



**GUARANTEED 100% TO REMOVE
IRON AND MANGANESE FROM
RAW WATER SUPPLIES.**

TIRM

Official Specification

Part of the TIRM system is revolutionary silica based media coated in a special formula and resin to preserve the underlay. The microporous structure of the media allows efficient removal of dissolved iron and manganese by acting as an oxidation catalyst. Immediate oxidation of iron and manganese in the water for treatment occurs on contact with the media. The media requires a simple activation process and continuous injection of a small amount of sodium hypochlorite. The media retains the oxidized iron and manganese until it is backwashed from the media by the reverse flow of treated water

Benefit of TIRM T.I.R.M. System:

- Complete removal of iron and manganese
- Effective for removing arsenic
- Can produce potable water supplies
- Excellent filtration media
- Operates in a wide range of pH
- High operating temperature
- High flow rates
- Long service life
- Low maintenance
- No biological fouling of media

PHYSICAL PROPERTIES OF TIRM

COLOUR Brown to Black
BULK DENSITY 20 kg / 0.0135 m³
SPECIFIC GRAVITY 2.65
EFFECTIVE SIZE 0.60 - 0.65mm
UNIFORM COEFFICIENT 1.4 to 1.7
MESH SIZE 20 - 42
ATTRITION LOSS PER ANNUM 1 - 5%

CONDITIONS FOR OPERATION OF TIRM

WATER pH RANGE 5.8 - 8.6
MAXIMUM WATER TEMPERATURE 45 degrees C
BED DEPTH 600 mm (minimum) commonly 1000mm
FREEBOARD 40% of bed depth (minimum)
REGENERATION No regeneration required
SERVICE FLOW RATE 1 - 30 m³/m² hr (commonly 5 - 12 25 - 80 m³/m² hr)
(dependant on water quality and treatment conditions)
BACKWASH FLOW RATE Suggest 700mm/min vertical velocity
BACKWASH BED EXPANSION Between 15 - 50%



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Advantages of TIRM

- **Eliminates Potassium Permanganate.** Continuous injection of sodium hypochlorite to low (0.2 ppm) residual.
- **Wide pH range.** Stable and satisfactory performance at pH 5.8 to 8.6.
- **High Flow Rates.** TIRM operates satisfactorily at linear filtration velocities of up to twice that of conventional media, reducing capital costs considerably.
- **Higher Operating Temperatures.** Maximum operating temperature of 45°. C.
- **Long Life.** TIRM is not consumed in the process, providing considerable advantage over other medias.
- **Reactivation Not Required.** Only requires initial sodium hypochlorite activation.
- **System Compatibility.** Physical properties are similar to that of other comparable systems, allowing switch without major hardware modifications.
- **Arsenic Removal.** TIRM has been shown to remove arsenic associated with iron-containing influent. The precipitation chemical Iron III Chloride is used for high arsenic feed levels. PHYSICAL PROPERTIES TIRM