

Latest References for Ladders

Code of Practice

Prevention of Falls at Workplaces

Fixed Ladders

Ladder and tower safety systems should be installed on fixed ladders (for example, rung ladders).

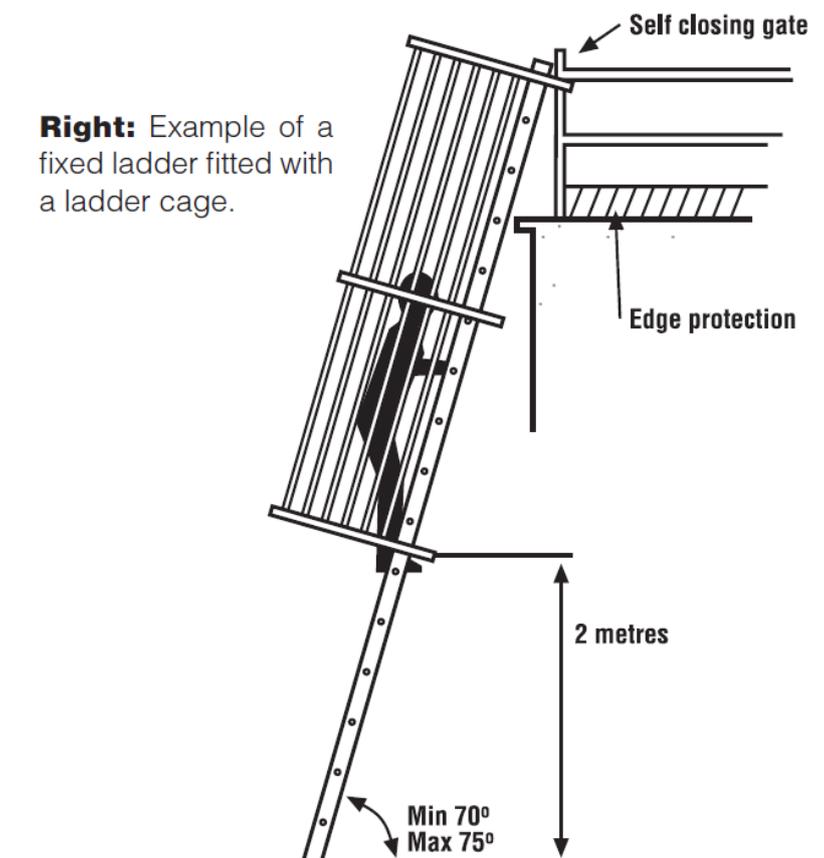
The ladder cages in fixed ladders have been shown not to stop a fall but simply funnel a fall and, in some cases, more injuries can occur from striking the protective backguards on the way down and the cages may also hinder rescues. Therefore, fixed ladders with angles exceeding 75° to the horizontal should be fitted with a permanent or temporary fall-arrest system.

The ladder cages may also increase the risk of falling by giving the climber a false sense of security.

In areas where fixed ladders are installed, they should be in accordance with Australian Standard, AS 1657 Fixed Platforms, Walkways, Stairways and Ladders - Design, Construction and Installation.

The angle of slope should not be less than 70° to the horizontal and not greater than 75° to the horizontal. In no case should the ladder overhang the person climbing the ladder. If the angle is more than 75°, a safe system of work to prevent falls should be provided such as a permanent fall-arrest system or a double lanyard harness.

A specifically designed rescue procedure should be developed for use in ladder cage situations, in consultation with the safety and health representative, if any, and employees. Training in the rescue procedures should occur prior to the use of the fixed ladder.



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Australian Standards 1657:2013

Fixed Platforms, Walkways, Stairways and Ladders

7.4.3 - Rungs

7.4.3.1 General

The surface of rungs shall be slip resistant (e.g. corrugated, serrated, knurled, dimpled or coated with a slip-resistant material).

Rungs shall be securely connected to the stiles and shall not rotate.

7.4.3.2 Spacing of rungs

Rungs shall be spaced as follows:

(a) For ladders having a length greater than 1 m, a rung spacing of not less than 250 mm, or greater than 300 mm.

(b) For ladders having a length less than or equal to 1 m, rungs shall be evenly spaced but not greater than 300 mm apart.

The allowable variation to rung spacing shall be in accordance with Clauses 7.4.3.3 and 7.4.3.4. The spacing of all other rungs and the dimensions of all rungs in the same ladder shall be uniform and within a tolerance of ± 5 mm or better.

7.4.3.3 Variation of top rung/tread spacing

The top rung/tread shall be level with the top landing, as shown in Figure 7.5.

