



EXTERNAL CATALOGUE



Black Steel Doors is very proud to be one of the leading suppliers in the UK of luxury interior and exterior steel doors and windows. Our products reflect the dedication to quality and innovation. From architectural designs to bespoke manufacturing services, Black Steel Doors provides a truly tailored experience for you.

*Windows and doors*

# ARE KEY ELEMENTS OF ANY BUILDING

Contributing to healthier indoor living and a reduced environmental footprint

## Indoor environmental quality

Window technology has undergone a revolution in the last twenty years. Using a combination of gas-filled double or triple glazing, low-emittance glass coatings and thermally improved edge spaces, it is now possible to adjust solar gain, reduce condensation, prevent air leakage and improve the comfort of an indoor environment. There are three ways in which windows and doors contribute to the indoor quality of a home: by the amount of natural light, the effectiveness of ventilation, and minimizing volatile organic compounds (VOCs).

## Natural light

It contributes not only to the health of the home's occupants but also reduces the need for electric lighting, especially during the daytime. It is recommended that natural light should reach at least 75% of a home's interior. To increase available natural light, more windows and/or glass doors can be added to the home or existing windows can be replaced with larger ones if space permits.

## Adequate ventilation

It is essential for indoor air quality. To ensure plentiful fresh air, homeowners should consider the number, size, type, and placement of windows and doors based on the home's orientation and exposure to prevailing breezes.

It is also affected by the levels of volatile organic compounds (VOCs) given off by inadequate paints, adhesives, and sealants.

## Energy efficiency

Most energy flows in and out of a building through its windows, which can account for up to 30% of the heat loss. With intelligent design, technological innovation, and by choosing energy-efficient components, a building's energy consumption can be reduced significantly. The slender lines of steel frames enhance the glass-to-frame ratio. As the thermal performance of windows is dictated more by the choice of insulating glass than the material of the frame, even solid steel windows can demonstrate compliance with the energy conservation requirements of the Building Regulations. But to optimize the energy performance of windows the first consideration is passive design. Natural light and heat flow through a window can be controlled to some extent through appropriate size and solar orientation. Larger windows have more potential to lose or gain heat than smaller windows and south-facing windows let through more heat and light than north-facing windows.

## Recyclability

The steel billets, rods, and strips, from which steel window profiles are formed, are basic steel smelted from almost 100% recycled steel scrap. At the end of their life, steel windows can be systematically dismantled and the frames, fittings, and glass recycling. Recycling steel avoids the depletion of non-renewable resources and end-of-life waste disposal impacts. The "green" credentials of steel windows are recognized by the Building Research Establishment "Green Guide".

## Durability

One of the most significant attributes of a sustainable building product is how long it will last before it needs to be replaced. If a product needs to be replaced every 15 years, the product's overall environmental impact — and cost to the homeowner — is far greater than a product that may only need to be replaced every 30 or even 60 years. Many innovative designs of the Modern Movement, listed buildings commissioned by patrons of the Arts & Crafts Movement, civic monuments of the Edwardian era, and examples of 1930s Art Deco, are characterized by steel windows, which are still in good working order; this demonstrates the longevity of steel when properly serviced and maintained. Glass is the material of the frame, even solid steel windows can demonstrate compliance with the energy conservation requirements of the Building Regulations. But to optimize the energy performance of windows the first consideration is passive design. Natural light and heat flow through a window can be controlled to some extent through appropriate size and solar orientation. Larger windows have more potential to lose or gain heat than smaller windows and south-facing windows let through more heat and light than north-facing windows.

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## HAVE A PROJECT IDEA?

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Begin your journey by enjoying a complimentary consultation with our experienced project managers. We will personally guide you through our luxurious selection of products and provide expert advice on the best styles and specifications to suit your vision.

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