5.5.1 General requirements

a) Guarding must:

- be of solid construction and securely mounted so as to resist impact or shock;
- prevent by-passing or disabling of the guard;
- not create a risk in itself (for example it must not obstruct operator visibility, weaken the plant, cause discomfort to operators or introduce new hazards such as pinch points, rough or sharp edges);
- control any risk from potential broken or ejected parts and workpieces;
- allow for servicing, maintenance and repair to be undertaken with relative ease; and
- if guarding is removed the plant cannot be restarted unless the guarding is replaced.

4.4 Responsibilities

Designer of Plant	It is the responsibility of designers of plant to: • identify hazards associated with plant; • assess the risks; • reduce the risks by selecting and implementing appropriate control measures in the design of plant, including guarding and other safeguards; • select commercially available guarding systems that comply with this standard and the applicable Australian Standards for incorporating in the design of new or modified plant; • design fit for purpose guards and safeguards that comply with this standard and the applicable Australian Standards for use in new of modified plant; • supply design information to the plant manufacturer and plant owner as prescribed in Work Health & Safety Regulation [NSW] 2017, clauses 187, 188, 189, 228, 229, and 230.
Manufacturer of Plant	It is the responsibility of manufacturers of plant to: • comply with obligations of the manufacturer as prescribed in Work Health & Safety Regulation [NSW] 2017, clauses 193, 194 and 195. • fabricate, assemble, inspect, and test machine guards and safeguards in accordance with the designers instructions; • seek clarification and approval from the designer for any substitution or modification of the design; and, • advise the designer if there are hazards that are not addressed by the selected safeguards, unidentified hazards that require safeguarding, new hazards that introduced by the guards/safeguards themselves, or the guards do not meet the requirements of this standard.
Supplier or Importer of Plant	It is the responsibility of equipment suppliers and importers of plant to: • comply with the obligations of importer and/or supplier as prescribed in Work Health & Safety Regulation [NSW] 2017, clauses 196, 197, 198, 199, and 200 (as applicable); Note: Where an organisation is both the importer and supplier of plant, obligations for both must be met. • ensure that guards and safeguards comply with this standard; • advise the designer and/or manufacturer of any additional hazards identified.
Installer, constructor and commissioner of plant	It is the responsibility of equipment installers, constructors and commissioners of plant to: • comply with the obligations of importer and/or supplier as prescribed in Work Health & Safety Regulation [NSW] 2017, clauses 201 and 202; • install, construct and commission plant in accordance with the instructions provided by the designer, manufacturer and supplier of the plant; • seek clarification and approval from the supplier for any modification of the guards or safeguards required for installation; and • notify the supplier of any additional hazards identified during installation of the

	guards or safeguards.
Plant Owner	It is the responsibility of the plant owner to: • comply with the obligations of a person with management and control of plant as prescribed in Work Health & Safety Regulation [NSW] 2017, clauses 208 and 209. • ensure guards and safeguards are properly maintained; and, • ensure there are systems in place to assess the condition and effectiveness of guards and safeguarding systems as risk controls.
Operator of plant	It is the responsibility of the operator of plant to: • ensure that guards are inspected and confirmed to be effective before plant is used and then routinely repeated while operating; • ensure all guards and safeguards are secured in place and effective when performing their intended purpose; • not remove guards without proper authorisation, tools and plant isolation; • re-install guards where it is practicable to do so; • install temporary barricades or barriers to prevent personnel access to areas of the plant where guards or safe guards are not in place or not effective; • remove plant from service if guards or safeguards are not in place, are not fit for purpose, and effective barricades cannot be implemented; • identify hazards; and, • inform the plant owner of any hazards that have no control measures, guards that are not effective, guards that are damaged, or guards that are themselves hazardous.
Maintainer of plant	It is the responsibility of maintainers of plant to: • remove and reinstall guards in accordance with OEM instructions; • repair or replace guards and safeguards when required to ensure they remain effective and in good condition; • not modify guards or safeguards without proper authorisation; • not remove guards or safeguards unless plant is isolated in accordance with MAC-STE-STD-105 Standard for Isolation and Restoration of Energy; • always reinstall guards after maintenance; and, • ensure additional controls are implemented if maintenance tasks are performed under exclusive control with guards removed.

Document Reference - MAC-MEC-STD-007

Barricading and Barriers

6.1 General Requirements

Where a risk assessment identifies barricading as a control, the following must be considered;

- Type of barricade required in relation to risk from task being performed
- Location of barricade (considering multiple levels where applicable)
- Length of time barricade is required
- Potential for objects to fall from one level to another and the number of floor levels requiring protection
- Location and proximity of other workers in the area and
- The need for flashing light during hours of darkness
-

Barrier tape or chains should not be left lying on the ground – ideally store them in a bucket or other container when not in use, or hang or pile them neatly where they do not pose a hazard.

