

SOLITECS THIN FILM MATERIALS CATALOGUE

Advanced Materials and Consumables for Thin Film Deposition and Surface Engineering



OUR MATERIALS. YOUR INNOVATION.



SEMICON & ELECTRONICS



ENERGY STORAGE & BATTERIES



PHOTONICS & OPTICS



SENSORS & MEMS



ADVANCED COATINGS & SURFACE ENGINEERING



RESEARCH & DEVELOPMENT

SPUTTERING TARGETS



High-purity sputtering targets for semiconductor, display, optics and battery.

- Metals: Al, Ti, Cu, Ni, Cr, Ag, Au, Pt, Ta, Ru
- Alloys: TiAl, NiCr, CuSn, AlSi and more
- Oxides: SiO₂, ITO, AZO, ZnO, HfO₂, Ta₂O₅
- Sulfides / nitrides / carbides
- Custom compositions and bonding available

EVAPORATION MATERIALS



High-purity materials for thermal, e-beam evaporation sources.

- Metals: Al, Cr, Cu, Au, Ag, Ti, Ni, Pd, Pt
- Oxides and dielectric materials
- Pellets, pieces, granules and shot
- Custom shapes and purities
- Clean packaging for low-particle contamination control

SUBSTRATES & WAFERS



Precision substrates and wafers for thin-film research, device prototyping and production.

- Silicon wafers: Si (100), Si (111)
- Sapphire, quartz and fused silica
- Borosilicate and soda-lime glass
- SiC, GaN, MgO, STO, LiNbO₃ and more
- Custom sizes and thicknesses

ALD / CVD PRECURSORS



High purity precursors for Atomic Layer Deposition (ALD) and Chemical Vapor Deposition (CVD) processes.

- Metal Oxides (SiO₂, Al₂O₃, TiO₂, HfO₂ etc)
- Metal Halides
- Metal Alkoxides
- Metal alkylamides
- High-k materials
- Custom synthesis & packaging

TARGET BONDING & BACKING PLATES



High-quality bonding and backing plates for stable sputtering and optimal deposition performance.

- Cu, Al, stainless steel and Mo backing plates
- Indium, Ag and Cu bonding
- Diffusion bonding options
- Custom sizes and configurations
- High thermal conductivity and flatness

CUSTOM MATERIALS & SOLUTIONS



Custom material development support for researchers, pilot lines and industrial production teams.

- Custom target development
- Specialty ceramics and alloy materials
- Special packaging and delivery formats
- Application engineering support
- Rapid prototyping and scale-up support

WHY SOLITECS



Ultra-High Purity Materials
Up to 7N purity and tight specifications.



Consistent Quality & Reliability
Strict quality control and traceability.



Application Expertise
Deep knowledge of thin film processes.



Global Supply & Fast Delivery
Reliable logistics and responsive support.



Custom Solutions
Tailored materials for research & scale-up.

SUPPORTED DEPOSITION TECHNOLOGIES

- DC / RF Sputtering
- Reactive Sputtering
- Thermal Evaporation
- Pulsed DC Sputtering
- e-Beam Evaporation
- ALD / CVD

TYPICAL APPLICATIONS



QUALITY ASSURANCE

- ✓ ISO 9001:2015 Certified
- ✓ RoHS/REACH documentation available upon request
- ✓ Full Material Traceability
- ✓ Certificate of Analysis (CoA) with Shipment

POWERING INNOVATION THROUGH ADVANCED MATERIALS.



SOLITECS ADDITIVE MANUFACTURING MATERIALS CATALOGUE

High-Performance Powders, Filaments & Consumables for Advanced Manufacturing



OUR MATERIALS. YOUR INNOVATION.

METAL AM

POLYMER AM

CERAMIC AM

COMPOSITE & FUNCTIONAL MATERIALS

POST-PROCESSING SOLUTIONS

RESEARCH & DEVELOPMENT

METAL POWDERS



High purity, spherical metal powders for PBF, DED and binder jetting.

- Ti Alloys (Ti-6Al-4V, Ti-6Al-4V ELI, CP Ti)
- Nickel Alloys (Inconel 718, 625, 939)
- Stainless Steels (316L, 17-4PH, 15-5PH)
- Tool Steels (H13, M2, D2)
- Al Alloys (AlSi10Mg, High Strength Alloy, Al 6061)
- Custom MEA / HEA Alloys (CoCrNiFe, CoNiFe, CoCrFeNi, AlCoCrFeNi)

POLYMER POWDERS



High performance polymer powders for SLS, MJF, SAF and binder jetting.

