

AT 1420 – ALPHASHIELD ELITE (MILITARY GRADE)

NANO-CERAMIC COATING

TECHNICAL DATA SHEET

AT-1420 AlphaShield Elite is a high-performance nanoceramic firearm coating engineered for military small arms and crew-served weapon applications. Formulated to conform to the near-infrared (NIR) reflectance requirements of MIL-DTL-53039E, the AT-1420 supports night-vision signature management on military weapon systems while delivering exceptional thermal protection, durability, and corrosion resistance.

Tested to 1,200°F (648°C), AT-1420 maintains coating integrity under sustained high-temperature conditions where conventional firearm coatings fail. It offers superior wear and corrosion resistance under the wide variety of adverse environmental conditions likely to be encountered in all theaters of operation.

AT-1420 is available exclusively to military and law enforcement agencies.

Proudly manufactured in the USA.

Technical Data

| | |
|--|------------------------------------|
| Color | Solid Tone Colors |
| Viscosity | 16-16.3 sec. #2 Zahn |
| Percent of Solids (%) | 46 |
| V.O.C | Exempt per CFR 51.1 / Regulation 8 |
| RoHS | Compliant |
| REACH | Compliant |
| Halogens | None |
| Thermal Stability. Resin (cured) | 1200°F + / 648.8°C + |
| Conical Bond (1/4" Mandrel) (ASTM D522-93a) | Passed |
| Cross Cut Adhesion (ASTM D3359) | 5B |
| Coefficient of Friction (ASTM D2047) | 0.05μ |
| Specific Gravity (ASTM D891-09) | 0.9 |
| Pencil Hardness (ASTM D3363) | 9h + |
| Salt Fog Test (ASTM B117) | 3500 hours |
| Odor (liquid) | Slight Solvent |
| Odor (cured) | None |

Drying and Coverage Rate

| | |
|---|--|
| Average Applied Dry Film Thickness | 5 to 25 microns (0.4 – 1 mil) |
| Estimated Coverage Rate (@ 15 microns) | 1,250 ft ² (116 m ²) per gallon |
| Dry to Touch Time (@ 77°F / 25°C) *Exposing to a warmer air flow (not exceeding 110°F) will decrease dry time | 15 – 25 minutes (average) |
| Ambient Cure (Full Properties) | 5 days |
| Cure Time (@350°F) *Oven cure only after coating is dry to touch | 30 – 40 minutes (average) |

Key Performance Properties

- High performance single component coating.
- Extreme adhesion. Forms covalent bond to the substrate giving it an intrinsic bond to surfaces
- Very tough and durable.
- Excellent UV, chemical and abrasion resistance.
- High anti-corrosion performance.
- Extreme heat & flame resistance (1200°F+/648°C+)
- Unparalleled thermal insulation protection
- Conforms to NIR reflectance requirements of MIL-DTL-53039E
- Easy to apply. Curable by ambient air (accelerated oven curing possible)
- May be applied to metal and non-metal surfaces
- VOC exempt
- RoHS and REACH compliant

Common Applications

Any firearm component that requires high temperature protection including suppressor, barrel, muzzle brake, rail and handgrip.

Supplemental Information

Also available:

- AT 1400 - AlphaShield
- AT 1405 - AlphaShield Grip
- AT 1410 - AlphaShield Ultra for maximum performance
- AT 1450 - AlphaShield Bore Coat (dry lubricant)

Available in a wide variety of colors.