

THE BENEFITS OF NEW STEEL WINDOWS FOR CONSERVATION PROJECTS

Steel windows are integral to the conservation of many heritage properties today. This is mainly due to the unique ability of genuine steel to replicate the size, shape and design details of original metal windows.

Conservation and Planning Officers specify steel for a number of Listed Buildings and properties in Conservation Areas, because so many architectural styles of the past included metal windows in their original schemes, among them Arts & Crafts, Art Deco and Modernism, and like for like replacements are preferred if this is possible to achieve. Modern steel windows are precisely engineered, exquisitely manufactured, high performance products, which come with a broad range of benefits when it comes to conservation projects. Here we take a look at our Top Five.

Incredible strength and security

Steel is the strongest material on the market for windows and doors, incomparable to supposedly similar products made of aluminium. This robust strength allows for very narrow frames and large expanses of glazing, letting the maximum amount of light into a space.

Steel frames also give a high level of security against burglars and intruders, further strengthened by the addition of multi point locking, tested to BS7950 and available to the standard PAS 24.

Strength and security were very important for the works at 30 Charing Cross Road. Located in one of the busiest parts of Central London and set within the Covent Garden Conservation Area, Clement recently manufactured steel windows from the W40 range for this project. The basement, ground and first floors underwent major structural works to form a new three storey restaurant and retail unit.

Genuine steel windows and doors which looked just like the originals were a condition of the renovation due to the historical significance of the building.

Below, This building in Central London's busy Charing Cross Road boasts new arched head windows from the Clement W40 range





Above, New Clement EB24 steel windows provide the perfect match to the Art Deco fenestration at this Georgian-fronted apartment building in London

Mild steel was the perfect material for the arched head windows to the first floor. Clement also manufactured the beautiful doors on the ground floor from Jansen Economy 50 cold rolled steel sections. These steel doors are very resilient and therefore suitable for areas of high foot fall.

Longevity and low maintenance

Hot dip galvanised and polyester powder coated new steel windows will not rust, corrode or warp. They will require minimal maintenance and it is likely that they will last the lifetime of the building they are installed into. New steel windows by Clement are offered with a 10 year warranty (the glass having five years), providing an average paint coating in excess of 100 microns – the industry standard is 60/70 microns.

Versatility and elegant sightlines

The elegance of steel is unsurpassed. Steel can be moulded into a variety of shapes and configurations, and original detailing such as putty lines and glazing bars can be closely matched. The slim sightlines only available with steel can be very similar to the delicate sightlines of original windows.

The apartment building pictured above is an example of how suitable new steel frames are for the replication of particular architectural styles. This Georgian-fronted building is located in the Harley Street Conservation Area, which is part of the ancient Manor of Marylebone, the history of which can be traced back to the Domesday Book in the eleventh century. Such historic importance meant that when the very detailed Art Deco-style fenestration needed to be replaced, there was a lot to consider!

Clement manufactured and installed new steel windows in a number of the apartments. The bespoke EB24 range provided a close match to the original windows but with an improved specification – low emissivity glass minimises the heat loss from a room and argon gas fills the space between the glass panes to ensure excellent insulation.

The owner of the individual apartment pictured below opted for dual colour and the new steel windows are painted black on the inside and white on the inside to complement the interior design.



Above, The windows at this apartment were painted white on the inside to match the owner's interior design

High thermal performance

Modern steel windows are fitted with double or triple glazing and some ranges offer thermal breaks resulting in improved energy efficiency. High quality glass units teamed with innovative steel frame design and weatherproofing, result in top performing steel windows and doors that reduce energy bills.

The property pictured on the right is located in a Conservation Area in Surrey. The owners wanted to replace the original steel fenestration at the property and install new steel windows and doors for the rear extension.

Clement manufactured rectangular leaded light windows in super slim EB16 sections to replicate the original windows at the front of the house. The same frames were selected for the conservatory but with clear glazing to let in plenty of light while remaining in keeping with the Arts & Crafts style of this home.

The owners commented:

“ Replacing the original 100 year old leaded light windows was a huge decision. Our house is locally listed in a Conservation Area so aesthetics were very important. We wanted to retain the look of the house but also the feel and quality of the windows was important. The house is quieter, warmer and altogether more comfortable. In fact, a recent energy survey showed that we are losing more heat through the uninsulated cavity walls than through the windows.”

Sustainability

The conservation of buildings is inherently sustainable. Conservation is not just about protecting and maintaining properties which are historically, culturally or architecturally significant, it is also about preserving embodied carbon, reducing waste and integrating modern energy efficiency to facilitate their long-term use. Conserving a building means it is less likely to be demolished to make way for a new structure.

Steel has many “green” credentials as a construction material. According to the World Steel Association, steel can be infinitely recycled without loss of quality; the steel industry uses its resources efficiently and produces very little waste; and, remanufactured steel products offer substantial conservation of raw materials, saving energy.

All mild steel windows offered by Clement are made from 98% recycled steel source material. As these windows are long-lasting and can be recycled at the end of their lives, they really can be viewed as a sustainable product.

Clement Windows Group manufactures an innovative range of steel windows, doors and screens for both private residences and commercial projects. The company also supplies conservation rooflights, which are available from stock or made to measure in either a tile or a slate profile.
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Above, Private residence in a Surrey Conservation Area fitted with new Clement EB16 steel windows

