

UK Technical Bulletin

Fragmentation of toughened glass

The fracture characteristics of thermally toughened soda lime silicate safety glass are directly related to the amount of surface compression. In the event of breakage, thermally toughened soda lime silicate safety glass manufactured with the correct degree of surface compression would be expected to break into numerous small pieces, the edges of which are generally blunt.

The fragmentation properties of thermally toughened soda lime silicate safety glass are assessed by verifying its fracture characteristics under defined conditions in accordance with BS EN 12150 (e.g. minimum particle count, unrestrained test samples, etc.). These assessments are undertaken as part of the Type Testing performed by an independent Notified or Approved Body and on-going Factory Production Control by the manufacturer.

Fragmentation in service may not always correspond to that determined during the assessments in accordance with BS EN 12150 due to the imposition of other stresses (e.g. fixing method, cause of breakage, etc.). So, it is not uncommon to observe differences in fracture patterns in toughened glass when broken in service compared with the formal assessments during testing.

Reference

BS EN 12150-1: *Glass in building – Thermally toughened soda lime silicate safety glass - Part 1: Definition and description*

BS EN 12150-2: *Glass in building – Thermally toughened soda lime silicate safety glass - Part 2: Evaluation of conformity / Product standard*