Facts about safety nets

GROWING AWARENESS ABOUT IMPROVING SITE SAFETY HAS SEEN A SIGNIFICANT INCREASE IN THE USE OF SAFETY NETS ON BUILDING SITES. HERE ARE A FEW THINGS TO CONSIDER WHEN SELECTING AND INSTALLING NETS.

SAFETY NETS are installed below elevated work areas to reduce the distance a worker can fall. They are designed to progressively deflect or stretch – if a fall occurs, the net absorbs the impact and provides a soft landing, reducing the likelihood of injury (see Figure 1).

The greater the height from which a person falls, the greater the impact. Nets must be able to deflect enough to absorb all the energy from a fall at the maximum fall height they are designed for.

Clearance distance below the net

The clearance distance is the distance below the net that must be clear of objects so that a person falling does not strike an obstacle or the ground while the net is deflecting.

Standards covering safety nets

There are currently no New Zealand standards covering safety nets. WorkSafe New Zealand has published Best practice guidelines: Safe use of safety nets. This is available online and references the British/European Standard, BS EN 1263 Parts 1 and 2.

Safety components, and installation of nets should comply with BS EN 1263 or equivalent.

Knotted vs knotless nets

Safety nets may be knotted or knotless in either a square (Q) or diamond (D) mesh arrangement. Knotted and knotless nets react somewhat differently under impact.

When a load lands on a knotted net, the knots tighten near the impact. The tightening is permanent and reduces the amount of energy the net can absorb in future impacts. Knotless nets do not lose absorption capacity following an impact and they also tend to result in fewer facial or graze injuries when a person falls into them.

Safety net classification

BS EN 1263 classifies nets in two ways (see Table 1):

- the maximum energy absorption capacity – how much energy a net can absorb, measured in kilojoules (kJ) – class A nets capacity is 2.3 kJ and class B nets is 4.4 kJ
- the mesh size measured in millimetres – class 1 mesh size is 60 mm and class 2 is 100 mm.

Safety net components

Safety nets consist of different types of ropes, including:

- mesh ropes – a minimum of three separate strands of rope braided in such a way that they cannot unravel
- border ropes – a continuous rope that is threaded through each mesh around the perimeter of the safety net
- tie ropes – fasten the safety nets to structural elements and/or anchor points on a structure
- coupling ropes – join nets together when more than one net is needed to protect an area (see Figure 1).
Labels are a must

All safety nets must have a permanently-attached label with information about the net, including:
- the manufacturer’s name and code
- date of manufacture
- the class
- mesh size
- configuration
- energy absorption capacity of the net
- a unique identity or serial number (ID).

If there is no label attached to a net or the label is not legible, the safety net must not be used.

Removable test mesh

Every safety net must be tested for UV deterioration at least once every 12 months. New safety nets should be supplied with at least three test meshes that are loosely woven into the net and can be removed one at a time for testing.

Each test mesh must have the same ID number, be made from the same material, and be produced in the same batch as the net to which it is attached.

A label showing that the net has been tested in the past 12 months and that it meets the manufacturer’s minimum energy absorption capacity must be displayed on every safety net. The test label is valid for 12 months and must not expire while a net is installed.

Installing safety nets

Safety nets may be attached either with tie ropes or karabiners to structural elements such as trusses, rafters and top plates, or to specifically designed anchor points on the structure being netted. They must not be attached to purlins, battens or non-structural components such as gutter supports, pipework or electrical service installations.

The recommended maximum spacing between fixing locations is 1.5–2 m. Fixing locations and anchor points to which safety nets are fastened must not have sharp edges that could damage or cause abrasions to any of the ropes.

Nets must be easily accessible to carry out a rescue and to remove debris. They must not be used for storage, as a work platform, or for providing access to a work platform.

Installer must be qualified

Only an appropriately qualified person should install safety nets. They need a fall arrest safety equipment training (FASET) certification – the only recognised qualification for safety net installation.

Rescue plan needed

Before any work begins above safety nets, ensure there is a rescue plan detailing the procedure that will be followed if someone falls into a net.

Any equipment required to carry out a rescue must be on site and available at all times. All workers on the site must know what the rescue plan is and their role in a rescue. If possible,
when the net is installed
installer

Daily before use
User

Weekly
Site supervisor

After adverse weather
Site supervisor

Table 2
FREQUENCY OF SAFETY NET INSPECTIONS

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