

Advanced Surface Technologies, Inc.

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Tin Plating

We provide bright as well as matte tin-plating solutions compliant to MIL-T-10727, Type I standards. Our tin plating processes facilitate soldering and improve anti-galling properties in steel, brass, copper, plus numerous other substrates, which otherwise have poor solderability. Our tin plating exhibits excellent corrosion resistance and conductivity in a variety of electrical as well as electronic components, including metallized ceramic chips used in the computer industry.

Parts are rack or barrel plated to ASTM B 545 standard thicknesses from 0.0001" to 0.00006", depending on the base metal and application. Pure 99.5% tin is used for both selective and complete plating of parts. The color of our coatings ranges from gray to white, with matte to bright finishes, depending on the alkaline or acid process used.

At AST, we use tin with lead in a composition of 7.0±5 % by mass, which prevents whiskering by stabilizing the structure of the tin deposit. Additionally, this co-deposition also reduces thermal energy while soldering delicate assemblies.

· [CAPABILITIES](#) · [MIL-T-10727, TYPE I SPECIFICATIONS](#) · [ASTM B 545 SPECIFICATIONS](#) · [ADDITIONAL INFORMATION](#)

CAPABILITIES

Substrates	Aluminum Brass Bronze Copper Magnesium Nickel Stainless Steel Steel Zinc
Finish	Bright Matte
Plating Thickness	0.00006 to 0.0001 in
Underplate	Nickel
Plating Capabilities	Barrel Plating Lines Rack Plating Lines
Additional Capabilities	Heat Treatment (Hardness and Hydrogen embrittlement) Masking Parts Stripping Parts-Cleaning Plugging
Standards Met	ASTM B 545 Mil-T-10727, Type I
Process Advantages	Anti-galling Corrosion Resistance Ductility Low Contact Resistance No Whiskering Solderability

MIL-T-10727, TYPE I SPECIFICATIONS

Thickness	.0001-.00025" - Flash for soldering .0002-.0004" - To prevent galling and seizing .0002-.0006" - To prevent formation of case hardening during nitriding .0003 min. - Where corrosion resistance is important
Finish Type	Alkaline Tin: Dull, Matte Finish Bright Acid Tin: Ductile, Bright Finish

ASTM B 545 SPECIFICATIONS

Thickness Classes	A - 0.0001" B - 0.0002" C - 0.00032" (0.0004" for steel) D - 0.0006" (0.0008" for steel) E - 0.0012" F - 0.00006"
Purity	99.5%
Underplate Thickness	Nickel at 50 μ " thickness
Lead Composition	7.0 \pm 5 % by mass

ADDITIONAL INFORMATION

Applications	Bearing Surfaces Electric Bus Bars Electrical Contacts High-Tech Electronic Components
Industries Served	Aerospace Automotive Computer Electronics Medical Recreational Products
Certifications	ISO 14001 Certified ISO 9001:2000 Certified
Quality System Features	Dedicated to company-wide continuous improvement In-house laboratory facilities
Environmental System Features	State-of-the-art, computer-controlled waste treatment system
Professional Associations and Awards	<ul style="list-style-type: none"> • Charter member of the Strategic Goals Program, a cooperative effort between the metal finishing industry and EPA • Recipient of the Colorado Environmental Leadership Award <ul style="list-style-type: none"> • National Association of Metal Finishers (NAMF) • American Electroplaters and Surface Finishers Society (AESF)
Service Features	A staff that understands the importance of quick response for our customers Production scheduling and production flexibility that minimize turnaround time