

What is External Wall Insulation (EWI)?

External Wall Insulation (EWI) is a method of insulating the external walls of a building to improve thermal efficiency, reduce heat loss, and enhance energy performance. It involves applying an insulating material to the exterior of the building, followed by a protective render or cladding system. EWI is commonly used in residential retrofit projects, home renovations, and extensions in the UK to meet energy efficiency standards and comply with Building Regulations.

EWI is particularly relevant in the UK's house building, residential retrofit, and home renovation sectors. It is a key strategy for improving the energy efficiency of existing homes, especially in older properties with solid walls that are harder to insulate internally. EWI is also used in new builds to achieve higher energy performance standards.

Synonyms

- External Insulation
- External Thermal Insulation Composite Systems (ETICS)

Related Terms

1. **Internal Wall Insulation (IWI):** Insulation applied to the interior walls of a building, often used when external insulation is not feasible.
2. **Cavity Wall Insulation:** Insulation material injected into the cavity between two layers of a cavity wall.
3. **U-Value:** A measure of heat loss through a building element, with lower values indicating better insulation performance.
4. **Building Regulations Part L:** UK regulations that set standards for the energy performance of buildings, including insulation requirements.
5. **Thermal Bridging:** Heat transfer through a building element that bypasses insulation, reducing overall thermal performance.
6. **Render:** A protective and decorative coating applied over EWI systems.
7. **Retrofit:** The process of upgrading existing buildings to improve energy efficiency and performance.

Explanation

EWI systems typically consist of three main components:

1. **Insulation Material:** Commonly used materials include expanded polystyrene (EPS), mineral wool, or phenolic foam, chosen for their thermal performance and suitability for external use.
2. **Base Coat and Reinforcement Mesh:** Applied over the insulation to provide structural integrity and prevent cracking.
3. **Protective Render or Cladding:** The final layer, which can be textured, coloured, or finished to match the building's aesthetic.

EWI is particularly effective in reducing heat loss through walls, which can account for up to 35% of a building's total heat loss. It also helps to eliminate thermal bridging, improve airtightness, and enhance the building's external appearance.