



Lanthanum Hexaboride Cathode

Lanthanum Hexaboride (LaB₆) cathodes usually show 10 times the brightness and 50 times the service life of tungsten cathodes. Nextgen Advanced Materials supplies Lanthanum Hexaboride Cathode with high quality and fast delivery and customized products are also available.

Product Description

Lanthanum Hexaboride Cathode, LaB₆ Cathode

Nextgen Advanced Materials INC is a professional leader Lanthanum Hexaboride Cathode manufacturer with high quality and reasonable price. Welcome to contact us. Lanthanum Hexaboride (LaB₆) cathodes usually show 10 times the brightness and 50 times the service life of tungsten cathodes. In electron microscopy applications, these characteristics can convert more electron beam currents on smaller spots of the sample, improve resolution, and reduce the frequency of cathode replacement.

The unique properties of lanthanum hexaboride crystals provide a stable electron emission medium with a work function close to 2.70 eV. The low work function produces a higher current at a lower cathode temperature than tungsten, which means greater brightness or current at the beam focus, and a longer LaB₆ cathode life.

We provide LaB₆ cathode with customized dimensions; regular purity is 99.5%.



Lanthanum Hexaboride Material Specifications

Product	Lanthanum Hexaboride	Structure	Polycrystalline
Symbol	LaB ₆	Thermal Conductive	47 W/mK (20°C)

Cas No.	12008-21-8	Thermal Expansion	6.2 10-6K-1 (20-900°C)
Atomic Mass	203.78 g/mol	Electrical Resistance	ca.15 μΩ cm (20°C)
Density	4.72 g/cm ³	Electrical Conductivity	6.65×10 ⁴ S/cm (20°C)
Melting Point	2528 K	Current Density	150 A/cm ² (1950°C)
Hardness	87.5 RA	Electron Emissivity	2.6 eV
Flexure Strength (σ)	200 Mpa	Fracture toughness (K _{1c})	3.0 MN/m ^{3/2}