

Handbook

Portable soccer goalposts— Manufacture, use and storage

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PREFACE

This Handbook is based on guidelines developed by the Department of Fair Trading, NSW. It was originally launched by the then NSW Minister for Fair Trading and Sport and Recreation, John Watkins MP.

The Minister approached Standards Australia and suggested that these guidelines may have wider application in Australia and the publication of this Handbook could help to spread the message about the safety aspects of portable soccer goalposts.

Following another tragic death in 2003, the current NSW Minister for Fair Trading, Reba Meagher MP, relaunched the Handbook. The new Minister's message is included on the following page.

Minister's Message

This Guideline contains information on the safe manufacture, installation, use, storage and maintenance of indoor and outdoor portable goalposts.

The importance of adherence to this Guideline has been highlighted due to the tragic deaths of young children involved in, or viewing, junior sport in the past few years.

This Guideline aims to lift the safety standards in the use of portable soccer goalposts. Every person and organization involved with junior sport is obligated to provide the highest levels of safety to participants and spectators.

Parents, children, and spectators have every right to expect that the equipment used in junior sport is safe to use.

I strongly urge sporting officials, coaches, clubs, schools, manufacturer's and parents to follow the steps in the Guideline. It could well save a life. One injury suffered by a child is one injury too many.

Junior sport should be fun. Let's work together to keep it a safe and enjoyable experience.

Reba Meagher MP

Minister for Fair Trading

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STANDARDS AUSTRALIA

Australian Handbook

Portable soccer goalposts—Manufacture, use and storage

1 Safety guideline

This Guideline has been developed to provide guidance on the manufacture, installation, use, storage and maintenance of portable soccer goalposts (PSGs).

It is intended for use by soccer officials and players, sports club personnel, school officials, sports equipment manufacturers and purchasers, parents, coaches, council employees and any other person concerned with soccer goal safety.

The aim of the Guideline is to prevent deaths and serious injuries arising from these goals tipping over if weight is suspended from the crossbar, the upright posts are pushed forward, the rear ground bar is lifted, or people climb on the goal netting or framework.

A portable/movable soccer goalpost (as shown in Figure 1), is any free standing soccer goal designed to be moved from field to field, or to different areas on a field, or on and off a field before, during, or after practice or a game. The Guideline includes indoor goals but does not include goalposts inserted into the ground in any way.

These goals may be either —

- (a) full size goals used outdoors for senior soccer games or training; or
- (b) smaller size goals used outdoors for junior soccer games or training, or at indoor facilities

2 Design and materials

The framework of a PSG may be constructed of aluminium, steel tubing, a combination of both materials, or of polyvinyl chloride (PVC) plastic tubing. Timber is not recommended as it tends to be less durable.

PSGs made from steel tubing or aluminium may be a single unit or able to be dismantled into smaller pieces and reassembled. PSGs should be constructed according to good engineering practice. Welding of components should be performed to the requirements of Australian/New Zealand Standard, AS/NZS 1554.1, *Structural steel welding, Part 1: Welding of steel structures*. Welding of aluminium components should be performed to the requirements of Australian Standard, AS 1665, *Welding of aluminium structures*.

PSGs should include a rear ground bar, connecting the two side supports. A ground bar adds weight to the rear of the structure increasing its stability and reducing the risk of the structure overbalancing. A rear ground bar also provides effective anchor points to secure the PSG.

Materials used in construction of PSGs (excluding nets) should be designed to maintain their structural integrity for outdoor use for at least a period of five years but preferably longer, depending on whether the goal is stored indoors or outdoors.

Any light metal and/or steel used in the framework should be protected against corrosion (e.g. hot galvanised, powder coated or painted).

A goal frame should have sufficient strength to withstand stresses when in use or being moved.

3 Anchoring and equipment

It is important that PSGs are anchored at all times when in use to prevent the goal overbalancing.

All suppliers of PSGs should provide anchoring equipment with goalposts. Anchoring equipment should be supplied with any new PSG as an essential part of the equipment, not as an accessory.

Anchoring equipment, including brackets and staking pegs, should, where possible, be permanently and securely attached to the goal frame.

Instructions for anchoring should also be provided and PSGs should always be anchored in accordance with instructions.

4 Anchor types

There are several different anchoring methods that can be used to secure PSGs depending on factors such as the playing surface, soil type, soil moisture content and the weight of the goal itself. Any of the types listed below, or any other anchoring system may be used to effectively secure the goal and prevent overbalancing.

4.1 Outdoor goals

Outdoor goals should be secured as follows:

(a) *Auger style*

Helical shaped and screwed fully into the ground.

(b) *Peg or stake style stake*

Steel pegs in varying lengths and diameters, ranging from 250 mm (10 inch) to 600 mm. (24 inch).

(c) *“J” Hook shaped stake style*

Steel pegs in varying lengths and diameters. The curved top portion is designed to fit over the side or rear ground bar.

