Code Section

FBCR 4501.17.1.2

The barrier may not have any gaps, openings, indentations, protrusions, or structural components that could allow a young child to crawl under, **squeeze through**, or climb over the barrier as herein described below. One end of a removable child barrier shall not be removable without the aid of tools. Openings in any barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

FBCR 4501.4.2

For any items not specifically covered in these requirements, the administrative authority is hereby authorized to require that all equipment, materials, methods of construction and design features shall be proven to function adequately, effectively and without excessive maintenance and operational difficulties.

FBCR 4501.4.3

It shall be the responsibility of the applicant to provide such data, tests or other adequate proof that the device, material or product will satisfactorily perform the function for which it is intended, before such item shall be approved or accepted for tests.

FBC 1607.8.1.2 Intermediate rails.

Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to resist a concentrated load of 50 pounds in accordance with Section 4.5.1 of ASCE 7.

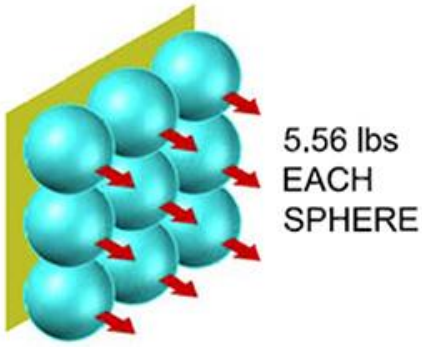
ASCE 7 Section 4.5.1

Intermediate rails (all those except the handrail), and panel fillers shall be designed to withstand a horizontally applied normal load of 50 lb (0.22 kN) on an area not to exceed 12 in. by 12 in. (305 mm by 305 mm) including openings and space between rails and located so as to produce the maximum load effects. Reactions due to this loading are not required to be superimposed with the loads specified in either preceding paragraph.

Requirement

The design of the infill pickets of the barrier panel must not allow the young child to squeeze through. A picket design that complies with the 4-inch sphere rule may not comply with the squeeze through criteria. If the pickets can be spread apart where a child will be allowed to squeeze through, that design will not be approved. The infill design must be rigid enough to resist the ability to spread and allow a young child to squeeze through. What is rigid? What is the squeeze load to be applied? Both volumes of the code, the FBC and FBCR indicate 50 lbs PSF as being compliant for guard infill system designs that address fall protection. Using this as just a reference, the load will then not need to be greater than this.

The engineering logic for the force applied to a single 4” sphere is based on the relationship of (9) 4-in diameter spheres fitting within one square foot (area not to exceed 12 in. by 12 in.). Therefore, dividing the 50 lbs PSF by 9 results in a load value of 5.56 lbs per sphere.



The barrier is a safeguard and should be treated as such. The barrier is required to resist a young child from squeezing through. The product and design will be inspected for compliance in the field. We have come across products and designs that have been questionable. That is the reason for this notice. The applicant is responsible for a compliant product and design; by way of this notice, we are trying to avoid disapproving a product or design at time of Final inspection. If you have any questions please feel free to contact the Building Official.