

News Briefs

Products

A new brochure from The Schott Group lists the *complete line of Schott capillary viscometers*. Detailed in the brochure are more than 120 types and sizes of viscometers and additional accessories. Write for catalog 268/4, Capillary Viscometers, c/o Schott America Glass and Scientific Products, Inc., 3 Odell Plaza, Yonkers, NY 10701 or call 914/968-8900.

Chaus Corporation has announced a new family of *precision top-loading balances*. Twelve models incorporating a wide array of features to meet varying capacity, readability, and performance needs are detailed in a new brochure. Contact Nidia Bello, Chaus Corp., 29 Hanover Rd., Florham Park, NJ 07932; 800/672-7722.

Allied-Apical *polyimide film with front-to-back differential adhesion properties solves adhesive transfer problems*. Designed for pressure sensitive tape applications such as circuit protection and solder masking during board manufacture, the tape has significantly better adhesion on one side, helping to eliminate adhesive transfer when removed from the circuit. Contact Allied-Apical Co., P.O. Box 2332, Morristown, NJ 07962; 201/455-2022, FAX 201/455-5528.

Industrial Quality, Inc. with support from Lockheed Missiles and Space Company has developed a *new, higher-density glass scintillator for x-ray imaging*. When using x-ray energy in the million-volt range, the higher density glass results in an 80% improvement in signal-to-noise ratio, a 250% improvement in emitted light brightness and a 1.5 times improvement in spatial resolution, as compared to typical granular phosphor screens. Contact: Harold Berger, Industrial Quality, Inc., 196534 Club House Rd., Suite 320, P.O. Box 2519, Gaithersburg, MD 20879; 301/948-2460, FAX 301/948-9037.

Alcatel Vacuum Products, Inc. has announced the availability of its DRYTEL MICRO, *a compact vacuum pumping system for processing and packaging applications where an ultra-clean vacuum is a primary requirement*. DRYTEL MICRO incorporates Alcatel's patented molecular drag technology and is designed to withstand high inlet pressures. It operates from atmosphere to the 10 - 6 mbar range. Applications include mass spectrometry, electronmicroscopy, sputtering, vacuum furnaces, leak detection, etc. Contact: Alcatel Vacuum Products, Inc., 40 Pond Park Rd., Hingham, MA 02043; 617/749-8710.

A new, computerized hysteresisgraph for measuring the AC magnetic properties of soft magnetic materials and electrical steels at frequencies ranging from 50 Hz to 1MHz is being introduced by Walker Scientific, Inc. of Worcester, MA. The Walker AMH-400 can run a hysteresis loop in 30 seconds, automatically calculate the parameters and display the results, with curves, on a high resolution monitor. Contact: Walker Scientific, Inc., Bruce Langley, Rockdale St., Worcester, MA 01606; 508/852-3674.

Textron Specialty Materials announces that its *boron/epoxy composite material will be used by the U.S. Air Force to repair cracks and structurally reinforce the entire 97-aircraft B-1 fleet*. A boron-epoxy repair consists of applying high-strength, high-stiffness boron fibers in an epoxy resin in the form of a prepreg tape and then heat-curing directly on the aircraft. This technique normally does not require aircraft disassembly. Contact: Textron Specialty Materials, 2 Industrial Ave., Lowell, MA 01851; 508/452-8961, FAX 508/454-5619.

Amorphous Metals Technologies, Inc. (Amtech) has introduced a family of *commercial hardfacing alloys that incorporate amorphous metal technology in coat-*

ings which transform, during use, into extremely hard surfaces. The unique properties of high hardness and toughness, and good abrasion and corrosion resistance are attributed to a transformation under abrasion or grinding from a two-phase crystalline alloy to a stable, amorphous alloy surface. Contact: Amorphous Metals Technologies, Inc., 10005 Muirlands, Suite M, Irvine, CA 92718; 714-768-1735.

