

Ahead of the curve

FOLLOWING RECENT BREAKTHROUGHS IN CURVED TOUGHENED GLASS, SPECIFIERS CAN SELECT AESTHETICALLY PLEASING CURVED SOLUTIONS THAT COMPLY FULLY WITH SAFETY AND CLEANING REGULATIONS.

The aesthetic and safety properties of curved toughened glass has always attracted forward-thinking designers and architects – so much so that it has become a standard building material in many areas of modern building. Internal applications include shower enclosures, refrigeration unit doors and cooker hoods. Curved glass also has several exterior applications, and is commonly found in balustrades, IG-units and sunroofs. This boost in popularity has resulted in a general reassessment of standards for associated measurement and test procedures in the USA, Japan and Europe. In the UK, for example, the Glass and Glazing Federation is introducing a new standard later this year.

There are also a number of new mouldless bending systems, including flexible, computer-controlled technology, which allows glass of high optical quality, with no tong marks and low tolerances, to be manufactured cheaply. This technology allows users to bend glass up to 19mm thick, with a radius as small as 150mm.

A good combination

New coated glass products offer added-value functionalities to the winning combination of attractive design and safety, and have opened up new markets for curved toughened glass. Following a six-month intensive development programme in collaboration with the

Pilkington European Technical Centre, Toughglass has successfully developed techniques to bend and toughen Pilkington Activ™ self-cleaning glass. Pilkington Activ is effectively the same as conventional glass, but with a specially developed coating on the outside, which has a dual action to keep the surface clean.

Once exposed to UV light, the coating chemically reacts in two ways: it first breaks down any organic dirt deposits, and then rainwater sheets down the glass to wash the loosened dirt away. It is critical that the coating is not damaged during the bending and toughening process, so that the depth-of-bend and the toughening process do not alter the self-cleaning properties of the glass. It can be bent with the coating either in a convex or a concave configuration.

In the UK, the increased specification of Pilkington Activ in commercial projects has led to questions about its use with regard to regulations on the safe cleaning of windows. The newly revised BS 8213-Part 1 recommends the use of self-cleaning glass when 'it is not possible to provide windows that can be safely cleaned on both sides from within the building'. A similar modification is being considered for the Building Regulation, Part N, which is due for implementation in 2006.

It is now possible to combine the

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aesthetic and safety benefits of curved toughened glass with the energy-saving and self-cleaning properties of low-E glasses such as Pilkington K Glass in a single double-glaze unit. New applications, driven by building regulations, include conservatories, patios, facades and greenhouses. ▣

Company profile
Toughglass Ltd is an ISO-9002-certified European leader in the manufacturing of curved toughened glass for exterior and interior building applications. The company was founded by Gordon Coulter and John Agnew in 1989, and was the first in Ireland to introduce a flat and bent toughening plant. The company grew by 500 per cent in its first decade and invested in its first bending furnace in 1999. Its MD, John Agnew, is the current chairman of the Glazing Executive within the Glass and Glazing Federation (GGF).

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