

## Certificate of Analysis (CoA)

Dec. 2, 2025

**Product Name:** Tungsten Sputtering Target**Chemical Formula:** W**Purity:** 99.95% (3N5)**Dimensions:** Ø50.8 mm (2") × 1.5 mm (±0.05 mm)**Backing Plate:** None**Quantity:** 1 pc**Lot Number:** CSJM-251202TB**Manufactured by:** Thin-Film Materials

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### Physical Description

- Form: Metallic sputtering target
  - Appearance: Gray metallic luster
  - Crystal Structure: Body-centered cubic (bcc)
  - Theoretical Density: 19.25 g/cm<sup>3</sup>
  - Fabrication: Powder metallurgy consolidation and precision machining
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### Theoretical Stoichiometric Composition (Mass %)

**Element Symbol Mass %**

Tungsten W 100%

Balance: Tungsten

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### Chemical Composition (by GDMS / ICP-OES)

Element	Symbol	Max. Content (ppm)
Tungsten	W	Balance (>99.95%)
Oxygen	O	<150
Carbon	C	<100
Nitrogen	N	<50

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Element	Symbol	Max. Content (ppm)
Iron	Fe	<20
Nickel	Ni	<20
Silicon	Si	<20
Aluminum	Al	<20
Calcium	Ca	<10
Magnesium	Mg	<10
Copper	Cu	<10
Other elements (each) –		<10
<b>Total Impurities</b>	–	<500 ppm

### Handling & Storage

- Store in vacuum-sealed packaging.
- Keep dry and avoid corrosive environments.
- Handle with clean gloves to prevent contamination.

### Declaration

This product has been manufactured and tested according to our quality control standards and meets the specifications stated herein.

### Authorized Signature:

Inspection Certificate by: Nancy LiuApprover by: Chen Qiang