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# Hotspot

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**MAAC Machinery Corporation** manufactures *thermoforming machinery and systems*. Units range in size from single-station-fed units (handling polymer sheet from 12 ft<sup>2</sup>) to three- and four-station rotary (with double ovens, if required) handling sheet up to 95 ft<sup>2</sup> as required. On rotary systems, semi- or fully automatic sheet load capabilities are available. Oven options for heating sheet during thermoforming include ceramic, gas catalytic, quartz tubes, or calrod. For more information, contact: MAAC Machinery Corp., 801 Hilltop Dr., Itasca, IL 60143; tel: 630/285-1500; fax: 630/285-1506.

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According to a report from the **Metal Treating Institute**, by the third quarter of 1996, *reported sales for the metal treating industry* were \$561.1 million, or 2.3% above the 1995 total at the end of the third quarter of \$548.7 million. September billings reached \$62.9 million, an increase of 6.7% over September 1995 billings of \$59.0 million. The largest gains for the nine-month period were the pacific coast (CA, AZ, OR, and WA) region's 15.5% and the southwest (TX, OK, AR, CO, LA, and UT) region's 11.7%. For more information, contact: Metal Treating Institute, 1550 Roberts Dr., Jacksonville Beach, FL 32250-3222.

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**Seco/Warwick Corporation** produces *aluminum brazing systems, magnesium melting furnaces, electric holding furnaces, melters, and ingot preheaters*. The aluminum brazing system has a computerized color graphic interface for close monitoring of the dew point and oxygen, belt speed, recipe selections, PID loop tuning, alarms, and runtime. For more information, contact: Seco/Warwick Corp., 180 Mercer St., Meadville, PA 16335.

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To shorten its supply lines and save on remelt and freight costs for liquid metal, **MagReTech Inc.** has purchased *12 acres for a die cast facility adjacent to its existing 18-acre, magnesium-alloy scrap recycling facility* with an annual capacity of 15,000 tons. For more information, contact: Magnesium Refining Technologies, 4878 Chaincraft Rd., Cleveland, OH 44125; tel: 216/587-4843.

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**Atmosphere Furnace Company (AFC)** has acquired *Pacific Industrial Furnace Company (PIFCO)* from Dectrex Corporation, Southfield, MI. PIFCO will become a division of AFC and continue to market its products under the PIFCO name. PIFCO is a manufacturer of roller hearth furnaces, annealing furnaces, rotary hearth index furnaces, recirculating air furnaces, and furnaces for the brass, aluminum, and power metal industries. The company recently introduced the Pyro-Kleen furnace, a combination part cleaning and heat-treat system. For more information, contact: Atmosphere Furnace Co., 49630 Pontiac Trail, Wixom, MI 48393-2009; tel: 810/624-8191; fax: 810/624-3710.

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**Bodycote International plc** has acquired *Hinderlitter Heat Treating Inc.*, Dallas, TX. Hinderlitter performs a range of heat treating and brazing services from seven locations in Texas, Oklahoma, California, and Ontario, Canada. Bodycote plans to establish a network of heat-treatment facilities in North America similar to those already in place in the United Kingdom and Europe. For more information, contact: Bodycote International plc, 155 River St., Andover, MA 01810; tel: 508/470-1620; fax: 508/475-2951.

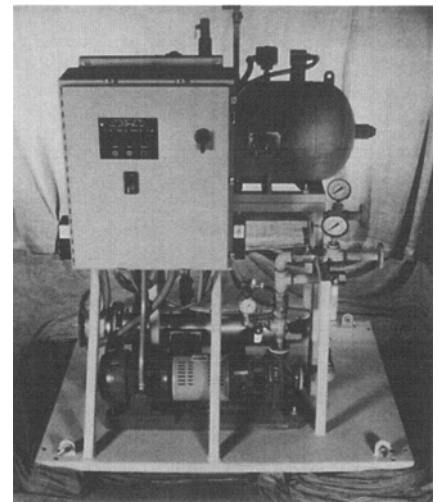
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After a two-year hiatus, **Wall Colmonoy Corporation** is *once again publishing Microbraz News*. The technical newsletter addresses applications and common concerns in high-temperature inert and vacuum furnace brazing using nickel-base filler metals. The current issue contains an article on the role of base metal surface condition in brazing, and a column on how nitrogen affects braze joint quality. For more information, contact: Wall Colmonoy Corp., 30261 Stephenson Hwy., Madison Heights, MI 48071-1650; tel: 810/585-6400; fax: 810/585-7960.

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**Watlow Electric Manufacturing Company** has established a Systems Division *to custom-design, manufacture, assemble, and install an entire thermal system*, based on the company's product line of heaters, sensors, and controllers. While the company has been serving industry for several decades by designing and con-

structing large process assemblies, the Systems Division has expanded this capability to include anything from circuit board assembly to wiring harnesses and control box fabrication. For further information, contact: Watlow Electric Manufacturing Co., 12001 Lackland Rd., St. Louis, MO 63146; tel: 314/878-4600; fax: 314/878-6814.



Watlow Electric Manufacturing Company

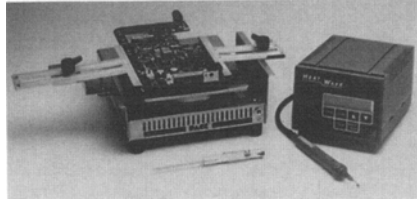
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**IIT Research Institute** has opened an *Instrumented Factory (INFAC) for Gears Heat Treatment facility*. INFAC is an integrated program of research and development, education and training, and technology dissemination with a mission to ensure an affordable, responsive, and reliable gear supply for Department of Defense needs. For more information, contact: IIT Research Institute, 10 W. 35th St., Chicago, IL 60616-3799; tel: 312/567-4000.

