

HA 9918-2

CP TITANIUM (Ti)

Product Code: 109918-2
Technical Data Sheet

Revision: # 002
Dated: 10/12/12



Figure 1: Typical Powder Morphology (SEM 200X)

1. PHYSICAL PROPERTIES

HA 9918-2 is a medium coarse commercially pure (CP) Titanium Sponge powder, manufactured using hydride-dehydride processing. Coatings formed from these Titanium powders are used for improving tissue attachment to medical implants.

Product Description	99.3% Pure Titanium
Melting Point [°C]	1,660
Apparent Density (typical) [g/cm³] ASTM B212	1.2 – 2.4
Hall Flow (typical) [sec/50g] ASTM B213	30.0 – 40.0

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2. CHEMICAL PROPERTIES

2.1. Typical Chemical Analysis

Element	Ti	Al	O	Fe	C	H	N
Max Weight %	Bal.	0.05	0.40	0.15	0.03	0.03	0.02
Min Weight %	Bal.	0.00	0.00	0.00	0.00	0.00	0.00
Element	Si	Cl	Na				
Max Weight %	0.04	0.20	0.50				
Min Weight %	0.00	0.00	0.00				

The powder meets the chemical requirements of ASTM F 1580-07 Standard Specification for Titanium powders for coatings of surgical implants.

3. POWDER MORPHOLOGY AND PARTICLE SIZE DISTRIBUTION

3.1. Powder Morphology

- 3.1.1. Powder has irregular and porous shape (sponge) as produced by the Kroll process with post hydriding-dehydriding and crushing or milling processes.
- 3.1.2. Typical Powder Morphology using SEM is shown in Figure 1.

3.2. Particle Size Distribution

- 3.2.1. The typical powder size range measured with US sieve according to ASTM B214-07 is -80+200 mesh. Table 1 shows the typical weight percent distribution in accordance to ASTM B213-07.
- 3.2.2. Table 1 shows the typical particle size distribution measured with Microtrac according to ASTM B822-10.

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Mesh Size	Particle Size	Maximum Percentage	Minimum Percentage
+60	+250 μm	0.0%	0.0%
+80	+177 μm	3.0%	0.0%
+100	+149 μm	20.0%	10.0%
+140	+105 μm	50.0%	40.0%
+200	+74 μm	20.0%	10.0%
-200	-74 μm	2.0%	0.0%

Table 1: Typical and Required Particle Weight Distribution

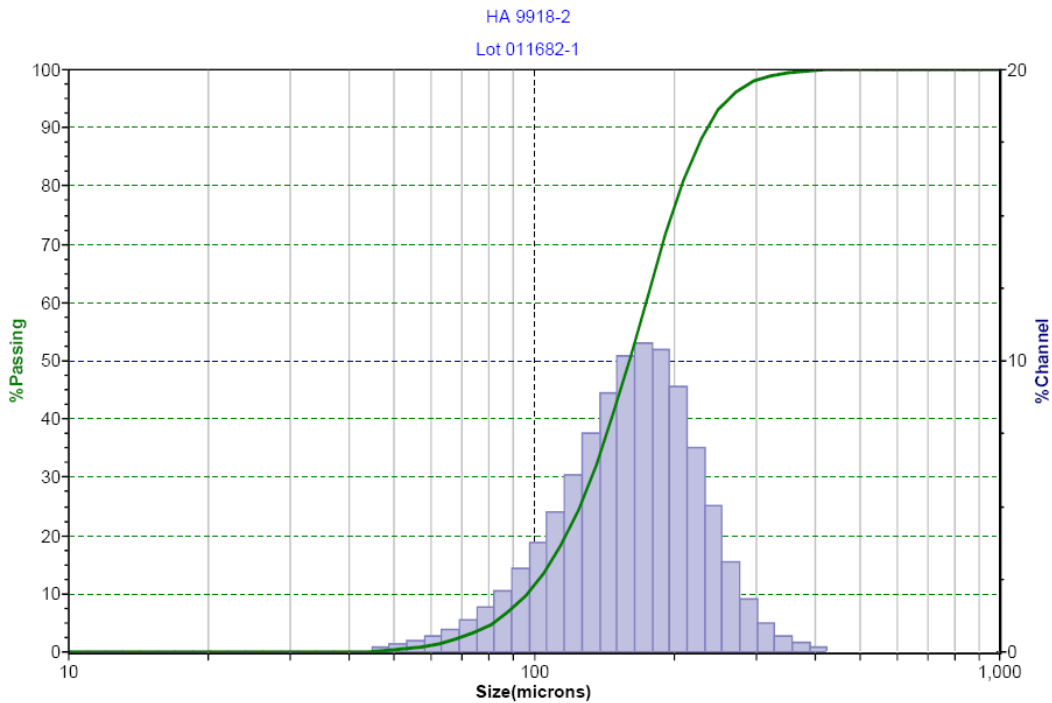


Figure 2: Typical Microtrac Particle Size Distribution