

G11.6-2 *Anchor selection and use*

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Section 11.6 of the *OHS Regulation* states:

- 11.6 (1) In a temporary fall restraint system, an anchor for a personal fall protection system must have an ultimate load capacity in any direction in which a load may be applied of at least
- (a) 3.5 kN (800 lbs), or
 - (b) four times the weight of the worker to be connected to the system.
- (2) Each personal fall protection system that is connected to an anchor must be secured to an independent point of anchorage.
- (3) In a temporary fall arrest system, an anchor for a personal fall protection system must have an ultimate load capacity in any direction required to resist a fall of at least
- (a) 22 kN (5 000 lbs), or
 - (b) two times the maximum arrest force.
- (4) A permanent anchor for a personal fall protection system must have an ultimate load capacity in any direction required to resist a fall of at least 22 kN (5 000 lbs).

The following are guidelines for good practice with respect to anchor design, layout selection, and use:

- A permanent anchor should be made of stainless steel, hot dipped galvanized steel, or other corrosion-resistant material having similar structural properties.
- An anchor should be located so a lifeline attached to it is not deflected over a guardrail or other part of the structure which has insufficient strength to support the maximum potential load from a fall arrest. Note also OHS Guideline G11.5-7 on protecting the line from abrasion.
- An anchor in concrete should be cast in place or through-bolted with a backing plate for adequate load distribution.
- An anchor mounted on concrete with drilled in fasteners (expansion or adhesive type) should use a group of at least three fasteners supporting an anchor plate, sized and arranged so that if any one fastener in the group is assumed to be carrying no load, the remaining fasteners will have a design capacity to carry the full design load of the anchor.
- An anchor should be located on a line perpendicular to the building edge at the drop location to eliminate the swing fall hazard. Where this is not practicable, an anchor may be offset so the angle between the line perpendicular to the building edge at the drop location and the suspension line or lifeline is no greater than 22 degrees. The distance from the perpendicular line to the anchor should be less than 3 metres (10 feet), as shown in Figure 1 below. As an alternative, the line may be deflected using a Prusik sling, provided the sling is made and used as outlined in OHS Guideline G11.5-4.
- A temporary anchor for fall arrest may be established by wrapping a wire or synthetic fibre rope around the base of a rooftop penthouse. If the rope is installed so the sling angle at the point of attachment is not in excess of 120

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degrees, rope with a rated breaking strength at least equal to that of the lifeline may be used. This is illustrated in Figure 2 below. If the sling angle is in excess of 120 degrees, wire rope of sufficient strength to provide an anchor capability, for the installed sling angle, of at least 22 kN (5,000 pounds), should be used. Only one fall arrest lifeline may be attached to each such independent rope wrap.

- If a lifeline is anchored to a parapet clamp on the parapet on the far side of the roof from the drop location, it may not be practicable to tie back the parapet clamp as required by section 13.10. In such cases, the lifeline may be secured to a second anchor using a Prusik sling.

A fall protection anchor that is acceptable is designed, installed, and maintained in accordance with the applicable requirements of *CAN/CSA Z271-98, Safety Code for Suspended Elevating Platforms* and *CSA Z91-02, Health and Safety Code for Suspended Equipment Operations*. Please refer to *WCB Standard WPL2, Design, Construction and Use of Crane Supported Work Platforms, 2004*, for standards on design of lifeline anchors for personal fall protection systems for workers on platforms suspended from a crane or attached to a crane boom.

Figure 1 (Plan View)

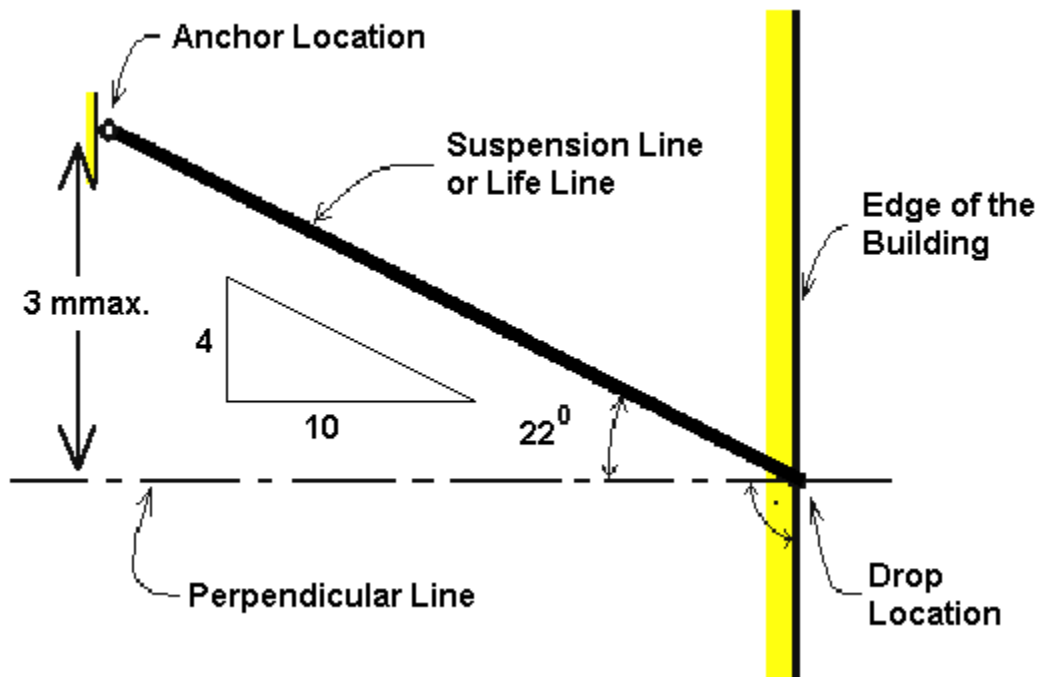


Figure 2 (Plan View)

