

What is Gross Space Heating?

Gross Space Heating refers to the *total heat energy required* to maintain a building's internal temperature at a comfortable level, compensating for heat losses through the fabric (walls, roof, floors, windows) and ventilation. It is measured in kilowatt-hours per day (kWh/day) and serves as a key metric in assessing a building's thermal performance.

Context & Application in UK Building Practices

- Governed by **Part L (Conservation of Fuel and Power)** of the **Building Regulations (2021, amended 2023)**.
- Used in **SAP (Standard Assessment Procedure)** and **EPC (Energy Performance Certificate)** calculations.
- Critical for **residential retrofits, extensions, and new builds** to ensure compliance with **Approved Document L1B (existing dwellings)** and **L1A (new dwellings)**.

Practical Example

A **1950s semi-detached house** with poor insulation may have a gross space heating demand of **50 kWh/day** in winter. Post-retrofit (cavity wall insulation, double glazing), this could reduce to **30 kWh/day**, improving energy efficiency.

Synonyms

- Total heat loss
- Building heat demand
- Space heating requirement

Related Essential Terms

1. **Fabric Heat Loss (U-Values)** - Measures heat transfer through building elements ($\text{W/m}^2\text{K}$). Lower U-values = better insulation.
2. **Air Permeability** - The rate of uncontrolled air leakage ($\text{m}^3/\text{h}\cdot\text{m}^2$). Critical under **Part F (Ventilation)**.
3. **Specific Heat Loss (SHL)** - Heat loss per degree of temperature difference (W/K). Used in **heat loss calculations**.
4. **Mechanical Ventilation with Heat Recovery (MVHR)** - System that reduces heat loss via ventilation (referenced in **Part F**).
5. **Thermal Bridging** - Areas where heat escapes faster (e.g., junctions). Addressed in **BR 497 (Conventions for Calculating Linear Thermal Transmittance)**.