3M Science. Applied to Life.™

3M Advanced Materials Division

3M™ Calcium Hexaboride Powder -20 mesh

Introduction

3M™ Calcium Hexaboride Powders are excellent deoxidizing agents for copper refining. Calcium hexaboride (CaB_6) is the only material known that does not reduce electrical conductivity of copper during the deoxidizing process. Oxygen is a disruptive factor in the copper production process. It enters the melt and reacts with the copper to form copper oxide (CU_2O). If not removed, it causes porosity in the casting. As a deoxidant, calcium hexaboride removes the detrimental copper oxide.

Advantages

- No reduction of electrical conductivity
- Ideal for melts using recycled copper
- Only 60 g of CaB_6 is needed for 100 kg melt
- 3M offers a technology to provide the optimal particle size to meet the required reaction time
- Easy to handle

Storage

3M calcium hexaboride powder -20 mesh is recommended to be used within 3 years after delivery and should be stored under dry conditions.

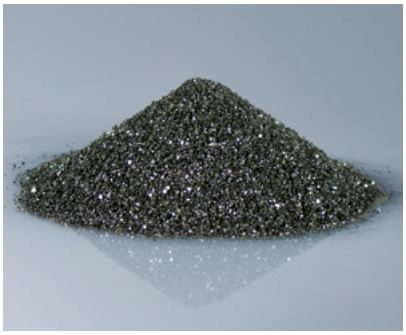
Typical Physical Properties

(Not for specification purposes)

Properties	3M™ Calcium Hexaboride -20 mesh
Chemical Formula	CaB_6
Form	Black powder with metallic luster
Molecular Weight	104.95 g/mol
Crystal Structure	Cubic
Density	2.45 g/cm^3
Melting Point	2,235°C (4,055°F)

Chemistry	Typical Values
Ca + B	>90%
C	<5%

Grain Size Distribution	Typical Values
Particle size	- 20 mesh
d_5	> 40 µm
d_{97}	< 850 µm



3M™ Calcium Hexaboride Powder

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The management system has been certified according to DIN EN ISO 9001, DIN EN ISO 50001, DIN EN ISO 14001.

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