerances and alloys, conference information, and general and member information for the AEC. For information, contact the web page or AEC, 100 Rand Rd., Ste. 214, Wauconda, IL 60084; tel: 708/526-2010; fax: 708/526-3993.

The Society for Manufacturing Engineers has released *Troubleshooting In-*

jection Molding Problems (VT605), an \$1800 (\$1530 members price) three-video set on plastic injection molding defects with supplemental reference guide. Twenty-four common problems are examined. For additional information, contact SME Customer Service Dept., One SME Dr., P.O. Box 930, Dearborn, MI 48121; tel: 800/733-4763; fax: 313/271-2861.

Watlow has a color guide to its design and engineering services for *custom electronic controls*. The guide discusses Watlow's custom-designed hardware, packaging, PC boards and software, prototype development, testing and filing of product documentation, and application for agency approvals. For a copy, contact Watlow Advertising Dept., 12001 Lackland Rd., St. Louis, MO 63146.



Watlow

The ASM Specialty Handbook: Tool Materials, a comprehensive one stop source for complete information on materials for machining and metalworking, is now available from **ASM International**. This reference guide should prove extremely valuable to anyone involved with machining, metalworking, or specifying materials for industrial components. It includes detailed information and data about the selection, processing, and properties of thousands of ferrous, nonferrous, and nonmetallic tool materials, including wrought and powder-metallurgy tool steels, cobalt-base alloys, cemented carbides, cermets, ceramics, and ultrahard materials. For information, contact the ASM Member Services Center, Materials Park, OH 44073-0002; tel: 800/336-5152, ext. 900; fax: 216/338-4634; e-mail: memserv@po.asm-intl.org.

In Business

The International Society for Measurement and Control will replace its traditional show format with two alternating, annual events tentatively called ISA Control Tech, a technology exchange event, and ISA Control Fair, a sales-oriented, exhibition-driven event.

The International Society for Measurement and Control (ISA) has become a Participating Body in the **Accreditation Board for Engineering and Technology, Inc.** This status allows ISA to develop accreditation criteria for instrumentation, measurement, and control programs; recruit, train, and maintain a pool of qualified evaluators; and send program evaluators to visit schools wanting accreditation of their instrumentation, measurement, and control programs.

AC Humko Corp., a private label manufacturer, is using the **Chep USA** pallet pooling system at its production and distribution facilities in Jacksonville and Champaign, IL. Under the system, a product is placed on a pallet at the point of production and remains untouched until arrival at the distributor's warehouse.

250 of **Xomox Corporation's** Tuflin plug valves, lined with **DuPont's** Teflon PFA fluoropolymer resin, have been in-

stalled at **DuPont's** plant in Victoria, TX. The valves, which control on/off flow of ambient to hot nitric acid in the production of adipic acid, have cut downtime and costs at the plant.



DuPont

Advanced Manufacturing Research, Boston, MA, will be marketing its client/server Enterprise resource planning

systems to the midrange market. The company hopes to beat out various other companies, including Oracle, SAP, Marcam, SSA, Computer Associates, Effective Management Systems, Ramco Systems, and Spectrum Associates.

Alumax Mill Products, Lancaster, PA, has purchased two Pechiney SX-3000 degassing systems from **Pyrotek**, Spokane, WA. Alumax's previously purchased unit reportedly boosted the company's metal throughput capacity and eliminated unexpected tub failures.

Arco Chemical Co. reported 1995 net income of \$508m up 89% over the previous year, annual revenues of \$4.3 billion, and a 12% divided increase, to a current yield of 5.7% on share price. The record results are partly because of improved margins in their core propylene oxide and derivatives businesses.

Atlas Electrical Devices Co., Chicago, IL, is reorganizing their recently acquired DSET Laboratories. Larry W. Masters will now be President of Atlas Weathering Services, John L. Scott will continue as VP and Technical Director, William J. Putnam will be VP of Quality Assurance and Research, Laurence F. Bond will be VP of Sales and Client Technical Services, and

Jack L. Martin and Russell W. Lane will both be Site Managers.

