**Indian Standard IS 17570 (Part 1) : 2021 - Air Filters for general ventilation Part 1 Technical specifications requirements and classification system based upon particulate matter efficiency ePM**

Air filters for general ventilation are widely used in heating, ventilation and air-conditioning applications of buildings. Air filters significantly influence the indoor air quality and hence the health of people by reducing the concentration of particulate matter. The Indian Standard IS 17570 (Part 1) : 2021 provides several **technical parameters** that can help consumers understand the performance of air filters in more practical, measurable terms. Here are the key parameters that are particularly relevant:

**1. Particle Size Efficiency (PM1, PM2.5, and PM10)** : Classification based on how effectively capture particles of different sizes are captured.

- **PM1**: Particles smaller than 1 micron (such as bacteria and some viruses).
- **PM2.5**: Fine particles (smaller than 2.5 microns), often linked to respiratory issues and pollution.
- **PM10**: Larger particles (smaller than 10 microns), such as dust, pollen, and mold spores.

**2. Efficiency Classification:** Based on performance at removing particles.

- **ePM1, ePM2.5, ePM10**: These indicate efficiency of the filter in trapping particles from specific size ranges. Higher percentages (e.g., **ePM2.5 ≥ 50%**) indicate better filtration performance.

**3. Real-World Relevance:**

- **Health Benefits**: By focusing on particle sizes that are most harmful to health, IS 17570 (Part 1) allows selecting filters that target **respiratory health**, reducing exposure to allergens, pollutants, and pathogens.
- **Indoor Air Quality**: Consumers can use the filter's classification to understand how well it will perform in their specific environments, such as homes, offices, or hospitals, where the presence of dust, pollen, or smoke may vary.

**4. Long-Term Performance:** The standard helps assure **consistent performance over time**, as filters are evaluated through controlled conditions that reflect more real-life use.

**5. Energy Efficiency:** This Standard also takes into account **energy consumption** of filters, which can be a key concern for consumers looking to balance filtration with energy savings. A highly efficient filter often requires less energy to operate, which can be attractive to eco-conscious consumers.

**6. Clear Communication:** The use of clear labels like **ePM1**, **ePM2.5**, and **ePM10** on products makes it easy for consumers to quickly compare filters based on the size of particles they are concerned about (such as fine dust, allergens, or pollutants).

**In Summary:** For consumers, IS 17570 (Part 1) provides a simple, clear understanding of how well air filters work at removing harmful particles. By focusing on real-world particle sizes like **PM2.5** and **PM10** and offering clear efficiency ratings, it allows consumers to make informed decisions based on health concerns, energy usage, and overall air quality. The standard makes it easier to choose filters that are technically proven to improve indoor air quality that assures reliability and long-term performance.