

AnoBlack NiTE

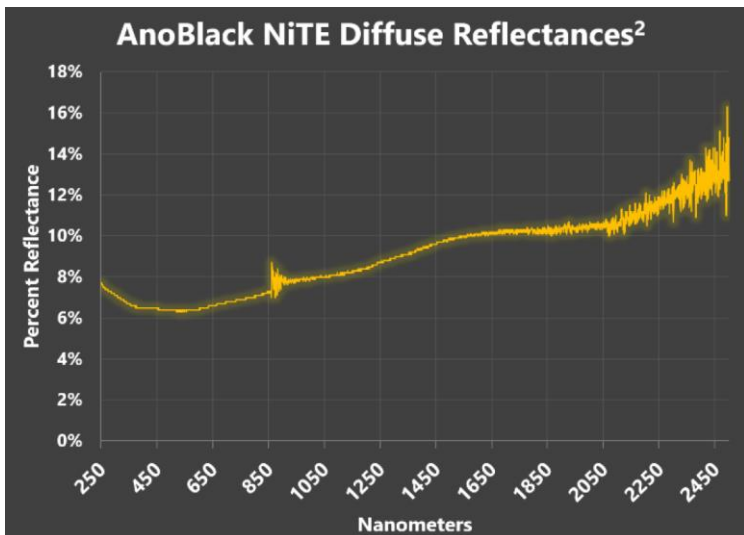
Autocatalytic Black Electroless Nickel Coating

AnoBlack NiTE represents a breakthrough in applying a robust, deep black coating. Unlike electrodeposited coatings which are notorious for non-uniform build-up, **AnoBlack NiTE** deposits evenly on all surface, making it a perfect candidate for intricate small parts, larger parts with complex internal geometries or highly precision machined optical housings, lens barrels and the like.

The resulting **AnoBlack NiTE** surface, about 40 millionths of an inch thick, is a phosphorous enriched, complex black nickel oxide. Color wise, **AnoBlack NiTE** has been measured using a spectrophotometer and consistent readings of 22 are obtained. For reference, 1 is absolute black and 100 is total white

ADVANTAGES

- ❖ Excellent coating uniformity on all surfaces.
- ❖ Superior abrasion resistance
- ❖ Exceeds 100+ hours to corrosion resistance when salt spray tested per ASTM B 117
- ❖ Compliant with WEEE, RoHS, and ELV
- ❖ Can be applied to ferrous, aluminum, and copper based substrates among others



TYPICAL APPLICATIONS

- ❖ Exterior military components requiring wear resistance, corrosion, and CARC-decontamination protocols
- ❖ Laser and optical applications such as digital projection equipment and medical diagnostic instruments
- ❖ Connector shells, gun magazine clips, electronic enclosures, and linear motion actuation equipment

PHYSICAL PROPERTIES

Bulk Composition	Nickel: 97-99% Phosphorous: 1-3%
Hardness	700-800 HK₁₀₀ (58-63 HRC)
Coating Thickness ¹	0.0007-0.0010" typical
Electrical Resistivity	~600 μΩ/in²
Absorption Rate	94-96%
Emissivity	4-6%
Appearance ²	Lusterless to Bright Black
Thermal Cycling	Passed

¹The thickness of the coating can vary depending on the degree of protection needed. Thickness upwards of 0.0007 – 0.0010" are needed ensure the coating's ability to pass 100 hours of salt spray, however, the coating can be as thin as 0.0003".

²The resulting reflectivity and appearance of the AnoBlack NiTE finish is dependent on several factors including (a) surface finish and type of base material, (b) basis metal preparation, (c) thickness and phosphorous content of the underlying electroless nickel, and (d) presence of a sealer intended to enhance corrosion resistance. A fully matte, deep black is not achievable.