Atlas Electrical Devices has completed its reorganization into three groups. The renamed overall company, Atlas Testing Solutions, has three sub-entities: Atlas Test Instruments Group, Atlas Weathering Services Group, and Atlas Engineered Products Group.

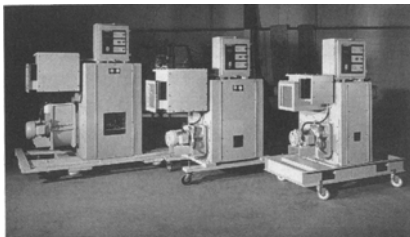
Belzona recently used their elastomer products to repair a seven-foot hole in a steel reinforced rubber conveyor belt in 12 h for a St. Louis, MO, electrical utility.

Belzona waterproofed the Fort Snelling Historical Site, operated by the Minnesota Historical Society, with tinted 4111 Magma Quartz and Belzona 2221. Belzona had performed a similar service for the site seven years earlier.

Cadkey Inc. has announced a software publishing strategy to extend its reach into new markets. Through accelerated product introductions, mass market pricing, and expanded distribution, the company will try to expand the market for computer-aided design.

Cadkey Inc., Windsor, CT, signed an OEM agreement with **HighRes Inc.**, La Jolla, CA. The agreement, which uses HighRes software for 3D modeling of physical objects, is part of Cadkey's software distribution strategy of offering multiple titles for the engineering office environment.

Cargocaire Division of Munters Corp. has launched its Quick Ship product line, which guarantees shipment of select Cargocaire industrial desiccant dehumidifiers and accessories within three weeks rather than the usual six. For information, contact Cargocaire Division, Munters Corp.,



Cargocaire Division

79 Monroe St., Amesbury MA 01913-0640; tel:800/843-5360; fax: 508/388-4556.

Chep USA plans to move its headquarters to Orlando, FL, in June. The move will add 82 new jobs and \$5m to the local economy. Orlando was chosen because of proximity to Latin America, low taxes, and access to a world-class airport.

Clecim, a subsidiary of Trafalgar House plc, won a contract from **Hellenic Steel** (Greece) for the modernization of the galvanizing line installed in 1981 at their Thessaloniki plant. Clecim will add a skin-pass and tension-leveling unit with the aim of increasing production and product quality in order to propose CQ and DQ quality steels.

Clecim, a subsidiary of Trafalgar House plc, won a contract from **Posco** (South Korea) to supply a preleveler to be installed on the No. 2 plate mill at Pohang. The equipment is designed to eliminate ski effects on the head end of the plate and to improve plate cooling uniformity.

Computational Systems Inc. has achieved ISO 9002 certification for preventing nonconformity in all stages from production through customer support. **ABS Quality Evaluations Inc.** audited CSI for the award.

Courtaulds Performance Films will invest \$20m in its Martinsville, VA, plant to increase its manufacturing capacity for solar control window films and industrial coated and laminated products by 50%. The company will add new coating and laminating facilities, an expansion of clean-room facilities, additional sputtering and silicone release liner machines, and improve existing coating and laminating equipment.

Davy International, a subsidiary of Trafalgar House plc, and **Fluor Daniel** have completed the \$600 million engineering, procurement and construction management of a smelter for **Kennecott Utah Copper Corp.**, Salt Lake City, UT. The smelter can produce 300,000 tons/yr of copper, allows the volume of off-gas emissions handled by the sulfuric acid plant to be reduced below the allowable level in Utah's new air quality program, and will allow the company to process all of its

concentrates at the Utah facility. The new plant will also double Kennecott's cathode copper production.



Davy International

Davy International, a subsidiary of Trafalgar House plc, has been awarded a \$17 million contract by **Altos Hornos de Mexico SA** for a Granular Coal Injection system on the #5 Blast Furnace at their Monclova Steelworks in Northern Mexico. Coal will be injected at a rate of 200 kg/ton hot metal, allowing replacement of a expensive metallurgical coke and brings about a number of other cost and operational benefits. **Clyde Pneumatic Conveying's Macawber Division** will supply technology, and **Marubeni Corp.** will supply project financing. Commissioning of the plant is scheduled for the end of 1996.