- PA12, PA11, PA6, PA6-GF/CF
- PP, TPU, PA12
- PEEK, PEKK
- PPS, PSU

POLYMER FILAMENTS



Premium filaments for FDM/FFF with consistent quality and performance.

- PLA, ABS, PETG
- PA, PC, PC-ABS
- TPU, TPE
- PEEK, PEI (ULTEM™)
- Carbon Fiber / Glass Fiber Reinforced
- Conductive & ESD Filaments

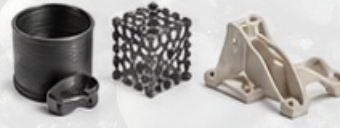
CERAMIC & COMPOSITE POWDERS



Advanced ceramic and composite powders for high-performance applications.

- Alumina (Al_2O_3)
- Zirconia (ZrO_2)
- Titanium Carbide (TiC)
- Silicon Carbide (SiC), Boron Carbide (B_4C)
- Hydroxyapatite (HA)

COMPOSITE & FUNCTIONAL MATERIALS



Specialty materials engineered for advanced performance and multifunctionality.

- Carbon Fiber Reinforced
- Glass Fiber Reinforced
- Metal Matrix Composites
- Electrically Conductive Materials
- Magnetic Materials, EMI Shielding
- Bioactive & Antimicrobial Materials

CUSTOM MATERIALS & SOLUTIONS



Custom material development support for researchers, pilot lines and industrial production teams.

- Flexible Pack Sizes
- Experimental Alloys & Polymers
- Test Artifacts & Standards
- Custom Formulations
- Collaboration Programs

WHY SOLITECS

Extensive Portfolio
Comprehensive portfolio of AM specialty materials

Consistent Quality & Reliability
Strict quality control and traceability.

Application Expertise
Deep knowledge of AM processes and materials.

Global Supply & Fast Delivery
Reliable logistics and responsive support.

Custom Solutions
Tailored materials and formulations to accelerate your innovation.

SUPPORTED AM TECHNOLOGIES

- Powder Bed Fusion (PBF)
- Material Extrusion (FDM/FFF)
- Selective Laser Sintering (SLS)
- Directed Energy Deposition (DED)
- Binder Jetting (BJ)
- Multi Jet Fusion (MJF)

TYPICAL APPLICATIONS



Aerospace & Defense



Medical & Dental



Automotive & Transport



Energy & Robotics



Industrial Manufacturing



Consumer Electronics



Research & Prototyping

QUALITY ASSURANCE

- ✓ ISO 9001:2015 Certified
- ✓ RoHS/REACH documentation available upon request
- ✓ Full Material Traceability
- ✓ Certificate of Analysis (CoA) with Shipment

POWERING INNOVATION THROUGH ADVANCED MATERIALS.



TITANIUM PRODUCT PORTFOLIO

Premium Titanium Powders for Critical Applications

Solitecs offers premium titanium powders engineered for PBF, DED, Binder Jetting, and Cold Spray AM processes serving aerospace, medical, energy, and advanced manufacturing applications.

OUR TITANIUM POWDER PORTFOLIO



**Ti-6Al-4V
Grade 5**

- Excellent strength-to-weight ratio
- Superior fatigue resistance
- Widely used in aerospace and industrial applications



**Ti-6Al-4V ELI
Grade 23**

- Reduced O, N, H content
- High ductility & fracture toughness
- Preferred for medical implants and critical aerospace components



**Commercially Pure Titanium
Grades 1, 2 & 4**

- Excellent corrosion resistance, biocompatibility
- Good ductility and formability
- Ideal for chemical processing, marine and energy industries



**Specialty Titanium
Powders**

- Ti6242, Ti6246, Ti-6Al-7Nb, Beta Ti alloys
- Available in GA, PA, PREP routes
- Optimized for LPBF & EBM



**Custom Titanium
Alloys**

- Tailored chemistry
- Special particle size distribution
- Engineered to meet unique application requirements
- Custom alloy development

KEY POWDER ADVANTAGES



High Sphericity
Excellent flowability & layer packing



High Purity
Low O, N, H and C levels for optimal performance



Excellent Processability
Consistent build quality & density



Wide PSD Options
15–45 µm LPBF
15–53 µm LPBF
45–105 µm DED / EBM
53–150 µm DED / Cold Spray
Custom PSD Available



Global Supply Chain
Reliable supply & fast delivery

TYPICAL AM PROCESS COMPATIBILITY



Laser Powder Bed Fusion (LPBF)



Directed Energy Deposition (DED)



Binder Jetting (BJ)



Cold Spray



Electron Beam Melting (EBM)

