



OptiPowder Titanium Grade 23 0–53 μm

Production-Ready LPBF Powder Engineered for High-Performance Additive Manufacturing

Continuum Powders' OptiPowder Titanium Grade 23 0–53 μm cut is purpose-built for maximum densification, fine feature resolution and consistent layer by layer performance in LPBF systems. This is not a general-purpose titanium cut. It is a tightly controlled PSD engineered to balance flowability, packing density, and laser absorption—the key variables that influence build stability and part performance in LPBF Systems.

Engineered for LPBF Process Stability

The 0–53 μm distribution is optimized to support stable recoating and predictable melt behavior under standard EOS parameter sets:

Optimized Layer Thickness Compatibility

The 0–53 μm distribution maps directly to standard LPBF layer heights (20–60 μm), ensuring complete, uniform layer coverage with every recoater pass.

Enhanced As Built Surface Finish

A tighter upper cut (53 μm vs. 63 μm) minimizes staircase roughness and yields Ra values that reduce downstream machining or post-processing costs.

Fine Feature Resolution

Smaller median D50 enables crisper edge definition on thin walls, lattices, and internal channels critical for aerospace and medical implant geometries.

Improved Energy Absorption

Higher surface-area-to-volume ratio in finer particles enhances laser absorptivity, supporting lower energy density parameters and faster build rates and minimizing lack of fusion defects.

Superior Powder Bed Packing Density

Fine particles (<15 μm) nestle into voids between coarser grains, raising apparent density and tap density—reducing inter-layer porosity and improving laser coupling efficiency.

Powder Characteristics That Drive Performance

Ti64 0–53 μm is engineered for both performance and manufacturability:

High Sphericity, Low Satellites and Hollow Particles

Improves flowability and layer density, supporting surface finish and feature resolution and low process variability.

Tight Chemistry Windows

Enables consistency in mechanical performance, particularly in qualification-driven environments.

Controlled Oxygen & Interstitials

Critical for fatigue sensitive aero structures and biomedical implants.

PSD Precision & Lot-to-Lot Consistency

Rigorous in-process controls and statistical process monitoring ensure every batch meets the same tight PSD and chemistry windows—batch after batch, year after year.

Dedicated Additive manufacturing Focus

Unlike generalist powder suppliers, Continuum specializes exclusively in AM-grade powders—so your requirements drive our R&D, not the other way around.

Typical Powder Specifications

(Representative Values — Subject to Application & Lot)

Property	Typical Range / Value
Particle Size Distribution	0–53 µm
Hall Flow Rate	~35-45 s / 50 g
Apparent Density	~2.3-2.5 g/cm ³
Tap Density	~2.5-3.0 g/cm ³
Oxygen Content	~0.05-0.13 wt% (targeted)
Morphology	High sphericity, low satellites

Final specifications can be aligned to customer requirements, application needs, and parameter sets.

Designed for Production Environments

This powder is built to support transition from development to full-scale manufacturing:

Consistent behavior across reuse cycles

Reliable domestic supply and shorter lead times

Reduced sensitivity to narrow parameter windows

Circular feedstock approach supporting sustainability initiatives

Target Industries



Aerospace
& Defense



Medical
& Orthopedic



Energy
& Industrial



Automotive
& Motorsport

Representative Applications

- Structural brackets and load-bearing components
- Heat exchangers and thermal management systems
- Medical implants and surgical tools
- Aerospace ducting, housings, and lightweight assemblies
- Suppressors with intricate conformal cavities for defense applications

Performance Summary

OptiPowder Titanium Grade 23 0–53 µm is engineered to provide a balanced combination of **flowability**, **packing behavior**, and **process stability**, supporting consistent part quality on LPBF platforms and enabling more predictable production outcomes.

Additional Information

Continuum Powders can provide detailed technical documentation, application guidance, and sample material to support alignment with your LPBF build parameters.



Continuum Powders is redefining how manufacturers source and qualify metal powder.

By combining advanced production technology with a flexible supply model, we deliver consistent, quality powders that support real production environments—not just lab conditions.

Whether you need proven alloys or custom-developed materials, Continuum provide the reliability, performance, and control required to scale advanced manufacturing or unlock your next breakthrough.

**Let's Build Smarter, More Reliable
Manufacturing Together**

Contact Us Today to Learn More

✉ info@continuumpowders.com

🌐 continuumpowders.com/contact

Continuum Powders
California & Texas | Serving North America & Global Markets