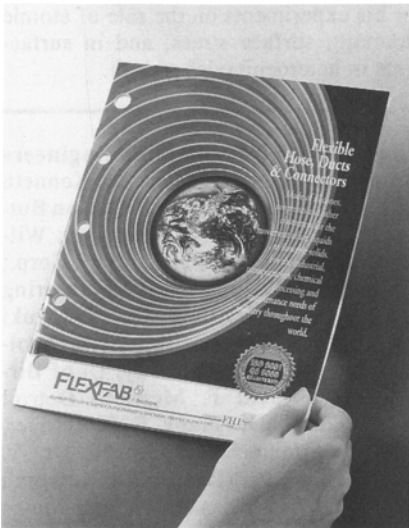
Davy International, a subsidiary of Trafalgar House plc, will work with a consortium of Brazilian companies to supply a Continuous Annealing and Pickling Line to Acesita, Cia Aços Especiais Itabira, Brazil for installation in Timoteo, M.G., Brazil. Acesita plans to increase their production capacity for flat stainless steels to 290,000 tons/yr by late 1997 from 116,000 tons/yr.

Davy International, a subsidiary of Trafalgar House plc, is relocating its head-

quarters from Poole in Dorset, England, to be closer to its parent company. The new address is Davy International, 10th Floor, 20 Eastbourne Terrace, London W2 6LE England; tel: 44/171/957-3614; fax: 44/171/957-3680; telex: 263521.

Effective Management Systems Inc. (NASDAQ: EMSI, EMSIW) a provider of pre-integrated manufacturing software, saw total revenues climb 37% to \$9.6m, for the quarter ended 30 Nov 1995, including \$2.7m in sales from the 1995 acquisition of Intercim and a joint venture in Illinois. Per share income was down to \$0.09/share from \$0.14 for the same quarter a year earlier, due partly to an increase in the number of shares outstanding from 3.5 to 3.9m.

FHI Inc.'s Flexfab Division, a supplier of silicone-based hoses, ducting, and connectors, is ISO 9001 and QS 9000 third-party registered. The company's Albion Indiana facility is also registered to ISO 9002 and QS9000.



FHI Inc.

Four Asian manufacturers—**Bangkok Steel Industry Public Co. Ltd.**, Bangkok, Thailand; **Puyat Steel Corp.**, Manila, Philippines; **Shree Precoated Steels Ltd.**, Bombay, India; **Yieh Phui Enterprise Co. Ltd.**, Kaohsiung, Taiwan—have licensed **International Lead Zinc Research Organization Inc.'s**, Research Triangle Park, NC, Galfan alloy. The manufacturers will produce Galfan

sheet primarily for prepainted architectural and construction products.

Hi-Tech Screw Engineering Inc., which provides high-precision screw technology to the plastics and rubber industry, has merged with **Genca Corporation**, Clearwater, FL, a manufacturer of extrusion and injection screws, barrels, and shafts. Hi-Tech Screw Engineering manufactures screws, barrels and shafts from 1/2 to 15 in. in diameter for single and twin screw plastics machinery.

Laurel Industries has completed a 23,000 ft² expansion of its Sharon Center, OH, facility that includes a new compounding line, supervisory offices, employee locker rooms, material storage areas, and laboratory facilities.

Newport Corp., Irvine, CA, has opened its Newport Online world wide web site of new laser and electro-optics products reviews and previews, informative tutorials, application notes, financial information, and searchable product listings. To try the site, log on to <http://www.newport.com>.

Orbit Document Management, TransWorld Data Systems Inc., and Imaging Consultants have merged into **New Document Technologies Inc.** NDTI designs custom information systems to manage business documents.

Plymouth Extruded Shapes, a division of Plymouth Tube Co. USA, has received ISO 9002 certification at their Hopkinsville, KY, plant. Plymouth produces hollow products and near-net extruded solid shapes in carbon steel, alloy steel, stainless steel, nickel alloy, and titanium.

