

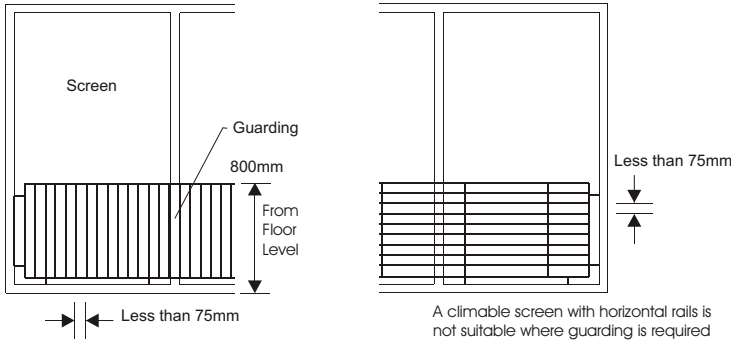
Imagine you have installed a window or screen. The Local Authority Inspector arrives and questions whether the façade complies with Building Regulations and Approved Documents regarding accidental and imposed loadings. Your initial thoughts are “I think so”, then “I’m not sure”. Within this Newsletter you will find explanations of accidental and imposed loadings, how to calculate them, where the rule is applied, and action needed to satisfy the Local Authority Inspector.

Permanent Screen Protection

It is important to remember, when surveying and designing the required screen layout it must be compliant with the relevant regulations and standards. Applications where full height glazing occurs, such as stairwells, shop fronts or entrance screens, are susceptible to accidental loadings. They are more likely to require additional information with regard to loadings and strength requirement.

For example, a glazed stairwell in a school will require safety glass in case pupils fall against the screen. It may also require an independent balustrade (sometimes specified as “containment”) on the internal faces where the floor levels of each stair landing occur. This prevents pupils leaning / falling against the screen from the inside and putting unnecessary loading onto the mullions and glass.

The same rule may also be applied to the external face. The balustrade or screen would need to meet loading requirements laid down in British Standards and Building Regulations.



A climbable screen with horizontal rails is unsuitable where guarding is required.

BS 6399 - 1 Code of practice for dead and imposed loads

Glass loading strengths may be obtained from either the glass manufacturer or a structural engineer

In some instances the Local Authority Inspector may request written proof that the mullions are of adequate strength to withstand a specific loading. Specific loading may be found in the BS6399-1 Code of Practice for dead and imposed loads Document. When written proof is needed, then a structural engineer will be required to calculate the actual strength (kN/m) of the individual mullion. Consideration would have to be given to mullion spacing, mullion length, reinforcement type, glass type, and window size. All these considerations must be clearly defined at the initial survey stage, prior to manufacture or installation. If the screen’s calculated strength does not achieve the required specific loading figure, the Local Authority Inspector may resort to a number of options: a balustrade / barrier option; retro fit strengthening bars to the mullions or, as a last resort, instruct removal of the windows and a redesign of the façade. If in doubt, your Local Authority are able to advise.



Typical stairwell at a school, note the balustrade / barrier on the internal face

Building Regulations - Part N

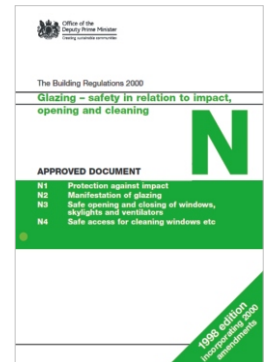
Approved Document N - Part N1 - Glazing Protection Against Impact

Outlines areas where locations may be considered “critical” in terms of safety, (e.g. a person falling against a screen / window / door).

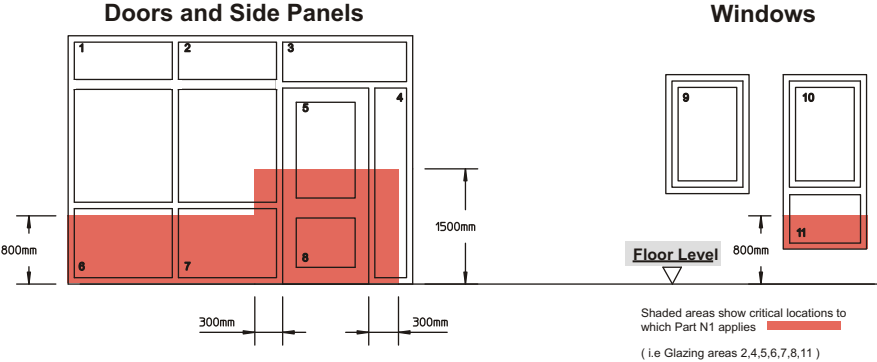
At the initial survey / design stage the surveyor should, where appropriate, advise on requirements of safety glass and positioning, in accordance with Building Regulations

Where people are likely to come into contact with glass whilst moving into or about a building, the glazing shall:

- If broken on impact, break in a way which is unlikely to cause injury, or
- Resist impact without breaking, or
- Be shielded or protected from impact (i.e barrier, balustrade)



Critical Locations in Internal and External Walls - Part N1



Awareness of the Regulations

This Newsletter offers an insight into the Regulations when considering loadings and strength requirement of screens. Architects and Local Authorities are aware of the requirements and may request sight of such information at any stage of a project. Alternatively the loadings and strength requirement may be written into a specification, needing documental proof.

REMINDER: IMPLEMENTATION OF BS EN 14351 IS FAST APPROACHING