

Technical Datasheet: Glass Grade Manganese Dioxide as a Decolorizing Agent

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1. Product Description

Glass Grade Manganese Dioxide as a Decolorizing Agent is a high-purity MnO_2 material ($\text{MnO}_2 \geq 88\text{--}92\%$) specifically engineered for use in glass manufacturing. Its primary function is to neutralize the undesirable green tint in glass, which is typically caused by iron impurities (Fe^{2+}). By facilitating the oxidation of ferrous iron (Fe^{2+}) to ferric iron (Fe^{3+}), it significantly improves the optical clarity and brightness of various glass products, including flat glass, container glass, and specialty glass.

2. Key Features

- **High Oxidation Efficiency:** Effectively oxidizes Fe^{2+} to Fe^{3+} , compensating for iron-related green coloration.
- **Stable MnO_2 Content:** Ensures consistent and reliable decolorizing performance due to a high and stable manganese dioxide content.
- **Controlled Particle Size:** Optimized particle size (D50: 10–45 μm , customizable) allows for uniform dispersion within the glass batch, leading to homogeneous decolorization.
- **Low Impurity Levels:** Minimizes the introduction of secondary colorants, preserving the desired optical properties of the glass.
- **Versatile Application:** Suitable for various glass melting systems, including continuous tank furnaces and batch melting processes.

3. Technical Specifications

Parameter	Typical Range
MnO ₂ Content (%)	88 – 92
Mn (Total) (%)	55 – 63
Fe (%)	≤ 0.20
SiO ₂ (%)	≤ 2.0
Moisture (%)	≤ 2.0
Particle Size (D50)	10 – 45 μm (customizable)
Bulk Density (g/cm ³)	0.8 – 1.2
Loss on Ignition (800°C) (%)	≤ 5.0

Note: Specifications can be adjusted according to furnace type and glass formulation requirements.

4. Applications

- **Float Glass Production:** Crucial for balancing iron-related green coloration in large-scale flat glass manufacturing.
- **Container Glass:** Enhances transparency and brightness, improving the aesthetic appeal of bottles and other container products.
- **Tableware and Crystal Glass:** Significantly improves the clarity and visual quality of high-end glass items.
- **Specialty Glass Formulations:** Provides precise control over tint and optical adjustments for specialized glass products.

5. Packaging & Supply

- **Packaging Options:** Available in 25 kg kraft paper bags with inner PE liners and 1 MT jumbo bags (FIBC).

- **Logistics:** Products are palletized and shrink-wrapped, suitable for export and containerized bulk shipment.
- **Supply Capacity:** Regular monthly supply capacity is available to support long-term contracts and consistent production needs.