Pohang Iron and Steel Co Ltd., Korea, has placed an order with **Vacmetal Gesellschaft fur Vakuum-Metallurgie mbH** for a ladle furnace, an inert gas stir station, and a deslagging station on the No. 2 Pohang Steelworks. After installation finishes in 1997, the new equipment will treat about 5m of the 7.5m tons annual output.

PPG Industries reported record fourth-quarter 1995 sales, net income, and earnings per share. Sales were \$1.7 billion (for the year: \$7b), and net income \$161.2m

(year: \$767m) or \$0.83/share (year: \$3.80).

PPG Industries, Pittsburgh, PA, has acquired **Matthews Paint Co.**, Kenosha, WI, a producer of paint for outdoor metal signs. Matthews Paint will be a subsidiary of PPG's new specialty coatings unit in its automotive refinish coatings business.

PPG Industries, Pittsburgh, PA, is negotiating to purchase the Evtech powder coatings business from **Eastman Chemical Company**, Kingsport, TN.

Quebec Metal Powders Ltd. has achieved QS-9000 registration after several years of continuous improvement. Previously, QMP had received GM's TFE award and registration to ISO-9001.

The Pawtucket, RI, manufacturing facility of **Teknor Apex Co.**, a custom compounder of polyvinyl chlorides and thermoplastic elastomers, has received ISO 9002 certification, after an 18-month audit by Det Norske Veritas. The ISO assessment covered the operation's raw material procurement, process control, product testing and release, customer order review, and product delivery.

The Singleton Corporation received the 1995 Community Improvement Award from the Westside Industrial Retention and Expansion Network, both of Cleveland, OH, for job creation and beautification efforts in Cleveland's west side.

The Special Steel Industry of North America, Washington, D.C., reports stainless steel imports during the first ten months of 1995 dropped 8% over 1994. Imports of tool steel, however, were up 46% and imports of electrical steel up 6%. Full 1995 data will be available by March 1996.

W.W. Grainger Inc., **Motion Industries Inc.** (a subsidiary of Genuine Parts Co.) and **Ferguson Enterprises Inc.** (a subsidiary of Wolsley plc, UK) will enter a distribution relationship in which the three will be preferred suppliers for each other when integrated supply customers require

access to products that go beyond any single company's core inventory of products.

Wyle Laboratories, El Segundo, CA, has won an \$18.9m contract to operate the Air Force Primary Standards Laboratory,

Kudos

David Bishop, former President of the **International Society for Measurement and Control**, was recently awarded a Meritorious Service Award by the American National Standards Institute, with emphasis on Mr. Bishop's leadership in developing standards for safe installations of electrical equipment and instrumentation in hazardous locations.

Gary E. Bachman has been promoted to Controller of **Burgess-Norton Co.** Bachman was previously controller of **Diamond Chain Co.** Both companies are divisions of Amsted Industries.



Paul Wilson

Howmet Corporation has named **Paul Wilson** to be Vice President for Corporate Planning. The job entails development of long-term growth plans for the company.

Lukens Inc. has appointed **George B. Coulter** as VP—Stainless Sales; **David P. Yundt** as General Manager—Stainless Sales; **Terry L. Engle** as General Manager—Stainless Marketing; **David C. Killen** as Marketing Manager—Stainless Cold-Rolled Products; and **Phillip E. Bischof** as Marketing Manager—Stainless Pipe & Tube/Specialty Products.

Matthew J. Hower has been named Controller of **Griffin Wheel Company**. Hower was previously controller of **Burgess-Norton Mfg. Co.** Both companies are divisions of Amsted Industries.

National Technology Transfer Center, which helps U.S. businesses access federal agency research, has appointed **Chuck**

Newark, OH, from Dec 1995 to Sept 1996 with option for renewal through Sept 2000. Wyle will calibrate standards for the Air Force, as well as other government agencies, industrial firms, and foreign military labs.

Millick as Director of NTTC Wheeling operations.