A new high-speed, continuous casting machine that offers an efficient alternative to the current methods of static or semi-continuous casting of extrusion billets is being introduced by Rautomead USA of Bristol, RI. The Rautomead RX 1100 Horizontal Continuous Coating Machine produces nonferrous billets and semifinished products such as wire rod, strip or sections for forging. Contact: Rautomead USA, Jay Taylor, 125 Broad Common Rd., Bristol, RI 02809; 401/253-8330.

Aqua Quench 3600, an oil-free quenchant with cooling rates similar to quenching oils, is now available from E.F. Houghton & Co. While providing a slow cooling rate during the convection phase of quenching, without the oil smoke and potential fire hazards and down time, the quenchant assures crack-free performance. Contact: Jack Hasson, E.F. Houghton & Co., P.O. Box 930, Valley Forge, PA 19482-0930; 215/666-4000.

The Hydratight Morgrip system is *a pipe coupling which eliminates the need for flanges or welding*. Fatigue testing of the couplings under simulated North Sea conditions typical of those encountered by a riser due to wave motion is underway. The goal is to prove to Lloyd's of London that the couplings are at least as good as the very best welded joint. Contact: Robert Phaal, TWI, Abington Hall, Abington, Cambridge CBI GAL, UK; International 44 223 8911652.

Processes

Cortest Laboratories has established a *state-of-the-art thermal cycling research*

facility at its Cypress, Texas location. This unique facility can simulate cyclic tem-

perature fluctuations ranging from ambient to 2600 °F with temperature changes

of up to 400 °F per minute. The facility also allows for vacuum, casual hydrogen, and oxidizing environments. Contact: Michael Adams, Cortest Laboratories, Inc., 11115 Mills Rd., Suite 102, Cypress, TX 77429; 713/890-7575, FAX 713/890-3356.

The Selectron Process Electrochemical Metallizing Coatings are being applied in the maintenance of aircraft, rocket engines, ship and marine equipment, power generation equipment, and in many other industrial components by Selectron Ltd.

Materials and the Environment

"Will You Go to Jail?", a seminar presented by the Ceramic Manufacturers Association, 17-18 March 1992, in Pittsburgh, PA, presents nationally known experts to clarify the major environmental issues facing upper management, owners and even board members, who can be held personally liable when their plant does not comply with established standards. Key-note speaker, John Hoberg, will address environmental law and compliance issues, the current enforcement climate, environmental audits and business practices necessary to reduce the threat of enforcement. Contact: Ceramic Manufacturers Association, P.O. Box 2188, Zanesville, OH 43702-2188; 614/452-4541.

Motorola Government Electronics Group and Sandia National Laboratories are cooperating in an R & D agreement aimed at eliminating chlorofluorocarbons and other ozone-depleting solvents through utilization of a no-clean wave soldering process. The project will compile the data required to change product specifications to allow the use of the new process eliminating the need for CFC-gased solvents to clean printed circuit boards and other electronic equipment.

U.S. DOE's Office of Civilian Radioactive Waste Management has concluded a research agreement with Atomic Energy of Canada, Ltd., on the disposal of spent nuclear fuel and high-level waste. The agreement involves cooperative experimental activities associated with the geoscientific and engineering aspects of a mined geologic repository for high-level nuclear waste. The work will develop technologies to be used in support of the Yucca Mountain Site Characterization Project.

of Waterbury, CT. These coatings are applied at temperatures below 160 °F (70 °C) to minimize warpage and utilize both arc welding and electrochemistry concepts to develop surface hardnesses of from 100 Knoop to 62 Rockwell C. Many coatings can be applied on-site to restore fits of wearing parts and to fill pits or scratches to very high tolerance. Contact: Selectrons Ltd., 137 Mattatuck Heights Rd., P.O. Box 115, Waterbury, CT 06725-0115; 203/755-9900.