AVAILABLE FORMS & STANDARDS

Packaging size: 1 kg / 5 kg / 10 kg / 25 kg

Manufacturing Routes: GA | PA | PREP | Custom Processing

Relevant standards & qualification references: ASTM F2924 | ASTM F3001 | ASTM F3301 | ISO 5832-3 | AMS 4998 | AMS 4999

TITANIUM PRODUCT PORTFOLIO

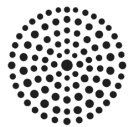
Premium Titanium Powders for Critical Applications

POWDER TECHNICAL SPECIFICATIONS

CHEMICAL COMPOSITION (Typical wt. %)

Grade	Al	V	Fe	O	N	H	C	Ti
Ti-6Al-4V (Std)	5.5–6.5	3.5–4.5	≤ 0.25	≤ 0.20	≤ 0.05	≤ 0.015	≤ 0.08	Bal.
Ti-6Al-4V ELI	5.5–6.5	3.5–4.5	≤ 0.18	≤ 0.13	≤ 0.03	≤ 0.008	≤ 0.08	Bal.
CP Ti Grade 2	–	–	≤ 0.30	≤ 0.25	≤ 0.03	≤ 0.015	≤ 0.08	Bal.
CP Ti Grade 4	–	–	≤ 0.50	≤ 0.40	≤ 0.05	≤ 0.015	≤ 0.08	Bal.

TYPICAL POWDER PROPERTIES



Particle Shape
High Spherical
Low Satellite Content



Tap Density
3.0 – 3.9 g/cm³



Excellent Flowability
Hall Flow Rate ≤ 25 s/50g
(PSD-dependent)

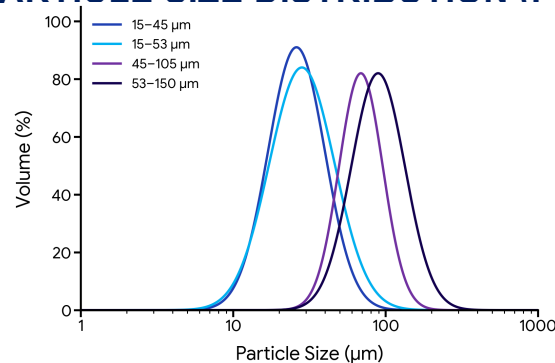


Apparent Density
2.0 – 2.8 g/cm³



Purity
High Purity
Low O, N, H, C

PARTICLE SIZE DISTRIBUTION (PSD)



AVAILABLE FORMS

- ✓ Spherical Gas Atomized (GA)
- ✓ Plasma Atomized (PA)
- ✓ Plasma Rotating Electrode Process (PREP)
- ✓ Pre-Alloyed & Blended Powders
- ✓ Custom PSD on Request

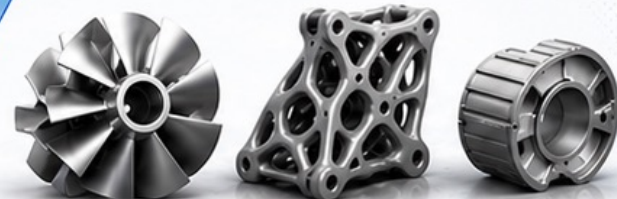




AEROSPACE

LIGHTER. STRONGER. FURTHER.

High performance metal powders for critical aerospace components.



LIGHTWEIGHT HIGH STRENGTH FATIGUE RESISTANT CERTIFIED QUALITY



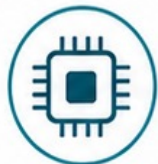
MEDICAL

PRECISION. BIOCOMPATIBLE. RELIABLE.

Advanced metal powders for implants and medical devices.



BIOCOMPATIBLE HIGH PURITY EXCELLENT SURFACE FINISH REGULATORY COMPLIANT



SEMICONDUCTOR

PURE. PRECISE. PERFORMANCE DRIVEN.

High purity metal powders for semiconductor manufacturing and components.



99.9% ULTRA HIGH PURITY LOW OXYGEN TIGHT PSD CONTROL CONSISTENT QUALITY



ENERGY STORAGE

POWERING A SUSTAINABLE FUTURE.

Specialized metal powders for batteries and energy storage applications.



HIGH PURITY EXCELLENT CONDUCTIVITY OPTIMIZED PERFORMANCE SCALABLE SUPPLY



ROBOTICS

PRECISE. DURABLE. INTELLIGENT.

High performance metal powders for advanced robotic systems and components.



HIGH STRENGTH WEAR RESISTANT COMPLEX GEOMETRIES RELIABLE PERFORMANCE



Solitecs

POWER THE NEXT. | 固芯科技 助力未来