

HOUSEPLANSDIRECT TECHNICAL GUIDES

DOUBLE GLAZING EXPLAINED

A complete guide to insulated glass units, window performance and installation



Double-glazed window cutaway with two panes, sealed cavity and coordinated wall junction.

NINE-PART PUBLICATION EDITION

Units · Frames · Heat · Solar gain · Moisture · Acoustics · Junctions · Compliance · Inspection

Version 1.0 | 6 August 2026 | England

Contents

Part	Subject
Part 1	Introduction: What Is Double Glazing?
Part 2	Unit, Glass and Frame Selection
Part 3	How Double Glazing Controls Heat, Solar Gain, Moisture and Sound
Part 4	Anatomy, Performance Terms and Critical Junctions
Part 5	Design, Installation and Construction Sequence
Part 6	Ventilation, Safety, Security and Maintenance
Part 7	Building Regulations, Evidence and Site Safety
Part 8	Common Design and Installation Defects
Part 9	Inspection Checklist, FAQs, Glossary and Further Reading

About this guide

This guide explains double glazing for low-rise housing in England. It is intended for clients, designers, specifiers, installers and site teams who need to coordinate insulated glass units, frames, heat loss, solar gain, ventilation, safety, security, wall junctions and workmanship. It is general guidance: use the standards, Approved Documents, transitional provisions, calculations and product evidence that apply to the individual project.

SCOPE Double Glazing specifications and installations are project-specific. Use current drawings, calculations, glass and frame declarations, applicable Approved Documents, product instructions and competent advice. Do not use typical values as a substitute for declared whole-window performance.

Part 1 – Introduction: What Is Double Glazing?

Two panes of glass separated by a sealed insulating cavity

Double glazing is an insulated glass unit formed from two panes held apart by a perimeter spacer and sealed to create a dry cavity. The cavity is normally filled with air or an inert gas, while low-emissivity coatings and warm-edge spacers can reduce heat transfer. The glass unit, frame, gaskets, hardware, seals and surrounding wall junction work as one window system; pane count alone does not determine performance.



Figure 1 — Principal anatomy of a double-glazed domestic window and wall opening.

1.1 Principal components

Component	Primary role
Outer and inner panes	Enclose the insulating cavity and provide weather, safety and optical performance.
Sealed cavity	Reduces conductive and convective heat transfer between the panes.
Spacer and edge seals	Maintain separation, dryness and gas retention around the unit perimeter.
Frame, gaskets and hardware	Support, seal and operate the glazing while resisting weather and loads.
Opening and perimeter seals	Connect the window to insulation, airtightness and external weathering.

1.2 Benefits and limitations

- Improves thermal comfort and reduces heat loss compared with typical single glazing.
- Can reduce room-side condensation risk when the whole window and reveal stay warm.
- Performance varies with glass coatings, cavity, spacer, frame, size and installation.
- Does not by itself guarantee acoustic control, overheating protection, ventilation or security.