(d) *Saddle design*

Anchors that fit over a ground bar with staking holes for steel pegs.

(e) *Sandbags/counterweights*

Are an alternative where the ground surface cannot be penetrated, or for an indoor facility. The number of bags or weights needed will vary but should be adequate for the size and total weight of the goal being supported. At least three sandbags are recommended for a full size goal and two sandbags for smaller goals.

(f) *Semipermanent anchors*

Consist of two or more functional components. The main support requires a permanently secured base that is buried underground. A semipermanent anchor connects the underground base to the goal by means of two tethers, or utilises a buried anchor tube with a threaded opening at ground level. The goal is positioned over the buried tube and the bolt is passed through the goal ground shoes (bar) and rear ground shoe (bar) and screwed into the threaded hole of the buried tube.

All stake styles require three or more stakes for each goal depending on goal size, soil conditions and stake size.

“J” Hook and peg-stake styles must be angled toward the front of the goal. All stakes must be flush with the ground and driven in fully but be clearly visible to anyone in close proximity to the goal.

4.2 Indoor goals

Indoor goals should be secured by —

- (a) bolting the goal frame to the playing surface and/or rear wall of the indoor venue; or
- (b) sandbagging at anchor points.

5 Anchor points

Anchor points are shown in Figure 2. If the PSG has a ground bar, there should be at least three anchor points namely the centre of the rear bar and the centre of each ground side support bar.

If the PSG does not have a rear ground bar, the frame should be anchored at four points, i.e. the front and back corner of each ground bar of the side supports.

Additional anchor points are also shown in Figure 2.

6 Instructions for users

- (a) Securely anchor/counterweight PSGs at all times in accordance with the manufacturer’s instructions.
- (b) Net pegs should only be used to secure the net. Never use net pegs to anchor the goal structure.
- (c) Never allow anyone to climb on the netting or goal framework.
- (d) Instruct all appropriate personnel on the safe handling of, and potential dangers with, PSGs.
- (e) Check for structural integrity and proper connecting hardware before every use. Replace any damaged or missing parts or fasteners immediately.
- (f) Any padding on the goal structure should be checked, adjusted and if necessary replaced, to ensure it adequately protects players.
- (g) If a breakage of any part of the goal occurs during a game or training, play should be halted immediately and the goal repaired before continued use. If the goal cannot be effectively repaired within a short period, it should be removed altogether and safely stored.
- (h) The Rules of Soccer state that PSGs can only be used if they are anchored securely to the ground. Officials should be aware of their responsibilities in this regard.
- (i) If the PSG can be dismantled, follow the manufacturer’s instructions concerning correct assembly/disassembly of parts.
- (j) Ensure adequate personnel are available to move a PSG with consideration given to the weight of the goal. Always employ correct lifting techniques when moving PSGs to avoid injury.
- (k) PSGs should be safely stored to prevent unauthorised use and potential injuries.

7 Recommendations for manufacturers

- (a) Manufacturers should provide safety instructions for users (as per Section 6, Instructions for users).
- (b) Manufacturers should provide instructions, with diagrams if necessary, showing how to properly anchor the goal.
- (c) Manufacturers of PSGs that can be dismantled should provide written instructions with diagrams, if necessary, showing the correct sequence for assembly/disassembly of parts.
- (d) Any exposed corners and edges of PSGs should be rounded to a radius of 3 mm.
- (e) There should not be any space between the joining point of the uprights and the ground frame, that could entrap fingers and cause a pinchpoint injury.
- (f) Steel cup hooks should not be used to affix the netting to the goal framework. If spring hooks are used as a means of fixation, they should have screw caps.
- (g) Manufacturers should provide safety warnings affixed to the framework of the goal as set out in Section 8 below:

8 Warnings

Safety warnings should be either in the form of a label or painted on the goal frame. They should be permanent, in contrasting colours and remain legible throughout the life of the goalpost.

The wording should read:

WARNING—ALWAYS ANCHOR GOAL—NEVER CLIMB ON GOAL OR HANG ON CROSSBAR. Unanchored goals can tip over causing serious injury or death.

Upper case lettering of the warning should be at least 2.5 cm (one inch) high and the lower case lettering at least 1.25 cm (half an inch) high.

Graphic symbols can also be used to illustrate warnings but only in addition to, not instead of, wording.

9 Position of warnings

Safety warnings should be prominently positioned and clearly visible when applied.

Warnings should be placed in three positions on the goal (see Figure 2); namely at the centre underside of the crossbar, and on the outside of both goal uprights.

Warnings on the goal uprights should be at least one metre above ground level.

Note that warnings should not be placed on the face of the goal, as the Rules of Soccer require the goalposts and crossbar to be white.

10 Markings

The goal should be marked with:

- (a) The name and address of the manufacturer, retailer or importer and the year of manufacture.
- (b) If the goal complies with an overseas standard for PSGs, the name and number of the standard. A test report should be available.

11 Storage

Multi-piece PSGs should be disassembled and stored under cover, if possible, to prevent weathering.

