

Manganese Dioxide (BS18/44)

Size range 0.355 – 0.85mm

Application

Used in water filtration to remove hydrogen sulphide, iron and manganese from potable waters by catalytic oxidation.

Characteristics

Source: Australian / African
Appearance: Black granular mineral
Specific Gravity: 3.8
Bulk Density: 2 tonnes / m³

Chemical Analysis

- A natural crushed ore without additives and free from contamination
- Manganese content $\geq 80\%$ as MnO₂
- Moisture content less than 1% by weight
- Hardness: 5 – 6 Moh

Mechanical Analysis

| Sieve Size | % Retained | % Passing |
|-------------------|-------------------|------------------|
| 1 | 0 | 100 |
| 0.85 | 0.3 | 99.7 |
| 0.6 | 81.6 | 18.1 |
| 0.5 | 13.8 | 4.3 |
| 0.425 | 3.1 | 1.2 |
| 0.355 | 0.9 | 0.3 |
| 0.3 | 0.1 | 0.2 |

Backwashing

Frequent and thorough back-washing is essential for long-term success. The specific frequency of regular backwashing is dependent on water quality and application rate. Typical filtration rate is 9m³/m²/hr. Typical backwash rates are 15 to 25m³/m²/hr.

Catalytic Activity

A mixture of manganese dioxide and sand in a filter bed will normally reduce the concentration of manganese and iron in water from 0.5mg/l and 3mg/l to 0.02mg/l and 0.05mg/l respectively (given the correct conditions of alkalinity and pH).

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