

ACT

ADVANCED COATING TECHNOLOGIES, INC.

MEDICAL



You make it First...We make it *Last!*

ACT has been involved in the development and production of biocompatible PVD, PACVD and ceramic, diamond like carbon and metallic thin film coatings for medical use for more than ten years. Our coatings feature high hardness, wear resistance, excellent adhesion, fracture toughness, low friction and biocompatible properties. The coatings are used on a wide variety of medical implants and instruments and are engineered to withstand sterilization procedures and internal human body conditions.



WHY ADVANCED COATING TECHNOLOGIES:

- Industry Leading Research and Development Team
- PVD and DLC Coating Capabilities
- Extensive Material Coating Testing
- Enhanced Quality Control & Quick Turnaround
- Ph.D. Scientist on staff
- ISO 9001 & AS9100 Certified
- Nontoxicity Approved for Medical use



ADVANTAGES OF COATING

- Uniform & Conformal Coating
- Reduces Friction
- Increased Productivity
- Corrosion Resistance
- Increased Quality & Performance

Dr. Andreas Schuetze,

VP of Technology and Lead Scientist

- Master's Degree in Physics and Ph.D. in Mechanical Engineering
- (4) Registered Patents and more than (20) Published Papers
- Contributor / Professor at UCLA & Technical University, Zurich
- Former head of Research & Development at OERLIKON (Balzers)



Common Coatings - Medical

Average coating thickness = 2 microns

Coating	Coating Material	Color	Hardness [HV]	Friction Coefficient	Thickness [Microns]	Max. Working Temperature	Characteristics	Common Use
TiN	Titanium Nitride	Gold	2400	0.50	1-7	600c - 1100f	The General Purpose Coating	Steels - Cast Iron - Aluminum - Bronze - Copper
ALTiN/TiAlN	Aluminum Titanium Nitride	Dark Grey	3400-3600	0.60	1-4	700c - 1300f	Universal High Performance Coating	Steels - Copper
ZrN	Zirconium Nitride	Light Gold	2400	0.30	1-4	550c - 1300f	Monolayer Ti or Cr based adhesion layer	Steels - Alloyed Steels - Superalloys - Cast Iron - Wood - Bronze - Copper - Aluminum
CrN	Chromium Nitride	Silver Grey	1800	0.30	1-4	700c - 1300f	Standard Coating for Non-Cutting Application	Steels - Copper
DLC	Diamond Like Carbon	Dark Grey	2400-4000	0.1-0.2	1-8	200c - 400f	Ultimate Performance Coating	Low Friction Properties - Molds & Mold Components - High Performance Moto & Auto - Aerospace - Bearings
DLC Plus	Diamond Like Carbon	Black	2400-4000	0.1-0.2	1-8	200c - 400f	Ultimate Performance Coating	Low Friction Properties - Molds & Mold Components - High Performance Moto & Auto - Aerospace - Bearings
NACO	Titanium Aluminum Silicon Nitride	Dark Grey	4500	0.45	1-4	1200c - 2200f	Extremely High Hardness	Steels - Alloys - Hardened Steels
NACRO	Titanium Aluminum Chrome Nitride	Dark Silver	4500	0.45	1-7	1100c - 2000f	Extremely High Hardness	Steels - Alloys - Hardened Steels - Cast Iron
ALCRONA	Aluminum Chromium Nitride	Dark Silver	4500	0.45	1-7	1100c - 2000f	High Heat Coating	Steels - Alloys - Hardened Steels - Cast Iron
ALTISIN	Aluminum Titanium Silicon Nitride	Dark Grey	4500	0.45	1-4	1200c - 2200f	Extremely High Hardness	Dry Milling - High Speed Ops