

# Top Products of 2000

## Black Oxide for Brazed Parts

While black oxide coating can effectively be applied to a diverse range of metals, satisfactory results on brazed or multiple metal parts has traditionally been difficult. For example, the black oxide process for steel does not yield satisfactory results on copper brazing material. Conventional steel treatment of a copper-brazed steel assembly produces little or no coating in the area affected by brazing. Similar results occur on silver soldered parts and assemblies of more than one metal.

Now however, **Cleveland Black Oxide**, Cleveland, OH, USA, a division of **Tatham Schulz Inc.**, offers the Bi-Met™ process that produces a uniform color on parts that have been brazed, on most welded parts (unless the welding medium contains over 10% nickel or chrome) and on some silver soldered parts. Also, parts assembled from different materials (mild steel and stainless steel) can be treated with equally satisfactory results.

In addition to aesthetic appeal, the Bi-Met process adds the same corrosion resistance and performance benefits achievable with standard black oxide. The surface will not chip or crack, holes and threads will not fill with coating material, no dimensional changes will occur and there is no need to protect internal cavities during the treatment process. Even internal cavities get the corrosion protection that black oxide provides. For more information **Circle 258**.



Formed parts brazed in assemblies uncoated (top); treated with new Bi-Met™ black oxide (bottom).

## "No-Chemistry" Fastener Cleaning Technology

**Flo-Matic Corporation**, Belvidere, IL, USA, now provides a methodology for successfully cleaning cold headed and cold formed components in-line and at low temperatures with no chemicals including detergents or rust inhibitors needed. The company's "No-chemistry" cleaning method is based on ultrasonic technology.

The in-line, continuous-feed, "No-chemistry" cleaning unit is relatively small. Its only cleaning agent is deionized water, which is elevated to only about 120°F (49°C). The parts feed in one end of the system and are conveyed under water past ultrasonic energy-emitting units where the dirt seems to explode off of the parts. The parts then travel under air knives that remove all of the water as they exit the cleaning system. Cleaned parts are also resistant to corrosion for a few days after processing even though no chemical rust inhibitors are employed in the cleaning system.

The Flo-Matic Corporation parts cleaning system can be utilized for a wide variety of fasteners and formed components having simple and complex configurations, with internal or external threads.

Benefits of this washer technology include elimination of all cleaning chemicals including detergents and rust inhibitors, minimization of waste disposal, reduced energy consumption, ability to recycle lubricants that are separated from the water in an integral skimming unit and elimination of EPA waste treatment concerns. For more information **Circle 260**.

## Alternative Metal Surface Prep & Pretreatment Process

**Picklex**®, from **International Chemical Products, Inc.**, Huntsville, AL, USA, is an environmentally safe, nonhazardous, non-flammable, water-soluble product for use in cleaning, conditioning and coating metal surfaces prior to any finishing such as painting, welding, powder coating, E-coating, electroplating, anodizing, etc.

The four-step (in most cases) Picklex application process eliminates the use of acids, phosphates, chromates, etc., and provides zero waste disposal. In addition to removing light oil, dust and surface rust, Picklex provides 100% conversion of rust (including micro-rust) to a conductive protective coating in one dipping or spraying process.

After heat treatment, metal parts can be dipped in Picklex where descaling, pickling and conditioning are performed, preparing part surfaces for subsequent coating or welding (Picklex increases weld strength considerably). Additionally, the process causes no hydrogen embrittlement. For more information **Circle 259**.

## Water-Based Fastener Coatings

New line of coatings available in silver, black, red, blue, gray and gold colors, is designed and engineered for utilization in the automotive and building products industries. Waterbase Fastner coatings from **Premium Products, Inc.**, Bloomington, IL, USA, are low in VOCs as well as being Hazardous Air Pollutant (HAP) free. They are also lead and chrome-free products. The performance level of these coatings meets or exceeds industry standards for corrosion resistance. The manufacturer of Waterbase Fastner coatings is an industrial coatings specialist and a custom coatings formulator, and will therefore develop these products to specific customer requirements.

All Waterbase Fastner coating products are designed and formulated for quality and consistency. For more information **Circle 261**.

## Liquid Threadlockers

Two liquid threadlockers, **Loctite**® 246 and **Loctite** 266, have both been formulated to prevent loosening and corrosion of threaded fasteners. Each of these products has been specifically engineered for utilization in high temperature end-user environments.

Based on the manufacturer's patented technology, these threadlocker products exceed the temperature resistance of traditional liquid threadlockers by some 70%.

Both **Loctite** 246 and 266 threadlocker products, are available from the **Loctite Corporation**, Rocky Hill, CT, USA. These materials are single component, surface insensitive, fast cure anaerobic adhesives that can withstand constant exposure to temperatures as high as 260°C (500°F) over thousand of hours. For more information **Circle 262**.



Loctite® 246 and 266.

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