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**Thyssen**, one of the largest manufacturers of specialty steels in the world, processes and supplies *stainless steel, tool steels, and aluminum, and heat treat services to the tool and die-making industry in North America* from its heat treating facility in Windsor, Ontario. The facility includes a 5000 lb capacity vacuum heat treatment system, a metallurgical laboratory, stress-relieving furnaces for large molds, and cryogenic treatment. Last December, the company added a 10 bar vacuum furnace

system with an 8000 lb load capacity. For more information, contact: Vince Adkar, Thyssen Marathon Canada Ltd., 2555 N. Talbot Rd., Oldcastle, ON, Canada N0R 1L0; tel: 519/737-1568; fax: 519/737-1613.



Pace Inc.

**Pace Inc.** has developed the HS200 *heat-wave system for temperature-controlled, ramp and soak preheating of high-mass electronic assemblies and components.* With an adjustable temperature range of 38 to 371 °C (100 to 700 °F), the user can customize the temperature ramp rate and soak time. The system provides safe preheating for electronic assemblies including surface mount and through-hole boards, sensitive ceramic substrates and components, and heavy multilayer boards. For more information, contact: Pace Inc., 9893 Brewers Ct., Laurel, MD 20723-1990; tel: 301/490-9860; fax: 301/498-3252.

The Thermal Gradient Quenching Analysis System, from **Instruments & Technology Inc.**, *records, evaluates and compares "real" quenching intensities for specific heat treat quenching operations:* different oil quenchants, different polymer solutions, other water-based solutions, molten salt baths, fluidized beds, fast-moving compressed gases, direct immersion quenching, batch loading, interrupted quenching, martempering, austempering. The system determines the depth of hardening, thermal stress, probability cracking, and delayed quenching.

The system calculates cooling curves, microstructure, and hardness. For more information, contact: Instruments & Technology Inc., 21 W. Van Buren Ave., Naperville, IL 60540; tel: 630/355-7748; fax: 630/355-7754.

**Algor Inc.** has released *software that simultaneously analyzes how turbulent and laminar flow can affect products or parts that interact with air, water, and other fluids.* This software analyzes turbulent flow within the laminar flow analysis, using computational fluid dynamics technology to show engineers where and how the different types of flow act within a computer model of fluid flow. For more information, contact: Algor Inc., 150 Beta Dr., Pittsburgh, PA 15238-2932; tel: 412/967-2700; fax: 412/967-2781; e-mail: info@algor.com; web: <http://www.algor.com>.

### Furthermore...

**Sandia National Laboratories** has developed *an environmentally friendly way to operate heaters for home and industrial uses.* The patented approach creates only 5 ppm of Nox (oxides of nitrogen), a pollutant that contributes to smog. Air-quality limits are about 20 ppm. Besides low Nox, this clean combustion approach also emits very low amounts of carbon monoxide. The innovation arose from work at the Combustion Research Facility to understand and improve the performance of pulse combustion. For more information, contact: Jay Keller, Combustion Research Facility, Sandia National Laboratories, Livermore, CA; tel: 510/294-3316.

**Hughes Electronics** has released a 42-page report, "*1996 Environmental, Health, and Safety Annual Report*," which covers the performance of the company's environmental, health, and safety programs. Sections describe the company's environmental policies, organization, and management; materials policy; releases to the environment; waste management; use of energy; and compliance with government regulations. For a copy, contact: Hughes Electronics Corp., 7200 Hughes Terrace, Los Angeles, CA 90045; tel: 310/568-6423; web: <http://www.hughes.com>.

**Hoover Materials Handling Group** now offers *free recycling of its Bulkdrum line of composite intermediate bulk containers.* Special assistance, such as disposal of product residue, transportation, or other services are available at the customers' expense. Following all federal, state, and local regulations, Hoover will dispose of each container that has reached the end of its economic life. It will recycle others to the greatest extent possible. For more information, contact: Hoover Materials Handling Group Inc.,

2001 Westside Pkwy., Ste. 155, Alpharetta, GA 30201; tel: 770/664-4047; fax: 770/664-2850; web: <http://www.hooveribcs.com>.

**A.A. Balkema Publishers** have released *Mining Environment: Proceedings of the First World Mining Environment Congress, 11-14 December 1995, New Delhi, India*, edited by Bharat B. Dhar and D.N. Thakur. The 416-page book covers environmental problems and issues such as dumping problems caused by fly ash and slags; management of environmental issues at mines and in the Russian coal industry; environmental management practices, such as nature management control at iron ore open pit mines and other environmental protection measures in the mining industry; and environmental policy and legislation, including an overview of mining waste management in the United States. For a copy (\$70.00), contact: A.A. Balkema Publishers, P.O. Box 1675, 3000 BR Rotterdam, Netherlands or A.A. Balkema Publishers, Old Post Rd., Brookfield, VT 05036-9705.

Hydro-Drive B-245 hydraulic fluid has been formulated by **Houghton International** to meet the demand for *biodegradable hydraulic oils for use in hydraulic components and has been developed to be an environmentally friendly replacement for conventional petroleum hydraulic oil.* B-245 has good thermal and oxidative properties. A biodegradable additive package minimizes environmental impact, and the fluid's high viscosity index allows outdoor operations in winter and summer without the need for fluid changes or equipment modifications. For more information, contact: Houghton International, Madison and Van Buren Aves., Valley Forge, PA 19482-0930; tel: 215/666-4000.