

TECHNICAL DATASHEET

Lead-Bismuth Alloy



Jaytee Alloys & Components Limited
(Formerly Jaytee Alloys & Components Pvt. Ltd.)

PRODUCT DESCRIPTION

Lead-Bismuth Eutectic (LBE) is a low-melting metallic alloy composed of Bismuth (Bi) 55.5% and Lead (Pb) 44.5%. It is widely used in low-temperature fusible applications, as coolant in nuclear reactor, casting pattern and used as a temperature & pressure regulatory drive.

TYPICAL CHEMICAL COMPOSITION

Element	Typical Range (%)
Bismuth (Bi)	55.5 %
Lead (Pb)	44.5 %
Impurities	0.01 %

Note: Highly Pure with low oxidant agent specially (O₂ content) to avoid oxidation in coolant which was made on customer request.



PHYSICAL PROPERTIES

Property	Typical Value
Appearance	Silver Grey Metallic Solid
Form	Ingots / Shot / Granule / Custom Shape
Density	10.5 g/cm ³
Melting Point	123.5°C
Boiling Point	> 1500°C
Electrical Conductivity	~0.85-1.0 MS/m
Thermal Conductivity	~13-15 W/m·K
Hardness	~10-15 HB (Brinell Hardness)

APPLICATIONS

- Low Melting Fusible Alloys
- Radiation Shielding
- Metallurgical Research
- Heat Transfer Medium
- Nuclear Coolant
- Specialized Casting Applications
- Safety Devices & Thermal Fuses

STANDARD SIZES AVAILABLE

- Ingots
- Blocks
- Granules
- Shots
- Wire Form (*on request*)

STORAGE & HANDLING

- Store in dry and ventilated area.
- Avoid moisture and strong oxidizing agents.
- Use protective gloves during handling.
- Avoid inhalation of fumes during melting operations.

SAFETY INFORMATION

- Contains Lead (Pb). Avoid prolonged exposure, ingestion, or inhalation of fumes/dust. Use appropriate PPE during melting and machining operations.
- For detailed safety information, refer to MSDS.

PACKAGING

- Bar in Plastic container in cardboard box of 20 Kg Packing
- HDPE Bag / Wooden Box / Metal Container
- Custom Packaging Available

SHELF LIFE

- 12 months under proper storage conditions

NOTES

- Specifications can be tailored as per customer requirement
- Test Certificate will be provided alongwith supply.

Contact us for technical support to specify the best solder to meet your assembly requirements.

Company Name & Address:

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For Technical Clarification

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