

Material Data Sheet: Niobium

Niobium (Nb)

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1. Identification and Purity

|                           |                |
|---------------------------|----------------|
| Trade Name / Abbreviation | Nb             |
| Chemical Formula          | Nb             |
| SCI Part Number           | X041000XXXXZ35 |
| Purity                    | 99.95%         |

2. Physical and Mechanical Properties

| Property                    | Value                                                                  | Measurement / Units |
|-----------------------------|------------------------------------------------------------------------|---------------------|
| Density (Bulk)              | 8.57                                                                   | g/cm <sup>3</sup>   |
| Density (Sintered)          | —                                                                      | g/cm <sup>3</sup>   |
| Melting / Sublimation       | 2,477                                                                  | °C / °F             |
| Hardness                    | 6                                                                      | Mohs Scale          |
| Mechanical Stress / Modulus | 125–275MPa                                                             | MPa / GPa           |
| Band Gap / Electrical Type  | —                                                                      | eV / Semimetal      |
| Configuration               | Planar & Rotary                                                        | Target Type         |
| Backing Plate Compatibility | Planar: Copper (Cu) or<br>Molybdenum (Mo) / Rotary:<br>Stainless Steel | Compatibility Notes |
| General Comments            | Used in superconductivity and<br>high-temperature alloys.              | —                   |

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