

SAFETY – ROOF GUARDRAIL SYSTEMS

The following types of systems are acceptable:

- Trim deck roof system
- Clip lock roof system
- Perimeter system
- Parapet system
- Bolt on/bolt down edge protection system
- Clamp on system
- Pole to ground system

All edge protection must have uni-mesh, gridmesh or similar installed to the inside of the rails from the top rail to the working surface. If this cannot be installed to the system, exclusion zones can be approved by the Operations Manager or HSEQ Manager.

What is the sequence of guardrail installation?

- Ensure correct documentation has been obtained from subcontractor/supplier.
- Access stairs to be built if internal access does not lead to the work area.
- Set up exclusion zones at least 3m back from the live edge.
- Develop roof access permit for Crane Operator/Dogman/Supervisor/Subcontract or required to access the roof prior to the edge protection being installed.
- Transport materials to the roof (seek advice from engineer regarding maximum loads and load placement on roof structure).
- Subcontractor to install edge protection to perimeter of the roof (ensure rescue plan is documented and approved prior to commencing works).
- Subcontractor to provide handover certificate for installed system.
- Site Supervisor to inspect the installed system for compliance.
- Approve access to the roof for other subcontractors.

***Note that some roofs may not have full perimeter edge protection installed due to the large size of the roof. Seek approval from the Operations Manager and HSEQ Manager in these scenarios and ensure Roof Access Permit is in place for duration of the works.**

What documentation do I need for the guardrail system?

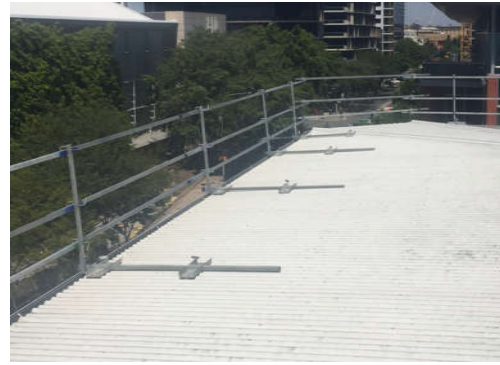
- Engineer's written verification that the system (inclusive of all components) is certified to AS 4994.1. Certification must include a list of drawings assessed as part of the certification process, test reports and photos) see example below
- Manufacturer's specifications including installation instructions. As a minimum, this must include the details about the supporting structure, maximum post spacing and connector details
- Training and competence of workers installing the system. This can be a toolbox training session provided by the supplier/manufacturer of the system.
- SWMS for installation of the system, inclusive of rescue plan.
- Wind rating is documented and approved for mesh attached.
- Handover certificate to verify the system and supporting structure are structurally adequate (e.g. verification by a suitably qualified engineer); and the guardrail system has been installed in accordance with the suppliers instructions

What are the main components of the guardrail system?

- Bottom rail – between 150mm-250mm from the roof surface
- Mid Rail – generally at 450mm
- Top Rail – between 900mm-1100mm
- The gaps can be no greater than 450mm between rails
- Upright posts – manufacturers specifications will detail maximum spacing between posts (e.g., 2.4m or 3m)
- Bracket – the connection point to the structure (manufactures specifications will detail how the bracket is to be secured to the specific supporting structure)
- Connections at rails and corner rails – manufacturers specifications will detail how far the rails can overhang the post and how rails are to be connected at the corners.
- Uni-mesh, gridmesh or similar is to be installed to the inside of the rails. It needs to extend from the top rail to the working surface.



Roof Clamp



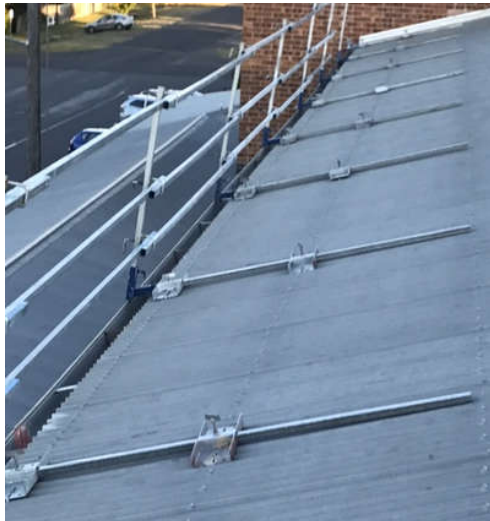
Roof Clamp



Fascia Pole Bracket



Parapet System



Roof Clamp Pitched



Bolt on System

*Note that all edge protection systems require uni-mesh, gridmesh or similar to be installed to the inside of the rails from the top rail to the working surface. If this cannot be installed to the system, exclusion zones can be approved by the Operations Manager or HSEQ Manager.



Dear Sir,

RE:



We, [redacted] Structural Engineers within the meaning of the Building Regulations 2006, hereby confirm that a representative of this office has checked the member sizes for the Edge Protection System shown on photographs attached.

The Edge Protection System structural members have been design-checked in accordance with the requirements of AS4100 – Steel Structures, AS4700 Cold Formed Steel Structures, AS4994.1 Temporary Edge Protection-General Requirements and other relevant Australian Standard Codes.

This system shall be installed in accordance with the specific procedure provided by [redacted] Guardrail using the materials specified below with uprights at maximum 3000 centres and a minimum 3 uprights in each set.

Upright & Backspan
Holder
G Clamp



Backspan Clip

Our representative also supervised the static load test as described in Appendix A of AS4994.1. The system satisfactorily performed within the prescriptive requirements of that test procedure.

We hereby certify that the Edge Protection System as shown will adequately support a static load of 600N outwards, downwards and upwards, being the prescribed actions in AS/NZS 4994.1:2009 - Temporary Edge Protection Part 1.

We trust the above is satisfactory. If we can be of any further assistance do not hesitate to contact the writer direct.

Yours faithfully,



[redacted] BEng CPEng MIE Aust RPEQ [redacted]

Further information on Obligations for Guardrail systems can be found [here https://www.worksafe.qld.gov.au/news-and-events/alerts/workplace-health-and-safety-alerts/2008/obligations-for-guardrail-systems](https://www.worksafe.qld.gov.au/news-and-events/alerts/workplace-health-and-safety-alerts/2008/obligations-for-guardrail-systems)

