What is BS 5925:1991 Code of practice for ventilation principles and designing for natural ventilation?

BS 5925:1991: Code of practice for ventilation principles and designing for natural ventilation is an older, foundational **British Standard** that outlines the principles and design considerations for achieving **natural ventilation** in buildings. It focuses on non-mechanical systems, relying primarily on natural forces such as **wind pressure** (wind-driven ventilation) and **temperature differences** (buoyancy or stack effect) to move air through a dwelling.

While the minimum performance requirements for ventilation in the UK are now primarily mandated by the **Building Regulations 2010**, specifically through **Approved Document F (Ventilation)**, the core principles detailed in BS 5925 remain highly relevant in designing and assessing naturally ventilated residential properties, particularly in:

- **Residential Retrofit:** When upgrading existing homes, designers often rely on controlled natural ventilation measures (like **trickle vents** and improved window operability) which are informed by the airflow principles in this standard.

- **New Extensions:** In extensions or renovations, the standard's guidance on using internal and external pressure differences to achieve cross-ventilation is key to ensuring adequate air quality without mechanical intervention.

Practical Examples

1. **Airflow and Pressure:** The standard informs the optimal placement and sizing of **air inlets** (e.g., trickle vents in window frames) and **air outlets** (e.g., kitchen/bathroom extract fans acting as an outlet, or even a chimney flue) to harness wind pressure differences across a home. For instance, designing an extension with openable windows on opposite walls to ensure **cross-ventilation**, as promoted by the standard's principles.

2. **Condensation Risk:** BS 5925 includes methods and calculations for determining minimum ventilation rates necessary to mitigate the risk of **surface condensation** caused by high internal moisture levels. A retrofit project might reference these principles when calculating the necessary background ventilation rate (e.g., *Equivalent Area* of trickle vents) to prevent mould growth in a newly insulated room.

Supersession and Context:

It's important to note that the quantitative **minimum ventilation performance** for new and existing dwellings in England and Wales is now legally governed by **Approved Document F (ADF)**. The current version of ADF provides specific, prescriptive requirements and **Approved Methods** that supersede the numerical airflow rates that were recommended in the 1991 standard. However,

the *principles* behind natural ventilation design still draw heavily from this foundational document.