

What is Air Purification?

Air purification refers to the process of removing contaminants, such as dust, pollen, mould spores, volatile organic compounds (VOCs), and other pollutants from indoor air to improve air quality. This is achieved through various technologies and systems designed to filter, neutralise, or eliminate harmful particles and gases.

In the UK house building, residential retrofit, home renovation, and extension sectors, air purification is increasingly important due to the growing awareness of indoor air quality (IAQ) and its impact on health and well-being. Poor IAQ can exacerbate respiratory conditions, allergies, and other health issues, making air purification systems a key consideration in modern building design and retrofitting.

Practical Examples:

1. **Mechanical Ventilation with Heat Recovery (MVHR):** A system that filters incoming air while recovering heat from outgoing air, commonly used in energy-efficient homes to maintain IAQ.
2. **HEPA Filters:** High-Efficiency Particulate Air filters are used in air purifiers to capture particles as small as 0.3 microns, including allergens and fine dust.
3. **Activated Carbon Filters:** These filters are effective at removing VOCs and odours, often used in kitchens or areas with high chemical exposure.
4. **UV-C Light Purification:** Ultraviolet light systems can neutralise bacteria, viruses, and mould spores in air handling units.

Relevant Building Regulations and Approved Documents:

- **Approved Document F (Ventilation):** Provides guidance on ventilation requirements for buildings, including the use of air purification systems to maintain IAQ.
- **Part L (Conservation of Fuel and Power):** Encourages the use of energy-efficient systems like MVHR, which often incorporate air purification.

Synonyms:

- Air filtration
- Air cleaning

Related Terms:

1. **Indoor Air Quality (IAQ):** The quality of air within and around buildings, particularly as it relates to the health and comfort of occupants.
2. **Mechanical Ventilation:** The use of mechanical systems to supply and extract air from a building, often incorporating air purification.
3. **Heat Recovery Ventilation (HRV):** A system that recovers heat from exhaust air and uses it to preheat incoming fresh air, often combined with air purification.
4. **Volatile Organic Compounds (VOCs):** Organic chemicals that can evaporate into the air, often found in paints, cleaning products, and building materials, and removed through air purification.
5. **Particulate Matter (PM):** Tiny particles in the air, such as dust and pollen, which can be filtered out using air purification systems.

6. **Building Regulations Compliance:** Ensuring that air purification systems meet the standards set out in UK Building Regulations, particularly Approved Document F.