PPG Industries has named **Raymond W. LeBoeuf** president and chief operating officer. As president, LeBoeuf will be responsible for all operating units of the company as well as the purchasing and distribution, science and technology, and information technology departments. Two other promotions were announced as well: **Frank A. Archinaco**, senior VP, glass; and **E. Kears Pollock**, senior VP, coatings and resins.

The American Association of Engineering Societies has selected **Edward L. Cussler** as its Chair for 1996. Dr. Cussler is a professor of chemical engineering at the University of Minnesota.



J.M. Ney

The **J.M. Ney Company** named **Ronald N. Cerny** their new president. Mr. Cerny was previously the general manager of Ney's Electronics Division.

The **Materials Research Society** has given its 1995 David Turnbull Lectureship to **Didier de Fontaine**. The Lectureship was awarded for de Fontaine's influence on the understanding of order/disorder phenomena in materials, especially his work on the cluster variation method.

The **Materials Research Society** presented its 1995 Fall Graduate Students Awards for excellence in academics and materials research to **Yong Chen** (UC-Berkeley), **Nora V. Edwards** (North Caro-

lina State), **Sridhar Narayanaswamy** (Michigan), **Daniel W. Pack** (CalTech), **Sundar Ramamurthy** (Minnesota), **Paul G. Sanders** (Northwestern), **Ellad B. Tadmor** (Brown), **Patrick Tepesch** (MIT), **Scott A. Walker** (UC-Santa Barbara), and **Tongwu Yang** (MIT).

The **Materials Research Society** will give their 1995 Medal Awards to **Federico Capasso** of AT&T Bell Labs and **Ruud Tromp** of the IBM Watson Research Center. Capasso's award is in recognition of his contributions to compositionally graded materials using bandgap engineering; Tromp's award is for his experiments on the role of atomic structure, surface stress, and in surfactants in heteroepitaxial growth.

The **Society of Automotive Engineers** has named 10 new fellows: Dr. Kenneth W. Bushell, Rolls-Royce; F. Gibson Butler, F. Gibson Butler Consultants; William B. Chamberlin III, Lubrizol Corp.; Dr. James A.E. John, GMI Engineering & Management Institute; Prof. Takeyuki Kamimoto, Tokyo Institute of Technology; Dr. G. Murray Mackay, U. of Birmingham; David F. Merriam, Detroit Diesel Corp.; Dr. Frank F. Pischinger, FEV Motorentechnik GmbH; Dr. V. Durga Nageswar Rao, Ford Research Staff; and Shiro Sasaki, Toyota Motor Corp.



Thomas Bellanti

Thomas Bellanti is now Plant Manager of **Laurel Industries'** antimony oxide production facility in LaPorte, TX. Mr. Bellanti will be responsible for all managerial and operational aspects of the facility.

Thomas Thornton, senior scientist Battelle—Pacific Northwest Laboratory, has received the ASTM's Award of Merit. Thornton was cited for his outstanding contributions in the development of standards for commercial nuclear fuels, reactor materials, and high-level nuclear waste disposal efforts.



Brian Parath

Tri-Star Plastics Corp., a plastics and bearings materials distributor, has promoted **Brian Parath** to customer service manager. His duties will include training inside sales staff and overseeing customer relations.

Tucker Induction Systems, Sterling Heights, MI, has appointed **Karen Brady** as Vice President of Finance, **Rob Ibbot-**

son as Manufacturing Manager, **Don Miller** as Facility Engineer, and **John Tedder** as Machine Shop and Assembly Manager.



Karen Brady



Rob Ibbotson



Don Miller



John Tedder

William E. Staib, VP Technology, Neural Applications Corp., has received the 1995 Modicon Rising Star Award from the **Industrial Computing Society** for his work in neural-network-based positioning systems in Neural Applications' Intelligent Arc Furnace Controller.

William W. Mullins, university professor emeritus of materials science and engineering at Carnegie-Mellon University has received the **Material Research Society's** 1995 Von Hippel Award. He received the prize for his contributions to the understanding of grain boundary motion, morphological stability, the structure of surface and interfaces, and flow and diffusion as stochastic phenomena.
