SpanSet®

Height Safety
Lifting
Load Control
Safety Management

PUBLIC EDUCATION SERIES

Fall Distance
What Do I Need To Know?

An often overlooked hazard is that of fall clearances. You must ensure there is sufficient distance beneath the user to ensure they do not hit a lower level, or the ground, before the fall arrest system is fully deployed. The illustration here shows the necessary fall clearance is 6.55 metres when using a 2 metre shock absorbing lanyard. Other equipment will have different clearance requirements. Refer to AS/NZ1891.4 for further information.

Fall Clearance Calculations for Shock Absorbing Lanyards

Factors that must be taken into consideration include:

- Position of anchor: the higher the anchor, the safer you are!
- Length of lanyard. eg 2m shock absorbing lanyard. If using a SpanSet retracting lanyard or inertia reel, simply allow 2m and 1.75m clearance respectively, below the feet whilst working
- Extension of shock absorber. When the anchor is above your head, and the fall is reduced to less than 1m, allow 1m for the shock absorber extension. In falls greater than 1m, allow the full extension of the shock absorber. This varies from manufacturer to manufacturer, with a maximum of 1.75m
- Height of user. The distance from the harness connection point to the ground. This may be up to 2m if connected to an extension strap
- Residual safety factor of 1m. This allows for stretch in the harness and lanyard
- If attached to a horizontal lifeline, allow for the deflection of the cable in the event of a fall – this may increase the fall distance by 2-3m. Check the manufacturer's guidelines.

Remember: Low Lanyard = High Fall Factor = High Impact Force!

For example: If using a 2 metre (m) lanyard fitted with a shock absorber, the minimum clearance from anchor to the next surface (ground, lower floor, etc) should be a minimum of 6.55m.

Fall Clearance Allowances†

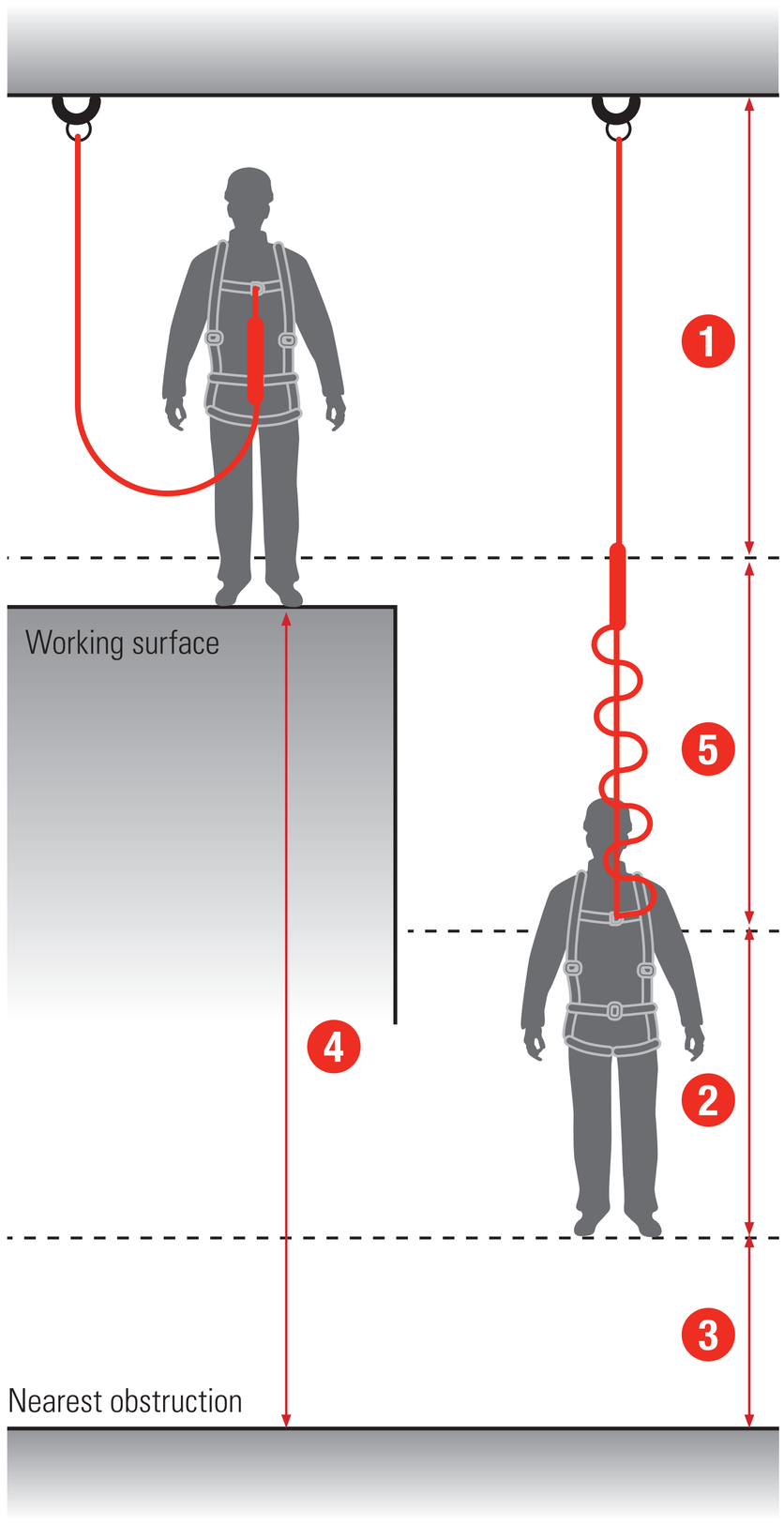
1	Length of lanyard	= 1800mm
2	Height of operator (eg)	= 1800mm
3	Residual clearance (eg)	= 1000mm
	Sub-Total	= 4600mm **+ the following values**

4 Fall Distance	5 Energy Absorber Extension
600mm	+300mm
1000mm	+500mm
1500mm	+600mm
2000mm	+900mm

† Calculated from the start position of the lanyard

1. Length of lanyard (maximum 2m)
2. Height of person to attachment 1.8m
3. Residual clearance to the ground/lower floor
4. Distance to next surface
5. Extension of shock absorber (maximum 1.75m)

Maximum Allowable Free Fall



If you do not understand free fall distances you need training!

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