Immediately after the hazard has been rectified and there is no further risk to personnel, the barricade or barrier must be removed by the owner.

Unless the barricade is used directly on the hazard to highlight it, both danger and caution barriers must have an information tag / pyramid on the entry points.

6.2 Construction of Barricades and Barriers

Barricade and barrier boundaries must be:

- Far enough away from hazards to ensure personnel outside the demarcated zone are not exposed to the hazard
- Constructed to prevent inadvertent entry and where possible have a clearly defined entry and exit point
- Maintained in good condition via regular inspections by the barricade/barrier owner
- Supported in a manner that prevents the barrier material from excessively sagging.
- Constructed with either danger and caution colour coding and not a combination of both.

6.3 Information Tag

A completed information tag must be attached to each span of the barricade and will detail:

- Nature of the hazard
- Name of person responsible, who shall be the single point of contact, for the barricaded area
- Mobile phone number for the person responsible for the area
- Date the barricading was erected.

6.4 Caution Barrier

Yellow and black plastic tape or chain must be used to barrier minor hazards only (e.g. water leaks, trip and slip areas). Prior to entry into a caution barrier you must read the information tag and seek authorisation from barricade owner to enter. If barricade owner cannot be located complete at a minimum 60 seconds for safety prior to entry and take the appropriate precautions.

You must notify others in the work area of your presence.

6.5 Danger Barrier

Danger barrier (red and white plastic tape, cones or chain with information tag) must be used to barrier hazards that could potentially cause serious injury or a fatality (e.g. lift exclusion zone, drop zones, high pressure water, hazardous chemical leaks or exclusive control activities).

An area demarcated by a danger tape is not to be left unattended for extended periods of time where a potential for a serious injury or fatality exists. In these cases, the hazard should be removed, or a solid barricade is to be installed.

Floor penetrations or open edges (where risk of fall present) created through the removal of flooring or structure must always be barricaded using a solid barricade as per the requirements of Work at Heights MAC-STE-STD-155.

Approval for entry into an area demarcated by a danger barrier must only be given by the person nominated on the information / exclusive control tag / information pyramid (or the second line of contact on the tag if that person is not available) for essential work.

6.6 Barricading of Drop Zone

When setting up a drop zone a danger barrier shall be placed around the entire drop zone area at an appropriate distance determined with due consideration of the potential fall path of any object, this is additional to the work area barricading. See figure 1 for guidance.

No person shall enter this area unless authorised to do so by the person in control of the area.

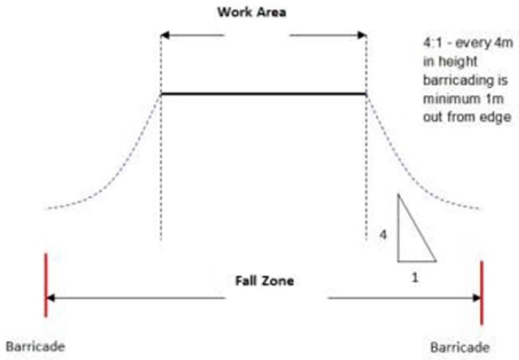


Figure 1: Drop zone guide

6.7 Use of Spotter

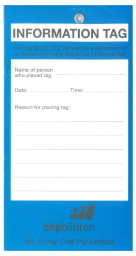
Where determined from the outcomes of a risk assessment it is not practical to erect a barrier around the entire work area (e.g. transporting a load from one side of a build pad to the other / preventing access down a roadway) a spotter may be used to control the area to prevent personnel from entering.

The spotter shall remain on the job until the hazard has been removed or a barrier is put in place.

Note: The spotter cannot be the person in control of the lift.

6.8 Barricading Table

Type	Danger	Exclusive Control	Caution
Use	To restrict entry to an area	Placed on or around plant or equipment where zero energy state cannot be obtained to restrict access	Warns of hazards in the immediate area.
Condition of entry	Authorisation required by barricade owner prior to entry	Authorisation required by the exclusive control officer	Risks must be understood before entering
Barricading as identified in risk assessment	Red and white danger control devices; tape, flags, signs, red/orange cones.	Red and white danger control devices; tape, flags, signs, red/orange cones.	Yellow and black caution control devices; tape, flags signs, yellow cones.
Tape			

Type	Danger	Exclusive Control	Caution
Tag	Blue white information tag 	Blue white information tag 	Blue white information tag 
Witches hat / cones **Optional – Supervisor Identification Collar**			
Information pyramids (Examples). **Used in addition to witches hats / tape where appropriate.**			
			
			
			
			

Type	Danger	Exclusive Control	Caution
			
			
			
			

Document Reference - MAC-STE-STD-124