



TECHMETALS

ENGINEERED METAL FINISHING & PERFORMANCE COATINGS



Industry Uses:

- Aerospace
- Aircraft
- Automotive
- Electronics
- Defense
- Marine

Coating Specification:

- AMS 2444

Benefits:

- Reduction of friction
- Improved lubricity
- Abrasion & wear resistance
- Improved speeds and feeds on cutting tools
- Better release of plastic parts
- Less galling and die polishing
- Reduces downtime

Coating Options and Engineered PVD Solutions Listed on Back



Physical Vapor Deposition (PVD)

Physical Vapor Deposition – also known as PVD Coating – refers to a variety of thin film deposition techniques where solid metal is vaporized in a high vacuum environment and deposited on electrically conductive materials as a pure metal or alloy coating.

As this “line of sight” process transfers the coating material on a single atom or molecule level, it can provide extremely pure and high performance coatings which for many applications are much preferable to electroplating. PVD is used when product requires thin film for a mechanical, an optical, a chemical or an electronic function.

These finishes are also highly resistant to tarnishing, enabling them to be used for a wide range of applications with colors that do not fade. When applied to a base metal, PVD coatings provide hard, wear-resistant surfaces that don’t interact with the materials they cover – dramatically reducing friction and prolonging the life of the part.

This is an environmentally friendly process that can greatly reduce the amount of toxic substances to be disposed of with more conventional types of coating involving fluid precursors and chemical reactions. Techmetals offers roughly 26 different PVD options – perfect for use with medical equipment and firearm production. We offer certifications for Nadcap Chemical Processing, Nadcap Coatings, Nadcap Nondestructive Testing, AS9100D, ISO 9001:2015, ISO 13485:2016, ITAR, and FFL as well as validated processes for the medical industry.



Call: (937) 253-5311

www.techmetals.com

PVD Coating Chart

Our Research & Development Team help countless clients every day - developing and customizing plating solutions to meet their specific needs. We listen carefully to your unique applications and help develop an affordable solution from concept through completion!

Coating Type	Color	Hardness (Hv)	Thickness (µm)	Coefficient of Friction	Max Usage Temp (°F)	Description	Applications
TechCoat DLA 200 (Diamond Like Alloy)	Charcoal Gray	2500 - 3300	1 - 5	0.10	750 °	Coating with high mechanical hardness and very low coefficient of friction	Aerospace, Medical, Optics, Molding, & Stamping
TechCoat 100 TiN (Titanium Nitride)	Gold	2000 - 2500	1 - 5	0.55	1100 °	Universal coating for all applications	Medical, Molding and Cutting
TechCoat 200 TiCN (Titanium CarboNitride)	Rose	3100 - 3200	1 - 5	0.20	750 °	Coating with high hardness and lower coefficient of friction	Low Temp. Stamping, Forming & Cutting
TechCoat 300 AlTiN (Aluminum Titanium Nitride)	Charcoal Gray	3100 - 3300	1 - 5	0.70	1600 °	High temperature and high hardness coating that provides increased performance in high speed machining	Machining, Stamping, & Sawing
TechCoat 400 CrN (Chromium Nitride)	Silver	1800 - 2000	1 - 5	0.30	1300 °	Ductile coating with high release properties	Die Casting, Molding & Stamping
TechCoat 500 ZrN (Zirconium Nitride)	Pale Gold	1900 - 2100	1 - 4	0.40	1050 °	Coating with good lubricity	Medical & Machining
TechCoat 600 - AlTiCrN (Aluminum Titanium Chromium Nitride)	Blue-Gray	3100 - 3300	1 - 4	0.50	1550 °	High temperature, high hardness and	Machining & Forming smooth coating

TechCoat 100 (TiN) **Medically Validated**

TechCoat 100 is a proprietary general purpose coating providing universal improvement for most wear applications. Used within the medical, molding and cutting industries.

TechCoat Med 100 (TiN) **Medically Validated**

TechCoat-Med 100 is a proprietary titanium rich coating providing excellent performance for medical tools and implants. Sample uses include the production of joint components, implants and other medical instruments.

TechCoat DLA 200 (DLC) **Medically Validated**

TechCoat DLA is a proprietary Diamond Like Alloy coating series utilizing the latest coating technology to provide an extremely effective solution for high wear, high friction and surface roughness problems. Industries utilized include: aerospace, automotive, medical, optics, injection molding, die casting and more.

TechCoat 200 (TiCN) **Medically Validated**

TechCoat 200 is a proprietary hard purpose coating with a low coefficient of friction. Industries utilize in low-temperature applications for stamping, forming and cutting.

TechCoat 300 (AlTiN)

TechCoat 300 is a proprietary high-temperature, high hardness coating provides increased performance for high-speed machining, stamping and sawing applications.

TechCoat 345 (AlTiN) **Medically Validated**

TechCoat 345 is a specialty PVD utilized mainly in the Medical industry.

TechCoat 400 (CrN) **Medically Validated**

TechCoat 400 is a proprietary high performance, hard coating provides increased performance for optimal release characteristics in molding and stamping applications.

TechCoat 500 (ZrN)

TechCoat 500 is a proprietary high performance coating with great lubricity. It provides increased performance within the medical and machining industries.

TechCoat 600 (AlTiCrN)

TechCoat 600 is a proprietary high temperature, high hardness and smooth coating perfect for the machining and forming industries.