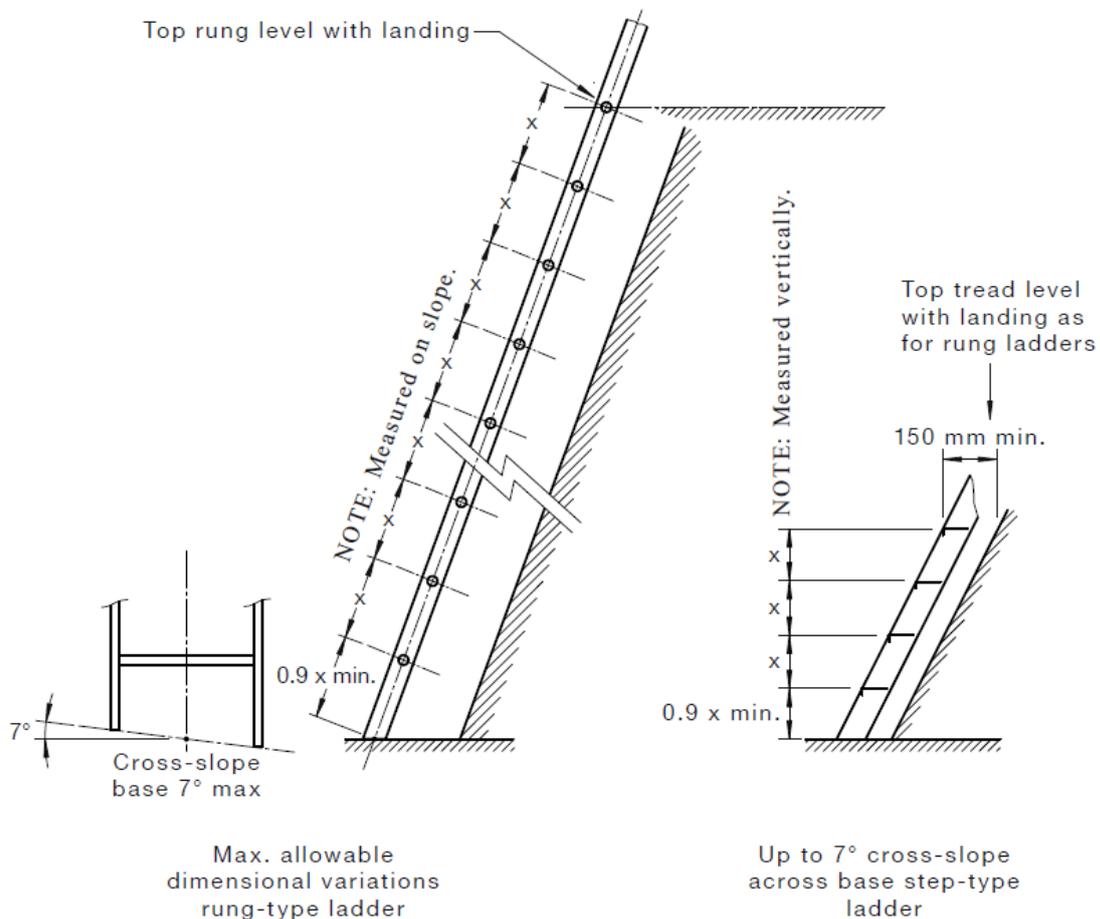


FIGURE 7.5 VARIATION OF RUNG/TREAD SPACING

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7.4.3.4 Variation of bottom rung/tread spacing

The distance between the bottom rung/tread and the bottom landing shall be not less than 90% and not greater than 100% of the rung/tread spacing (see Figure 7.5).

NOTES:

- 1 This distance should be measured at the ladder centre-line where the landing has a cross-slope (see Figure 7.5).
- 2 Where possible, the distance between the landing and the first rung/tread should be equal to the rung/tread spacing.

7.4.8 Extension above landings

7.4.8.1 Step-through ladders

Where it is necessary for a person to step through a ladder, the stiles shall extend not less than 1000 mm above the top landing.

The width between the extended stiles at the top shall be not less than 525 mm but not greater than 675 mm.

NOTE: For typical stiles for step-through ladder, see Figure 7.9.