OSHA is filing more than 1,000 citations a month for violations of hazard awareness regulations. Copies of the special report, "Implementing the Expanded OSHA Hazard Communication Standard," are available from Bureau of Business Practice, 24 Rope Ferry Rd., Waterford, CT 06385-9985; (800)243-0876.

Electrolizing, Inc., participant in the SCAQMD pilot program to test equipment that will eliminate hexavalent chromium fumes, reports that it will replace the fume scrubbers on each of its 12 tanks with a Merlin Hood. By totally covering the tank and coupling it with a device that removes the fumes from the tank before the Hood is lifted, no hexavalent chromium emissions can escape into the air. In tests conducted with four installed Hoods, Electrolizing has determined that the Merlin Hood is the chrome plating industry's solution to the SCAQMD's 1992 requirement of keeping all fumes out of the air. Contact: Merlin Enterprises, 7682 Everest Cle., Huntington Beach, CA 92647-3016.

Available from *Government Institutes, Inc.*, 4 Research Pl., #200, Rockville, MD 20850, 301/921-2355: 1992 updates of "Environmental Statutes," "Federal Environmental Law Annual Report," and "Environmental Law Handbook."

The University of Kentucky presents, "Thermal Treatment and Disposal of Wastes," 12-13 March 1992, at the Center for Robotics and Manufacturing Systems. Content of the seminar includes incineration technology as applied to refuse, sludge, industrial and hazardous waste, and contaminated sites; other issues discussed: regulations, air emissions control, energy recovery, etc. Contact: University of KY, Engineering Continuing Education

A cost efficient, cyanide-free nitriding process called NU-TRIDE has been introduced by the Kolene Corporation of Detroit, MI. The process is distinct from conventional nitriding, requiring shorter immersion times to produce the desired iron nitride zone thickness and allows direct water quenching in baths which don't require waste treatment. Kolene also offers to test-process components at no charge. Contact: Kolene Corp., 12890 Westwood Ave., Detroit, MI 48223; 800/521-4182.

& Extension, 320 CRMS Bldg., Lexington, KY 40506-0108; 606/257-4296.

Announcement is made of a patent pending for a process which removes lead or other metallic particles from soil and water. The system yields clean fractions of lead, topsoil, sand and gravel. Water used in the process is filtered and recirculated. Contact: Stark Screen Co., Inc., P.O. Box 2231, North Canton, OH 44720; 216/494-9364.

A new line of molded UV-stabilized polyethylene containers for hazardous materials is now available. Each holds four 55-gallon drums and is both an open or enclosed secondary container. Heavy duty construction provides an extra measure of physical safety for the contents. Contact: Environmental Container Corp., P.O. Box 161, Delafield, WI 53018; 800/729-7137.

A new mobile tank with double-walled containment brings safer, practical handling of acids and alkalis to in-plant operations. Made from fiberglass reinforced plastic, the 500-gallon tank is designed for continuous containment of corrosive solutions. In anticipation of stricter EPA safety regulations, it is designed with secondary containment in case of leakage. The tank is ideal for hazardous waste handling, and for filling/decanting fluids used in chemical machining, and plating and coating. Contact: RL Industries, Inc., 9355 Le Saint Dr., Fairfield, OH 45014; 513/874-2800.

Asbestos removal is a major concern for the construction industry, as well as for U.S. Army installations, school systems, and other institutions. Asbestos waste material is currently dumped into special landfills where space is becoming a pre-

mium. Affordable alternative disposal methods are in demand. *An asbestos destruction technique that efficiently melts the cancer-causing fibers into harmless gray chunks of glassy material* has shown

promise in a test by Georgia Tech researchers. The glassy material created in melting may be sold as concrete aggregate or molded into products such as bricks. Contact: Georgia Institute of Technology

Research Communications Office, Atlanta, GA 30332-0800; 404-894-3444.

