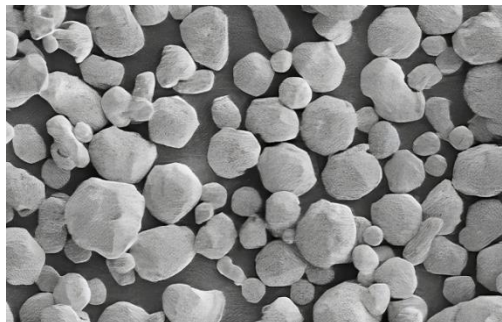


Cu10Sn HVOF 20-45 μm

Alloy: C90500 / CW451K

1. Introduction

Cu10Sn T-Spray 20-45 μm is a high-performance bronze alloy powder consisting of 90% copper and 10% tin, engineered specifically for thermal spraying applications. The powder exhibits excellent corrosion resistance, high strength, and good thermal and electrical conductivity. Its highly spherical morphology and narrow particle size distribution ensure optimal flowability and stable feeding during spraying, resulting in dense, uniform coatings with superior adhesion and surface finish. Designed for Cold Spray, HVOF, HVOF, and plasma spraying, Cu10Sn is ideally suited for wear-resistant, anti-corrosion, and thermal-conductive coatings used in industrial, tooling, and engineering applications.



1.1 Basic facts

Chemistry	Cu: 90; Sn: 10% (C90500 / CW451K)
Form	Powder
Shape / Morphology	Spherical / Spheroidal
Size	20-45 μm
Apparent density	min. 4.4 g/cm ³
Purpose	Tribological applications, corrosion-resistant components, Artistic Parts
Process	HVOF, HVOF, APS, Cold Spray

1.2 Typical Applications

- Molds and Tool Inserts
- Bearing and Bushing Components
- Marine and Aerospace Components
- Decorative and Artistic Parts
- Heat Exchangers and Cooling Elements
- Electromechanical Components
- Functional Prototypes and End-Use Mechanical Parts

2 Material Information

2.1 Chemical composition

Element	Value	wt.%
Cu		90 ± 0.5
Sn		10 ± 0.5

2.2 Additional Material Characteristics

Property	Value	Unit
Apparent Density	Min. 4.4	g/cm ³
Shape	Spherical / Spheroidal	-

2.3 Recommended processes

- CS - Cold Spray
- HVOF – High Velocity Oxygen Fuel
- HVAF – High Velocity Air Fuel
- APS – Atmospheric Plasma Spray
- FS – Flame Spray

3 Physical Properties of Parts

3.1 Properties

Product	Max Service Temperature		Recommended Finishing Method
	°C	F	
Cu10Sn HVOF 20-45µm	600	1100	Grinding or diamond polishing

4 Commercial Information

4.1 Ordering Information and Availability

Product	Package Size	Package Type	Availability	Distribution
Cu10Sn HVOF 20-45 µm	2kg	Plastic Jar UNX	Stock	Europe
	4kg	Plastic Jar UNX	Stock	Europe
	10kg	Wide-neck drum UNX	Stock	Europe

4.2 Storage and Handling Guidelines:

- Always store the product in its original container in a dry environment.
- Gently rotate the container before use to ensure even distribution. Avoid aggressive handling to prevent damage to fragile, mechanically clad components.
- Once opened, powder containers should be kept in a drying oven to prevent moisture absorption.
- If a desiccant is present, be sure to remove it prior to using the product.

4.3 Safety Recommendations

Refer to the Safety Data Sheet (SDS). SDS document can be accessed on the Ultra Metal Powders website at www.umpowders.com under Resources → Safety Data Sheets.