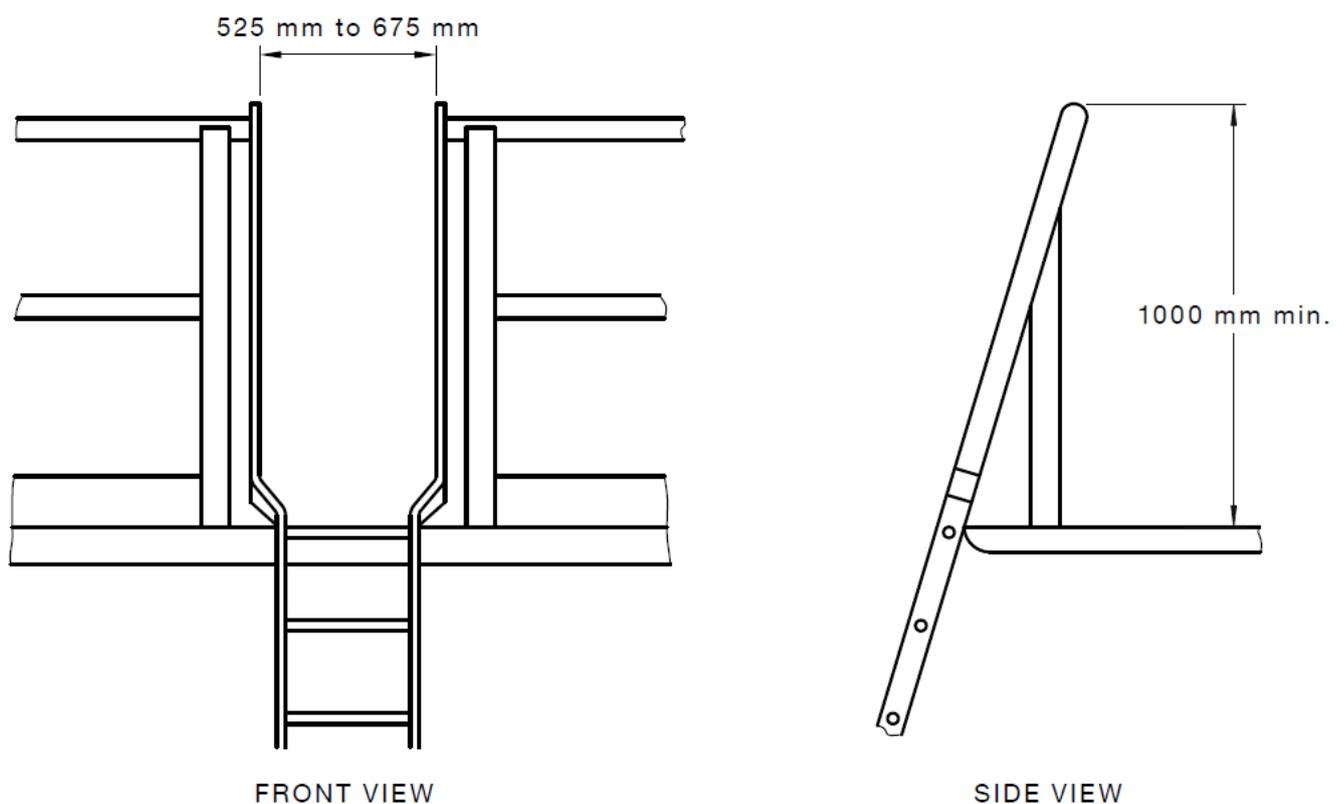


FIGURE 7.9 TYPICAL STILES FOR STEP-THROUGH LADDERS

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7.4.8.4 Ladder landing

The angle of the slope of the top landing shall not exceed 3° in any direction.

NOTE: For the cross-slope of bottom landings, see Clause 7.4.3.5.

