MATERIALS/PRODUCTS

The new 1993/95 edition of the 83-page **Balzers *coating materials catalog*** contains product descriptions, film characteristics, and technical specifications, along with quality assurance, training programs, and applications support. Photographs, tables, and dimensional drawings describe materials for ion plating, special materials for optical films, chemicals for organic CVD processes, quartz crystals, and a complete line of targets for compact disc metallization. In addition, metals, alloys and mixtures, dielectrics, evaporation sources, protective foils, and cleaning agents available through the Hudson, New Hampshire, company are featured. Circle (3)

A new lightweight aluminum fiber metal sheet material that ***helps reduce the weight of acoustical and noise abatement components***, while maintaining outstanding performance benefits, is available from **Technetics Corp.**, DeLand, Florida. The new material is 40% lighter than stainless steel sheet of equivalent thickness. Sheets are made of 6061 aluminum fiber and reinforced with 3003 or 6061 aluminum perforated sheet. It is also compatible with aluminum honeycomb structures. Engineered porous sheet, made by diffusion bonding randomly oriented metal fibers, is reinforced with screen or perforated plate to enhance structural properties. Required flow and structural properties are obtained by precise control of fiber size, porosity, and thickness. Circle (4)

Zyp Coatings, Inc., Oak Ridge, Tennessee, announces the introduction of Hardcoat, a boron nitride coating formulation that offers ***high hardness and wear resistance***. It overcomes the limitations of the past boron nitride coatings—softness, rapid wear, etc.—while offering a safe, nontoxic water-base formulation that is easily applied by brushing or spraying to most any metal, ceramic, and graphite surface. Circle (5)

A new general-purpose lubricant from **Dow Corning Corp.**, Midland, Michigan, is specially designed for ***extreme pressure applications***, especially where rust penetration and protection are required. Moly Pene-Lube® is a nonaerosol, molybdenum disulfide (MoS_2) lubricant capable of penetrating deep into normally inaccessible areas to loosen rust and dirt to allow nondestructive disassembly. It operates in temperatures ranging from −20 to +120 °F. Circle (6)

Dow Corning Corp.

Ultradispersed diamond powder (UDP), a new material obtained by explosive synthesis at **MMI Systems**, Boulder, Colorado, consists of rounded grains with a particle size of 60 Å on average. The diamond content of the powders ranges from 90 to 99%. The material finds applications in electro-optics, aerospace, automotive, plastics, and the chemical and rubber industries, allowing ***powerful structure enhancement*** in various materials such as ceramics, rubber, plastics, and lubricants. It increases wear resistance and decreases friction while supporting a maximum load increase of six times. Circle (7)

A high-impact formulation of Electrafil® electrically conductive, flame-retardant polycarbonate from **DSM Engineering Plastics**, Evansville, Indiana, is now available for applications that require attenuation of the brittleness imparted to thermoplastics by conductive carbon blacks. It is an extension of a Ketjenblack-filled product family that ***stretches the performance of polycarbonate*** to provide design engineers with a range of cost-effective materials solutions. Circle (8)

High-performance resin systems, created for the ***resin transfer molding of high-tech composite materials***, have been introduced by **Ciba-Geigy Polymers Matrix Resins Business**, Hawthorne, New York. The five systems are designed for production of high-tech composites with many currently available reinforcements such as glass, carbon, and aramid fibers. They exhibit high mechanical strength with varying load-carrying capability at higher temperatures. Low viscosities with sufficient pot life required for successful resin transfer molding at the recommended processing temperatures are featured. Circle (9)

A high-temperature flux that is active between 1400 and 2200 °F is now available from **The Superior Flux & Manufacturing Co.**, Cleveland, Ohio. No. 609 is particularly suited for ***brazing of ferrous metals and alloys, high-chromium alloys, and tungsten carbide compositions***. Applications include carbide cutting tools, industrial equipment, and jobs with large parts or long heating cycles. It contains no potassium bifluoride (a skin irritant) and has a very low fluorine content. Applied manually or with an automatic dispenser, it works well with low silver content brazing alloys, nickel silver (CDA 773) and low-fuming bronze (CDA 681) filler metals. Circle (10)

Krupp VDM GmbH, Werdohl, GERMANY, presents the low-expansion nickel-iron engineering material Pernifer®36, a new alloy exhibiting even less sensitivity than previous versions. By virtue of modified metallurgical processing and further reduction of standard residuals in the melt thermal expansion, values are 30% lower in the range 20 to 200 °C. The new material is thus particularly suitable for the production of shadow masks for the new generation of television sets featuring high-resolution image quality. The high operating temperature arising in such sets can lead to undesirable expansion of the metallic shadow mask arranged between the screen and the electron gun, causing color falsification and blurring. Circle (11)