

2. In Group I-3, F, H and S occupancies, for areas that are not accessible to the general public and that have an *occupant load* less than 50, the minimum load shall be 20 pounds per foot (0.29 kN/m).

1607.7.1.1 Concentrated load. Handrails and *guards* shall be able to resist a single concentrated load of 200 pounds (0.89 kN), applied in any direction at any point along the top, and to transfer this load through the supports to the structure. This load need not be assumed to act concurrently with the loads specified in Section 1607.7.1.

1607.7.1.2 Components. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds (0.22 kN) on an area equal to 1 square foot (0.0929 m²), including openings and space between rails. Reactions due to this loading are not required to be superimposed with those of Section 1607.7.1 or 1607.7.1.1.

1607.7.2 Grab bars, shower seats and dressing room bench seats. Grab bars, shower seats and dressing room bench seat systems shall be designed to resist a single concentrated load of 250 pounds (1.11 kN) applied in any direction at any point.

1607.7.3 Vehicle barrier systems. Vehicle barrier systems for passenger vehicles shall be designed to resist a single load of 6,000 pounds (26.70 kN) applied horizontally in any direction to the barrier system and shall have anchorage or attachment capable of transmitting this load to the structure. For design of the system, two loading conditions shall be analyzed. The first condition shall apply the load at a height of 1 foot, 6 inches (457 mm) above the floor or ramp surface. The second loading condition shall apply the load at 2 feet, 3 inches (686 mm) above the floor or ramp surface. The more severe load condition shall govern the design of the barrier restraint system. The load shall be assumed to act on an area not to exceed 1 square foot (0.0929 m²), and is not required to be assumed to act concurrently with any handrail or *guard* loadings specified in Section 1607.7.1. Garages accommodating trucks and buses shall be designed in accordance with an *approved* method that contains provisions for traffic railings.

1607.8 Impact loads. The live loads specified in Section 1607.3 include allowance for impact conditions. Provisions shall be made in the structural design for uses and loads that involve unusual vibration and impact forces.

1607.8.1 Elevators. Elevator loads shall be increased by 100 percent for impact and the structural supports shall be designed within the limits of deflection prescribed by ASME A17.1.

1607.8.2 Machinery. For the purpose of design, the weight of machinery and moving loads shall be increased as follows to allow for impact: (1) elevator machinery, 100 percent; (2) light machinery, shaft- or motor-driven, 20 percent; (3) reciprocating machinery or power-driven units, 50 percent; (4) hangers for floors or balconies, 33 percent. Percentages shall be increased where specified by the manufacturer.