

6.5 Clearance

6.5.1 Travel-restraint systems

In travel-restraint systems, consideration of clearance is not required.

6.5.2 Fall-arrest systems

In fall-arrest systems, the required clearance, calculated in accordance with Clause 8.2, shall be less than or equal to the available clearance for the system.

For the purposes of clearance calculations, the applied loadings from energy absorbers shall, as indicated in Clauses 7.3.3.2, 7.3.4.2, and 7.3.6.3, be applicable.

6.6 Stability of free-standing systems

6.6.1 General

Free-standing systems may only be used on surfaces with a downward slope of less than 5° toward any side or opening where a worker could fall. Ballast materials, providing mass for the counterbalance or sliding resistance, shall be rigid and positively connected to the fall-arrest structure. Liquids, sand, gravel, or other spillable materials shall not be used as ballast.

* 6.6.2 Overturning of counterbalanced systems

Where an active fall-protection system is free-standing or counterbalanced and is not anchored to a solid support, the system shall have a factor of safety against overturning to resist the worst-case combination of fall-arrest loading and configuration of the system as follows:

- (a) not less than 4.0;
- (b) not less than 2.0 where the design makes it impossible to change the counterbalance mass or move the fulcrum point; or
- (c) not less than 1.5 where
 - (i) the design makes it impossible to change the counterbalance mass or move the fulcrum point; and
 - (ii) there is a minimum 4.0 factor of safety when the energy required to bring the system to incipient tipping is compared to the total energy generated by the worst-case fall(s) that could occur.

6.6.3 Sliding of ballasted systems

Where an active fall-protection system relies on friction between a ballasted anchor and its supporting surface, instead of being anchored to a solid support, the ballasted anchor shall have a factor of safety against sliding of not less than 3.0 to resist the worst-case combination of fall-arrest loading and configuration of the system.

The following requirements shall also apply:

- (a) the coefficient of kinetic friction used in calculating the resistance to sliding shall be determined by field testing in the direction(s) of potential loading at the site where the ballasted anchor will be used and shall simulate the worst-case weather conditions that may affect the coefficient of friction; and
- (b) unless any applicable stops or parapet walls are analyzed or tested to prove that they are strong enough to prevent the ballasted anchor from sliding to an edge and falling, the ballasted anchor shall be installed a minimum of 2.5 m from any edge of the surface it might fall from if it were to slide while resisting the fall-arrest loading.

7 Fall-protection system loads and forces

7.1 General

The force, A , applied to an active fall-protection system to stop or prevent falls shall be determined in accordance with Clauses 7.2 and 7.3.