

RESOURCES

*A summary of new products and services
for materials research...*

Digital EDS Detector: Princeton Gamma-Tech's PRISM digital EDS spectrometer with digital pulse processing uses noise-free digital circuitry rather than analog components to enhance x-ray detector performance. Converting the x-ray signal to digital information prior to signal processing has eliminated the need for the main amplifier and ADC. Detection of x-rays down to and including Be can be done with pile-up rejection, and more than 60,000 x-ray counts per second can be processed and output to the EDS spectrum.

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CD-ROM Plastics Database: The Selector II™ from International Plastics Selector® provides technical data on 16,667 materials, with up to 60 properties for each material. The database is available in an index version containing only technical data, or an image version including both technical data and images of manufacturers' specification sheets. Users may search by material name, generic name, property, or manufacturer name. They may also view or scan materials within a category, or identify specific materials based on parametric values.

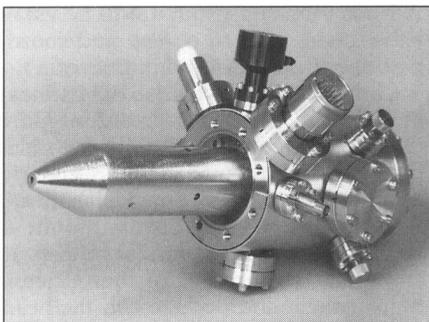
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Specialty Metals Guide: Free 52-page booklet from Carpenter Technology covers technical data and selection criteria for approximately 400 alloys. Chemical compositions, characteristics, and applications are provided for corrosion-resistant alloys, high-temperature alloys, stainless steels, high-strength alloy steels, nickel-copper alloys, heating element alloys, and more. Locations for company-owned stocking service centers in the U.S. and abroad are also included.

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Coating Materials Catalog: Free 1993/1995 catalog from Balzers describes coating materials, sputtering targets, evaporation sources, and quartz crystals. Featured products include materials for ion plating and optical films, chemicals for organic CVD processes, targets for compact disc metallization, metals and alloys, dielectrics, liners for crucibles, and more. The 83-page catalog contains product descriptions, film characteristics, technical specifications, training programs, and application support data.

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▲ **Two-Lens Ion Column:** FEI's UHV-compatible liquid metal ion column combines an integrally brazed lens module with stacked-disk construction for nanoscale ion beam milling and imaging. Clean Cut Optics™ provides current densities exceeding 10 amps/cm², with image resolution better than or equal to 25 nm. The electronically variable aperture contains no moving parts, and the gallium liquid metal ion source has a guaranteed lifetime of 1,500 h. Optional modules include an integrated column isolation valve, electronically or mechanically variable aperture, and high-speed beam blanking and bunching.

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Mean Spherical Candle-Power System: The IL1700/SED033Y/INS250 system from International Light measures collimated or divert beams and provides readouts in optical units such as lumens, candela, watts, watts/cm², watts/steradian, ft.-candles, and joules. The system takes readings over a dynamic range of 1×10^4 to 5,000 lumens and features a 10-inch-diameter integrating sphere with three detector/source ports, a detector, and a radiometer with automatic ranging and RS-232C plus TTL digital outputs.

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Flame-Retardant Hot-Melt Adhesive: The 3M Jet-Melt 3748 V-O adhesive, delivered through a handheld 3M Polygun TC applicator, offers a solvent-free bond for electronic applications. An alternative to silicone sealants, the adhesive meets all UL 94 requirements for flammability and can be used to insulate bare conductors, fasten wires, seal connectors, and attach components.

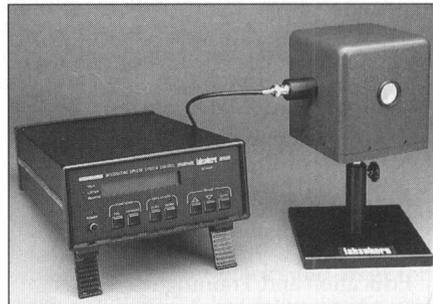
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Benchtop Flame Chamber: The HVUL horizontal vertical flame chamber from Atlas Electric Devices meets UL Bunsen burner tests. A multi-axis specimen burning apparatus facilitates specimen positioning, and a handheld remote timer provides data for in-chamber event timing. Five specimen holders are available, and safety features include an enclosed chamber with exhaust, a heat-treated sliding-glass viewing window, separate control switches for gas flow, and a local gas pressure regulator.

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Polymer Melts Analyzer: Rheometrics Automated Melts Analyzer (RAMA) performs sample conditioning and testing on plastic powder or pellets, enabling reproducible tests on up to 10 samples per hour. The system consists of an 18-cartridge sample-loading station, sample-conditioning station, dynamic mechanical test station, robotic transfer system, and a computer-controlled operation and data analysis station. Applications include repetitive routine quality-control testing on thermoplastics and measurement of polymer viscoelastic properties.

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▲ **NIR Sphere Radiometer System:** The NSRS-400 from Labsphere operates as an irradiance meter and as a laser power meter. The system features a four-inch-diameter Spectralon integrating sphere and a GDA-050 germanium detector. Also included is an SC-5000 integrating sphere system control, which may be operated manually through its seven-key front panel or in conjunction with an optional computer via IEEE-488 bus interface or an RS-232C serial port. The system is suitable for measuring NIR laser diodes, including those used in fiber-optic communication systems.

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**See LIBRARY on p. 47 in this issue for a list of
publications related to materials research.**