

# PURESPHERE 43024

CoCrW Dental Additive Manufacturing Powder

+7 (812) 407-12-29

8-800-555-20-46

www.admdental.ru

## 1. Introduction

PURESPHERE 43024 is gas atomized, spherical CoCrW powder designed for producing dental prosthetics with Powder Bed Fusion (EBM, SLS, SLM, DMLS, etc) process.

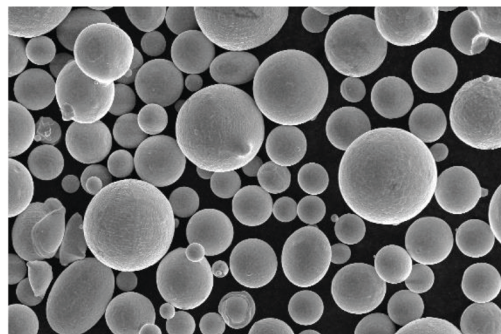
Excellent biocompatibility, corrosion, strength and wear resistance have also led to it being used in dental applications.

PURESPHERE 43024 meets the EN 1641 and EN ISO 22674 standards for manufactured dentures. Composition corresponds to "type 4" CoCr dental material according to EN ISO 22674.

### 1.1 Typical Applications

- Crowns
- Bridges
- Small tooth-supported frames

Product Characteristics	
Manufacturing Process	Inert gas atomization
Powder Morphology	Spheroidal
AM Process	Powder Bed Fusion



gas-atomized CoCrW powder

## 2. Material Information

### 2.1 Chemical Compositions

Product Code	%							
	Co	Cr	W	Si	Mn	+ Fe	+ C	O
PureSphere 43024	61	27,5	8,5	1.60		<1		<300 ppm

### 2.2 Physical Properties:

Thermal Expansion Coefficient (CTE) 14.5 10<sup>-6</sup>/K (20–500 °C)  
14.7 10<sup>-6</sup>/K (20–600 °C)

Melting Range (solidus-liquidus) 1380 – 1420 °C

Density 8.5 gr/cm<sup>3</sup>

Tensile Strength 1090 MPa

Vickers Hardness 425 HV 10

E-Modulus 225 GPa

Yield Strength 760 MPa

### 2.2 Physical Properties:

	d <sub>10</sub>	d <sub>50</sub>	d <sub>90</sub>	
Particle Size Distribution:	15-45 µm	15±3 µm	30±3 µm	45±3 µm
<i>other particle size distributions are available on request.</i>				

Flowability 14 s/50 gr (ASTM B 213)

Apparent Density 4.50 gr/cm<sup>3</sup> (ASTM B 212)

## 3. Packaging

PURESPHERE AM powders are available in 5 and 25 Kg packages.