LPOC puts it to the test:

'CosyGlazing' secondary double glazing by Mitchell & Dickinson

In this test LPOC looks at the CosyGlazing secondary double-glazing system which was developed and manufactured by Mitchell & Dickinson (formerly CosyHome) who are based in the West Country. Mukti Mitchell is a passionate campaigner for sustainable lifestyles and carbon reduction through reducing heat loss in traditional buildings. He developed the advanced secondary glazing system as part of a wider range of draught proofing and insulation services provided by the company.

Close up of the CosyGlazing system in place on a fixed casement window. The magnetic strip is just visible

THE 'COSYGLAZING' SYSTEM

Mukti Mitchell developed the secondary glazing system over the last eight years with a view to reducing heat loss in Britain's traditional and listed buildings without the loss of character which is associated with some of the framed secondary glazing systems.

The CosyGlazing system consists of a sheet of Plexiglass which is a transparent thermoplastic sheet used, amongst other things, for aeroplane windows. It is sometimes referred to as acrylic glass. The Plexiglass is typically 4mm thick and is attached to the windows using magnetic tapes bonded to the perimeter of the sheet and the inner face of the window frame. It has no frame or subframe and no positive fixing other than the magnetic strips. Thicker units are available for those installations where additional sound reduction is required.

The magnetic fixing method means that there are no screw holes or physical alterations to the original window frames. The secondary glazing can be easily removed during the summer months or for cleaning leaving only the magnetic strip in place on the window frame. The magnetic strips are supplied in either white or black and can themselves be removed without trace at the end of their life.

WHAT THE MANUFACTURER CLAIMS:

- 'CosyGlazing preserves the character of listed buildings because it is "virtually invisible" and allows you to open and close windows as usual.'
- 'Nine out of ten conservation officers across the southern England say that CosyGlazing does not require listed building consent.'
- 'CosyGlazing reduces heat loss from single-glazed windows by 70%.'
- 'Insulation can save owners of older homes over £1,000 a year.'
- 'We offer CosyGlazing – a new virtually invisible secondary glazing – as well as loft, draught, floor and sloping ceiling insulation. Together these save 40 - 50% of the heat from leaking out of your house. It makes you warm, offers a return on investment of 10 - 20% per year and is good for the planet too.'
- 'CosyGlazing has a design life of at least 30 years.'
- 'CosyGlazing reduces but is not guaranteed to eradicate condensation.'

RESULTS OF THE LPOC TEST

LPOC fitted CosyGlazing to two windows on a Grade II listed building in Kent, one a fixed casement window, the other a horizontally sliding sash window. Installation was relatively quick and simple and they have been in place now for eighteen months in order to assess their effectiveness.

This photograph illustrates the contrast between the streaming condensation on the left casement window (without secondary glazing) compared to the minimal amount of condensation on the right casement window (with the CosyGlazing secondary glazing fitted)

It has to be said that the visual impact of the secondary glazing is small. This is where the system wins hands down when compared to many of the other 'framed' secondary glazing systems on the market. Like most double-glazing systems the secondary glazing affects the windows' reflective quality from inside and out and the double reflection is particularly noticeable when the lights are on and it is dark outside.

Close inspection reveals the presence of the magnetic strips; in fact it is fair to say that the magnetic strips are possibly the most visible part of the installation.

Removal of the secondary glazing is extremely quick, simply by breaking the magnetic seal and lifting the secondary glazing out. This makes cleaning the windows a relatively simple task.

Mitchell & Dickinson claim that condensation is massively reduced. However, in cold weather a small amount of condensation still appears on the inside of the original window panes of the test windows. It normally disappears when the weather improves. Overall, the contrast between the streaming condensation on the window without the secondary glazing and the slight misting which appears on the window with CosyGlazing does not bear comparison.

With respect to reducing heat loss, I have no doubt that the windows are more thermally efficient but I cannot substantiate the manufacturer's claim that heat loss can be reduced by 70%. Recent research by Historic England and Historic Environment Scotland revealed that secondary glazing, using low emissivity (low-E) glass, could reduce heat loss by 60%. Laboratory testing would be required to confirm the actual reduction in heat loss.

After a test for just 18 months it is not possible to comment on the longevity of the system. However, I doubt that the magnetic strips or the Plexiglass will look as good in 20 years' time. I would expect at least some surface scratching to occur and the bonding between the magnetic strips and the paint/Plexiglass is likely to fail and need replacement at some stage.

POSITIVES:

- Reduced heat loss.
- Reduced maintenance/decoration requirements because of the vast reduction in condensation.
- The small visual impact of the system when compared to other secondary glazing systems makes it ideally suited to many listed buildings.
- The ease and speed of installation.
- Ease of removal for cleaning and storage during the summer months.
- The reversibility of the system and the fact that in most cases it requires no permanent alteration to the existing window frames.
- Cost when compared to some other secondary double glazing systems or primary double glazing.
- Depending on where it is fitted on the existing window, it can substantially reduce air seepage through ill-fitting or draughty casements or sashes.

NEGATIVES:

- The acrylic sheet is easily scuffed but Mitchell & Dickinson offer advice on how to remove minor scuff marks, and they claim that in normal use, the CosyGlazing does not get damaged.
- Magnetic strips are only supplied in black and white making them more visible on coloured window frames. However, Mitchell & Dickinson do offer a version with a very fine wooden frame that can be pre-painted in any custom colour to match the window finish, at a slightly higher cost. The thin edge of the magnetic strips is always black which draws attention to them when used on white painted window frames or when the Plexiglass sheet is removed, such as during the summer.
- Installation on opening casement windows often requires the window latch to be replaced which may present a problem if the ironmongery is antique, although Mitchell & Dickinson do offer a specialist service to modify existing ironmongery if required.
- Availability is currently restricted to the south of England.

ON BALANCE:

CosyGlazing secondary double glazing is one of the simplest systems on the market. It is its simplicity which makes it so well suited to the listed building market. Its low visual and physical impact on historic window frames makes it one of the best double glazing systems for use on listed buildings. Even if the reduction in heat loss does not live up to the manufacturer's claims there is little doubt that condensation and heat loss will be noticeably reduced, heating costs will reduce and the house will be more environmentally efficient.

Peter Bell
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