

## Corrosion inhibitor

**Cortec's EcoLine 3680** is a certified bio-based, biodegradable, ready-to-use temporary coating for multimetal protection.



EcoLine 3680 is formulated with renewable raw materials and provides indoor and outdoor multimetal protection. When applied on a metal surface, it leaves a dry-to-touch protective coating. The wax-like film is self-healing and moisture-displacing, providing protection against aggressive environments, and can be removed with alkaline cleaners. RoHS-compliant Ecoline conforms to various standards and can be applied by brushing or spraying to protect various metals including carbon, galvanized and stainless steels, copper, brass, bronze, aluminum, and cast iron for pipe coating, parts storage, wire rope, steel plates, and machined parts.

## Surface coating

Ultra-short pulsed laser deposition (USPLD) surface coating technology from **Picodeon** enables creation of porous or



dense aluminum oxide ( $\text{Al}_2\text{O}_3$ ) coatings on heat-sensitive substrates in various industrial metallization applications including off-highway and agricultural equipment engines. Porous  $\text{Al}_2\text{O}_3$  layers are used as filters and electrical insulation layers, while dense  $\text{Al}_2\text{O}_3$  is used as a barrier and a transmittable optical coating. The USPLD process offers precise micro-

structural coating control for dense and porous coatings on heat-sensitive materials. Coldab Series4 equipment with built-in online plasma monitoring and laser power measurement enables accurate management of coating process parameters, and PC-controlled automation records the coating process to achieve coating characteristics within targeted parameters. The system can improve porosity of a  $3\text{-}\mu\text{m}$   $\text{Al}_2\text{O}_3$  coating by as much as 45%.

## Material selection

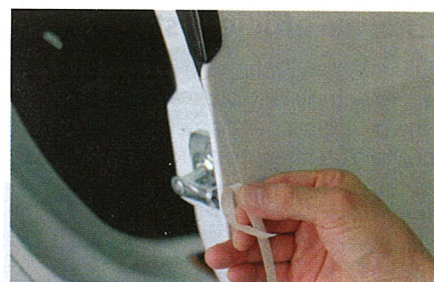
A dry-tech box from **igus** is a sample kit designed to help engineers find the right material bearing for an application. The



box contains a set of card overlays, which filter the bearing choices by criteria, much like the company's online configurator. The dry-tech sample box includes an array of iglide bearings, from iglide H for corrosive environments to iglide A350, which can withstand temperatures up to  $356^\circ\text{F}$  ( $180^\circ\text{C}$ ). The box also contains a bearing guide that highlights the key properties of each bearing to improve the bearing search. All igus bearings have dry-running properties, making them lubrication-free, maintenance-free, and long-lasting. Bearings are lab tested for durability, friction, and stability.

## Protective film

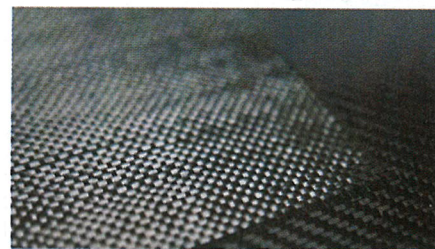
**Xpel's** Ultimate paint protection film offers clarity and long-term durability to protect vehicles from stone chips, scratches, and abrasions. The invisible urethane film features a clear coat and special elastomeric polymers that heal over time, eliminating swirl marks and fine scratches. Low-surface energy enables Xpel Ultimate to shed contaminants such as road grime, air pollution, and tree sap, which often stain and yellow conventional films, while



it protects painted surfaces from rocks, gravel, salt, oils, magnesium chloride, and insect and bird wastes. The film is available in rolls of varying widths and lengths, pre-cut in various patterns; improved elongation, memory, and flexibility enable single-piece installations. Suitable applications include hoods, headlamps, fenders, rocker panels, door edges, and mirrors.

## Toughened nanocomposite

**Zyvex Technologies** introduces a second-generation nanocomposite toughened with Arovex HT, a prepreg that improves the durability of carbon-fiber products using carbon nanotubes. Offering fracture toughness with a 200% improvement compared to traditional reinforced com-



posite materials, Arovex HT features composite durability suitable for the on- and off-highway and marine industries. Kentera technology acts as the bridge between carbon nanomaterials and the resin matrix and disperses the nanomaterials, preventing them from agglomerating or grouping together in a product. This dispersion allows the mechanical property advantages of the nanomaterials to transfer loads from the resin matrix to the fibers, resulting in stronger products. Various North American customers currently are evaluating Arovex HT for various infrastructure applications.