

## NEW PRODUCTS

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## Revolutionary Pretreatment

The award-winning Picklex line replaces hazardous chemicals in cleaning, conversion coating.

By Kate Hand, Sr. Managing Editor

If a picture is worth 1,000 words, a 46-second video could be worth a fortune for your pretreatment process. In a quick "Removal of Flash Rust" video from Huntsville, Ala.-based International Chemical Products Inc., maker of Picklex and Picklex 20, a metal test strip goes from red rusted to bright and shiny in just moments.

The Picklex line of products doesn't just remove rust though, says International Chemical Products company President Ranjit Sen. Rather, it is used for complete metal surface preparation and pretreatment (both ferrous and non-ferrous) in all different types of applications, often replacing traditional pretreatment/conversion coatings such as nitric acid, sanding, blasting, phosphates, chromate conversion coatings, chemical sealers and rust inhibitors.



Picklex is an environmentally safe alternative that's non-toxic, non-hazardous, non-flammable, water-soluble and doesn't fall under any EPA, OSHA or DOT regulation.

Picklex, says Sen, is a water-based environmentally safe alternative that's non-toxic, non-hazardous, non-flammable and doesn't fall under any EPA, OSHA or DOT regulation. "It's ready to use, no mixing, and it eliminates all hazardous and toxic chemicals used in metal surface preparation such as, acid, phosphate and chromate," Sen says.

And although the admittedly cool video shows flash rust removal, that's just the tip of the iceberg, according to the company. Picklex also removes weld and laser scale and white rust all while cleaning, coating and sealing to prevent further moisture absorption.

Picklex 20 is a value-added product and eliminates blasting for new metals, increases weld strength and provides years of indoor rust protection. "We do extensive ASTM B117 salt spray tests at

our facility in Huntsville," says Picklex customer Lee Smith, a senior manufacturing engineer specialist with Summa Technology, a military metal fabricator in Cullman, Ala. "Our samples that were treated with Picklex passed and exceeded the required hours of salt spray with no bleed-out. We also have run identical tests for galvanized products with the same kind of result. On one product line, we have replaced both hop dip galvanizing and zinc phosphate pretreatment with just Picklex, prior to prime and paint."

The Picklex product line was winner of a 2013 Bronze Edison Award for innovation—an accolade that's no small feat, considering it is judged by more than 3,000 business executives, academics and leaders in the fields of product development, engineering and science. International Chemical Products stood out for its mission to eliminate hazardous chemicals used in the metal finishing and manufacturing industries.

To date, Sen says that the products have already eliminated more than a million gallons of industrial hazard-

ous waste. This is due in part to the fact that Picklex is used as is and does not deplete. Thus, with regular filtering, the concentration stays the same, reacting with the metal surface 100 percent without producing sludge, waste, or etching the surface to produce a heavy-metal-filled rinse water.

Some of the same properties that make Picklex environmentally friendly also lend it versatility. Picklex is designed to seal by itself and therefore no chemical sealer is needed in the rinse water. The company says cold rolled steel, stainless steel, aluminum and galvanized steel can be processed at the same time in the same bath, and then readied for top coating such as priming, painting, powder coating, e-coating, hard chrome plating, sulphuric acid anodizing or hot dip galvanizing.

"Chances of adhesion failure with the top coating are almost zero," Sen says. "We have seen zero quality failure in last 14 years, virtually eliminating re-work."

Check out video of the product at work at [picklex.com/picklex-removal-of-flash-rust-video](http://picklex.com/picklex-removal-of-flash-rust-video)  
International Chemical Products Inc. / 256-650-0088 / [picklex.com/picklex20.com](http://picklex.com/picklex20.com)



## EN Process Delivers Black Finish

The Enplate Onyx mid-phosphorus electroless nickel process from Enthone is designed to provide an optimum black appearance on complex part geometries, including electrical connector components used in the commercial and military aerospace industries. The cadmium-free and lead-free process can be used



on a range of substrates, including steel, stainless steel, titanium alloys, aluminum alloys, powdered metal products and copper alloys. It is RoHS, WEEE and ELV compliant.

The process includes a mid-phosphorus EN followed by a single immersion blackening step. The need for a post-dip sealant/topcoat is eliminated. Corrosion performance may be further optimized by using a duplex EN coating, the company says. Enplate is said to offer excellent solution stability and contaminant tolerance for an enhanced and consistent surface appearance.

Enthone Inc. / 203-799-4908 / [enthone.com](http://enthone.com)

## Infrared Thermometer Offers 5 Operating Modes

The Spot R100 high-temperature, non-contact, infrared thermometer from Ametek's Land Instrument's unit combines five different operating modes and offers enhanced on-board processing capabilities, eliminating the need for a separate signal processing device. The operating modes include ratio setting, two single wavelengths, a multi-mode setting and duo setting. The ratio setting mode was specifically designed for metal heat treatment applications that require high-accuracy temperature measurement for overall process control and product quality.

The thermometer features a simple user interface for local setup and configuration, including spot size and focus distance, live target temperature, emissivity, alarms, and measurement range. Configuration also can be achieved remotely. It has a built-in camera to aid with target alignment, and offers a combination of Ethernet, Modbus, TCP, video and analogue inputs and outputs.

Ametek/Land Instruments / 1246 417691 / [landinst.com](http://landinst.com)



## Coating Provides Scratch Resistance, Enhanced Lubricity

NEI Corp.'s SR-100EC is a transparent, micron-thick coating that provides surfaces with both scratch resistance and easy-to-clean properties. It can be applied to plastics such as polycarbonate, PMMA, PET, polyurethane and epoxy, as well as metals such as stainless steel, aluminum, titanium, brass and chrome. The surface treatment is mechanically stable and highly repellent to water and oils, and enhances lubricity. By applying SR-100EC on the surface of components, soil and liquids simply slide off the surface, thereby helping prevent deposits and extending the time between cleanings, the company says.

The water-based coating is comprised of functionalized perfluoropolyethers (PFPEs), which are known for their non-stick and lubricating properties. Unlike other PFPE-based coatings that generally are less than 100-nm thick however, SR-100EC coatings have a thickness of 2-5 microns, thereby creating a more mechanically stable coating that cannot easily be removed by abrasion, harsh cleaners or chemicals, NEI says. They can be applied by dipping, spraying, roll or flow coating. NEI Corp. / 732-868-3141 / [neicorporation.com](http://neicorporation.com)

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