

FILTRATION SAND

Sand is a crucial component in groundwater filtration systems, where it acts as a natural and effective mechanical and biological filter. Here's how sand is used:

1. PHYSICAL FILTRATION:

- **Process:** As groundwater flows through a sand bed, suspended solids (like silt, clay, organic matter, and debris) are physically trapped between sand grains.
- **Effectiveness:** Fine sand is particularly effective at capturing smaller particles, helping to clarify water.

2. BIOLOGICAL FILTRATION (IN SLOW SAND FILTERS):

- **Process:** Over time, a biological layer forms on the top layer of the sand bed.
- **Function:** This layer contains microorganisms that consume pathogens and organic contaminants, further purifying the water.

3. CHEMICAL ADSORPTION

- While less significant than physical and biological processes, sand can adsorb some dissolved contaminants (like iron or manganese), especially when coated with oxides or combined with other filter media..

4. SYSTEM TYPES USING SAND:

- **Slow Sand Filters** – used in small-scale or municipal water treatment.
- **Rapid Sand Filters** – common in industrial and municipal systems, using coarse sand and backwashing for cleaning.
- **Multimedia Filters** – combine sand with layers of gravel, anthracite, or garnet for improved efficiency.

WHY SAND IS IDEAL:

- **Inert & Non-toxic** – Does not react with water.
- **Readily Available** – Cost-effective and abundant.
- **Customizable** – Can be dried, graded, and sized to meet performance specs.

Contact Us Today!

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