

Technical Datasheet (TDS)

Product Name: Manganese Dioxide for Heat-Absorbing Architectural Glass

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1. Product Description

Manganese Dioxide for Heat-Absorbing Architectural Glass is a high-purity technical grade MnO_2 powder ($\geq 99.5\%$ assay) engineered for incorporation into heat-absorbing and solar control glass formulations. This manganese dioxide grade enhances infrared absorption and thermal regulation in architectural glass, improving energy efficiency and indoor comfort for commercial and residential glazing systems.

2. Technical Specifications

Parameter	Typical Value	Unit
MnO_2 Assay (as MnO_2)	99.5 – 99.9	%
Iron (Fe) Content	≤ 0.05	%
Moisture (105 °C)	≤ 0.20	%
Particle Size (D_{50})	5 – 15	μm
Loss on Ignition (LOI)	45 – 47	%
pH (aqueous slurry)	6.5 – 8.0	—
Heavy Metals (Pb + Cd + Cr)	≤ 0.002	%
Bulk Density	0.8 – 1.2	g/cm^3

3. Key Features

- **High Purity:** $\geq 99.5\%$ MnO₂ suitable for consistent heat-absorbing performance.
- **Controlled Particle Size:** 5–15 μm distribution for uniform dispersion in glass batch and melt.
- **Low Impurities:** Low iron and heavy metal content minimize unwanted color or defect formation.
- **Thermal Regulation:** Enhances infrared absorption and contributes to thermal regulation in solar control glass.
- **Stable Chemistry:** Low moisture and controlled loss on ignition for predictable melt behavior.

4. Applications

- **Heat-Absorbing Architectural Glass:** Optimized for solar control glass to mitigate infrared heat transmission.
- **Commercial Glazing:** Improves thermal performance in curtain walls and façade systems.
- **Residential Solar Control:** Reduces cooling loads in home window applications.
- **Automotive Glass:** Applicable where infrared absorption and heat management are required.

5. Packaging & Supply

- **Standard Packaging:** 25 kg lined kraft bags or 500 kg bulk bags on pallets.
 - **Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances.
 - **Supply:** Supports consolidated LCL and FCL shipments to major ports worldwide.
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Disclaimer: The information provided in this Technical Datasheet is based on our current knowledge and experience. Users should conduct their own tests to determine

the suitability of the product for their specific applications.