Master Bond, Hackensack, N.J., introduces Supreme 3HTND-2DA, a fast curing, high performance one component epoxy system. It cures in 5-10 minutes at 150°C and has unlimited working life at room temperature. It is available in syringes and has a shelf life of six months when stored at 40°-50°F. The new epoxy has a die shear strength of 19-21 kg-f as well as good adhesion to metals, ceramics, and silicon dies. It is serviceable over the -100° to +400°F temperature range. As a toughened system, it offers the ability to withstand rigorous thermal cycling and shock. It also features dimensional stability, superior thermal conductivity, electrical insulation properties, and a glass transition temperature of 100°-105°C. masterbond.com.

Innovnano, Portugal, developed nanostructured 3 mol% yttria-stabilized zirconia (3YSZ) as an optimized ceramic material for high strength, anti-wear applications. With small grain sizes and exceptional homogeneity, 3YSZ powder has excellent mechanical and physical properties, including improved phase stability, which helps to extend the lifetime of ceramic linings, coatings, and components. The material is produced as a highly pure, uniform nanostructured powder with an even distribution of yttria. This homogeneous composition enables the powder to be sintered at lower temperatures, typically 50°-75°C lower than conventional powders, keeping the grain size to a minimum (<250 nm). Ceramic coatings and components benefit from both excellent hardness (HV10 >1250) and flexural strength (1100-1800 MPa). innovnano-materials.com.

Henkel Corp., Germany, offers the aerospace industry Loctite benzoxazine resins for injection processes. With high performance and a weight saving of almost 30% compared to metal alternatives in comparable aerospace engineering applications, benzoxazine resins offer significant savings in aircraft fuel consumption. Thanks to their room temperature stability and low flammability, they also contribute to enhanced health and safety in the aerospace industry. The improved performance characteristics of benzoxazine enable lower material consumption and reduce the hazards of waste products. Loctite benzoxazine resins also have lower shrinkage upon cure, reducing the internal stresses that can affect durability and adhesive bonding. henkel.com/aerospace.

AK Steel, West Chester, Ohio, introduces Chromeshield 22, a new nickel-free stainless steel product developed for manufacturers of appliances and food service equipment, tubing, cookware, automotive exhaust components, and heat exchangers. Similar to nickel-bearing stainless steels, Chromeshield 22 is rust and stain resistant with excellent corrosion properties. In numerous applications, its corrosion resistance meets or exceeds the performance of conventional nickel-bearing stainless steels. It is also approved by NSF International as safe for food contact. aksteel.com.

Excelitas Technologies Corp., Waltham, Mass., launched OmniCure AC8 Series UV LED curing systems. The series features superior optical uniformity, enhanced process control, and ease of integration to support diverse applications in the curing of inks, adhesives, and coatings. The scalability of AC8 Series allows adjoining of multiple LED heads in order to achieve larger curing areas, supporting customization and flexibility without compromising output uniformity. Precise control of UV irradiance level ensures the correct amount of UV light on every exposure for consistent and reliable results. excelitas.com/omnicureAC8series.