

Innovations in
BLACK OXIDE TECHNOLOGY



DuBois

Leading Single Source Specialty Chemical Supplier

Specialized Blackening Products Plus Experienced Technical Service

DuBois offers a **comprehensive blackening product line** to achieve the blackest finish with superior abrasion and corrosion-resistant properties. Our creative and experienced research chemists have developed the fastest and most efficient blackening systems, which offer outstanding performance characteristics and optimum appearance. DuBois's Pentrate® products are known throughout the industry for their simple operation, extended service life, and unsurpassed blackening power.

Successful companies that see the importance of reliable, superior quality products supported by innovative technical service count on DuBois.



BLACK OXIDE FOR FERROUS METALS: Steel, Stainless Steel, Cast & Malleable Iron

- **Pentrate® Ultra**

Used for the most profound black finish on steel. Produces a uniform black oxide finish with no rub off or dimensional change. Low drag out reduces operating costs. Contains rectifiers to remove non-ferrous contamination. This premium black oxide product has incorporated inhibitors to control colloidal iron build-up in the functioning bath. Operates at 285-290°F. Pentrate Ultra meets or exceeds all government specifications, including MIL-DTL-13924E for Class 1 black oxide coatings. Pentrate Ultra is available in both powdered and liquid form.

- **PX®-5**

A black oxide with a unique balance of alkali and oxidizers for use on stainless steel, cast and malleable iron. Operates at 250-260°F. Meets the requirements of MIL-DTL-13924E for Class 4 black oxide coatings. PX-5 is available in both powdered and liquid form.

- **Pentrate® Touch Up**

Used to repair scratches or imperfections on previously blackened steel parts. Bluing action is instantaneous when applied to a properly prepared surface.

ADDITIONAL BLACK OXIDE PRODUCTS

- **Durablack Liquid**

A highly concentrated alkaline product used to produce a black conversion coating on copper. Operates at 215-220°F. Alloys of copper can be blackened when Durablack Pre-Dip L is used.

- **Pentrate® EE-2**

Used to blend silver soldered or brazed joints with the blackened steel surface. Operates at 180-190°F with immersion times as short as 2 minutes.

- **No Bleed II**

Used to displace entrapped or absorbed blackening salts from deep crevices, joints of steel assemblies, and powdered metal components after blackening. Carbonate bloom or bleed out can be eliminated. This hot oil is most effective when operated at or above 250°F.

