THIN-FILM
MATERIALS

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Certificate of Analysis (CoA)

Dec. 9, 2025

Product Name: Terbium (Tb) Sputtering Target
Chemical Formula: Tb
Purity: 99.9% (3N)
Dimensions: Ø50.8 mm × 3.18 mm
Bonding: Bonded to Copper (Cu) Backing Plate, 3 mm thick
Lot Number: CSJM-251209TB
Quantity: 1 PCS
Manufactured by: Thin-Film Materials

Physical Description

- Form: Metallic sputtering target, bonded
- Appearance: Metallic gray, may exhibit a dark surface oxide layer
- Crystal Structure: Hexagonal Close-Packed (HCP)
- Theoretical Density: 8.23 g/cm^3
- Fabrication: Vacuum melting/casting, machining, and bonding

Total Impurities (by ICP-OES / GDMS)

Element	Symbol	Max. Content (ppm)
Terbium	**Tb**	**Balance (>99.9%)**
Dysprosium	Dy	< 600
Gadolinium	Gd	< 200
Other Rare Earths (Total)	-	< 150
Oxygen	O	< 300
Iron	Fe	< 50
Carbon	C	< 100

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Handling & Storage

- Terbium is highly reactive. It must be stored under argon or in vacuum-sealed packaging to prevent severe oxidation.
- Handle in an inert atmosphere glove box whenever possible.
- Avoid exposure to air and moisture for extended periods.

Declaration

We certify that this terbium target meets 3N purity specifications and is suitable for deposition of high-quality thin films in magneto-optical, spintronic, and specialized alloy research applications.

Authorized Signature:

Inspection Certificate by: **Nancy Liu**

Approver by: **Chen Qiang** chen Qiang