National Laboratories

Sandia National Laboratories is successfully moving toward *replacement of standard gold plating techniques*, which use cyanide salts in an electrolytic solution, with plating that uses a gold sulfite solution. This is not only a safer process—it also produces a better-quality surface. Also at Sandia: *researching diamond film growth by CVD*. Using CVD reactors which typify commercial CVD diamond manufacturing systems, they are attempt-

ing to grow single-crystal diamond film at the lowest possible deposition (substrate) temperature. An immediate aim is toward diamond coating plastic substrates. Sandia National Laboratories, Albuquerque, NM; Livermore, CA.

Ten scientists and engineers from the U.S. Department of Energy's *Argonne National Laboratory* have recently been recognized for *technological advances in the areas of*

electric-vehicle batteries, novel lubricant materials, recycling of used, metallic fuel from advanced nuclear reactors, and for the development of chemical resins which separate various radioactive elements from chemical solutions. Argonne National Laboratory is operated by the University of Chicago for the U.S. Department of Energy.

Calendar of Events

1992

April 6-10

International Conference on Coatings and Thin Films, San Diego, CA, USA; Contact: S.V. Krishnaswamy, Westinghouse Science & Technology Center, 1310 Beulah Rd., Pittsburgh, PA 15235, USA; 412/256-1998.

April 7

Tribology in Metal Cutting and Grinding, London, UK; Contact: Institution of Mechanical Engineers, Conference Dept., 1 Birdcage Walk, Westminster, London SW1H 9JJ, UK; 071/222-7899.

April 7-9

Aerospace Atlantic Conference and Exposition, Dayton, OH, USA; Contact: Society of Automotive Engineers, Meetings Dept., 400 Commonwealth Dr., Warrendale, PA 15096, USA; 412/776-4841.

April 7-10

5th European Conference on Composite Materials, Bordeaux, FRANCE; Contact: Mrs. D. Doumeings, EACM, 2 Place de la Bourse, 33076 Bordeaux Cedex, FRANCE; 33/565-29894.

April 8-10

Institute of Ceramics Annual Convention, Cambridge, UK; Contact: Institute of Ceramics, Shelton House, Stoke-on-Trent ST4 2DR, UK; 0782/202116.

April 12-16

94th Meeting of the American Ceramic Society, Minneapolis, MN, USA; Contact: American Ceramic Society, 757 Brookside Plaza Dr., Westerville, OH, USA; 614/890-4700.

April 13-15

AIAA/ASME/ASCE/AHS 33rd Conference on Structures, Structural Dynamics and Materials, Dallas, TX, USA; Contact: American Institute of Aeronautics and Astronautics, Meetings Dept., 370 L'Enfant Promenade, S.W., Washington, DC 20024, USA; 202/646-7463.

April 13-15

International Magnetics, Magnetism, and Magnetic Materials Conference, St. Louis, MO, USA; Contact: Institute of Electrical and Electronic Engineers, Conference Dept., 345 E. 47th St., New York, NY 10017, USA; 212/705-7047.

April 20-23

28th Annual Aerospace/Airline Plating & Metal Finishing Forum & Exposition, San Diego, CA, USA; Contact: Society of Automotive Engineers, Meetings Dept., 400 Commonwealth Dr., Warrendale, PA 15096, USA; 412/776-4841.

April 22-24

JEC '92: European Composites Congress, Conference, and Exposition, Paris, FRANCE; Contact: CPC, 65 Rue de Prony, F-75017 Paris, FRANCE; 47/631259.

April 25-30

94th Annual General Meeting of the Canadian Institute of Mining and Metallurgy, Montreal, CANADA; Contact: Canadian Institute of Mining and Metallurgy, 1 Place Alexis Nihon, 3400 de Maisonneuve Blvd., W., Ste. 1210, Montreal, Quebec H3Z 3B8, CANADA.

April 27-29

Association of Iron and Steel Engineers Spring Conference, Dallas, TX, USA; Contact: Association of Iron and Steel Engi-