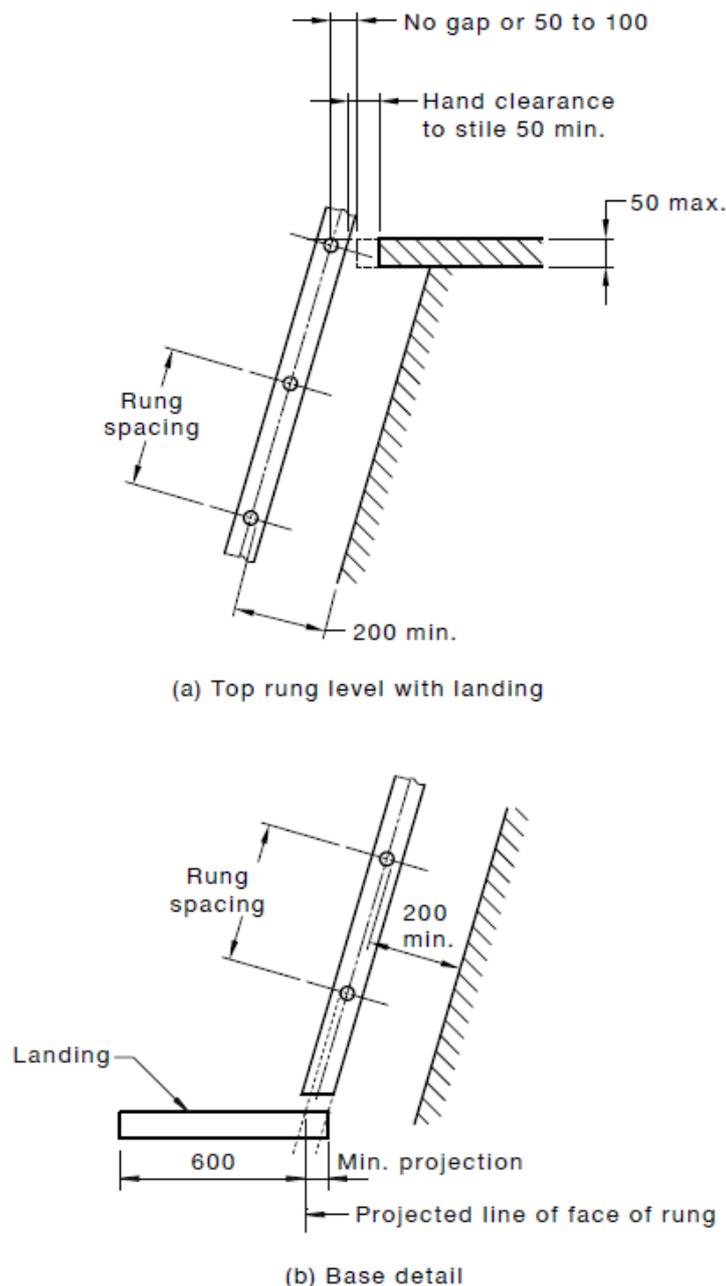
The foot of the ladder shall rest on, or terminate above, the landing.

NOTE: For the required dimensions of landings, see Clause 7.3.6.

Where the ladder provides access to a landing, the landing shall be level with the top rung. The landing shall extend to the top rung, or there shall be a gap of not less than 50 mm and not greater than 100 mm between the top rung and the landing.

NOTE: See Figure 7.11(a).

Ladder landings shall extend forward to at least the projected line of the rear of the stile. NOTE: See Figure 7.11(b).



DIMENSIONS IN MILLIMETRES

FIGURE 7.11 TYPICAL GAP BETWEEN LANDING AND LADDER

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7.4.8.5 Handrails

Handrails mounted on stile extensions and projecting towards the user shall not be used (see Note 1).

Handrails mounted on stile extensions and projecting away from the user may be used as an aid to access.

NOTES:

- 1 This requirement is to discourage users from moving their centre of gravity further away from the rungs by gripping the handrails.
- 2 Guidance on handrails projecting from stile extensions is given in Appendix I (Image below from Appendix I).

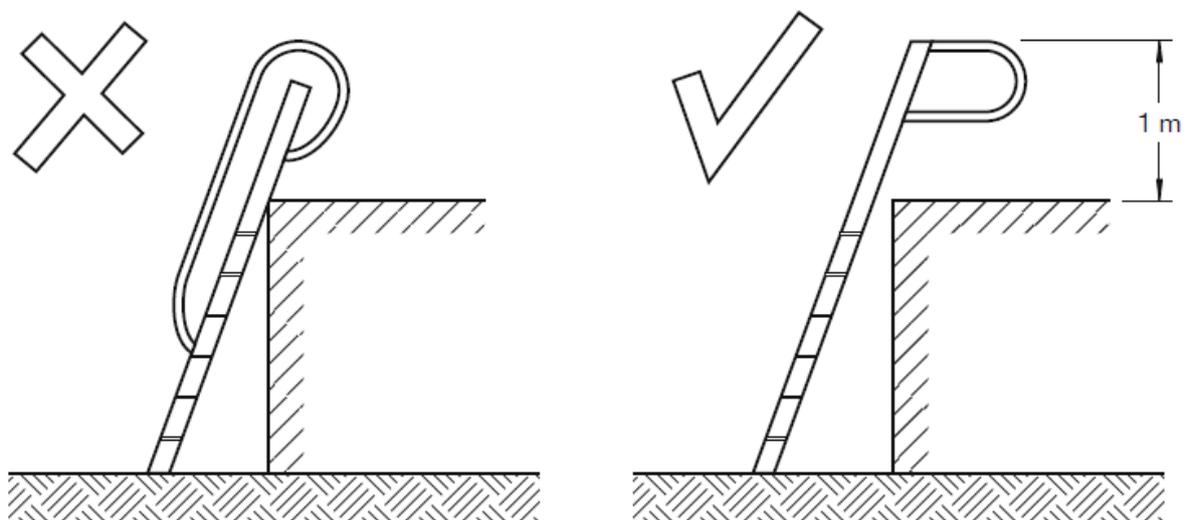


FIGURE 14 HANDRAIL DETAIL AT TOP OF INCLINED LADDER