One-piece PSGs stored outside should be chained and locked together face to face and/or secured to an immovable object. Netting should be removed.

All PSGs should be stored in a place where children cannot gain access and use them.

12 Maintenance

Both indoor and outdoor PSGs should be thoroughly inspected at least once every 12 months and ideally before the start of each season.

Steel components showing signs of rusting or warping should be replaced. Attention should be given to the condition of joints, particularly welded joints. Broken welds seriously affect structural integrity and can expose jagged metal edges that may cause injury.

Welding repairs of steel structures should be performed in accordance with AS/NZS 1554.1, *Structural steel welding, Part 1: Welding of steel structures*. Welding repairs of aluminium structures should be performed in accordance with AS 1665, *Welding of aluminium structures*. Any repairs involving re-welding must not weaken the strength of the original weld or affect the overall strength of the goal frame.

Any timber components should be examined for signs of deterioration, e.g. rotting or insect infestation. Damaged parts should be replaced.

Any other damaged or broken components of goals should be repaired or replaced.

13 Referenced documents

Australian Standards referred to in this Guideline can be purchased, if required, from Standards Australia.

14 Sources

Some information in this Guideline has been obtained from the following sources:

- (a) British/European Standard BS EN 748:1996 (incorporating Amendment Nos. 1 and 2); *Playing field equipment—Football goals—Functional and safety requirements test methods*.
- (b) US Standard ASTM F2056-00, *Standard Safety and Performance Specification for Soccer Goals*.
- (c) US Standard ASTM F1938-98, *Guide for Safer Use of Movable Soccer Goals*.
- (d) *WorkCover New South Wales*.

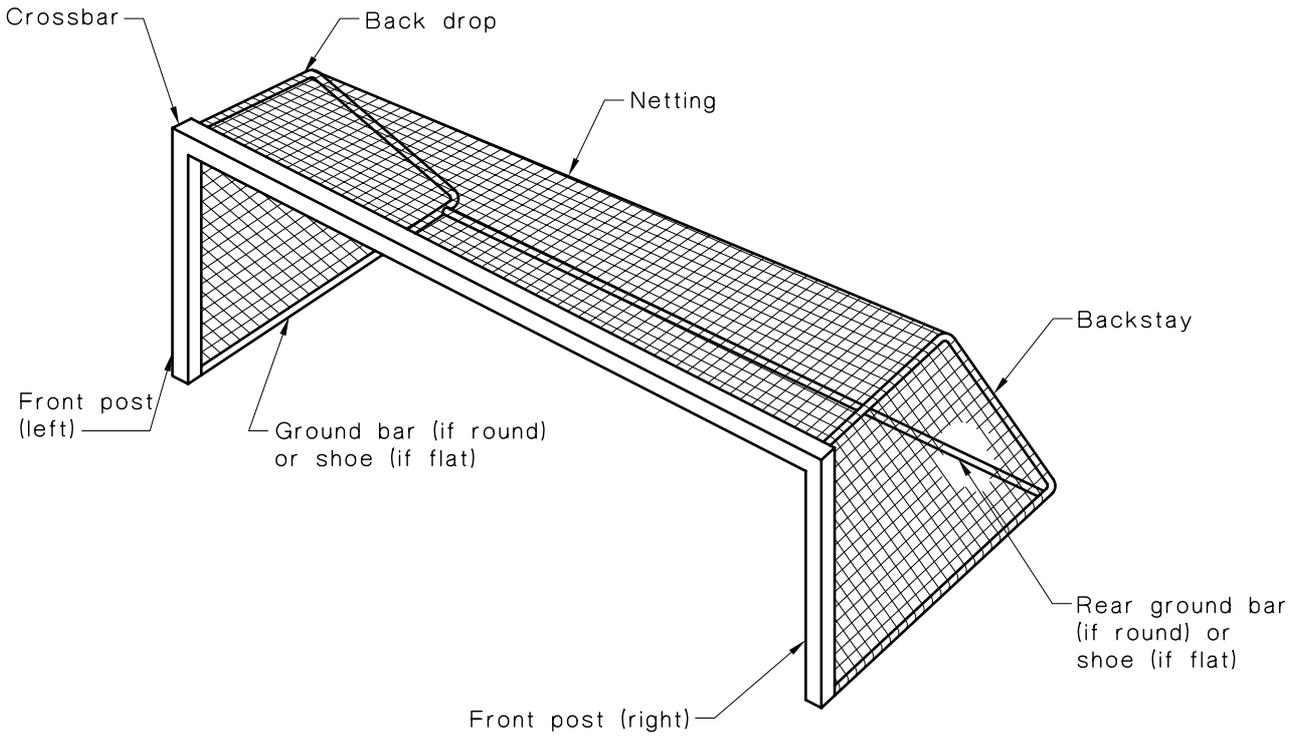


FIGURE 1 COMPONENTS OF A MOVABLE SOCCER GOAL

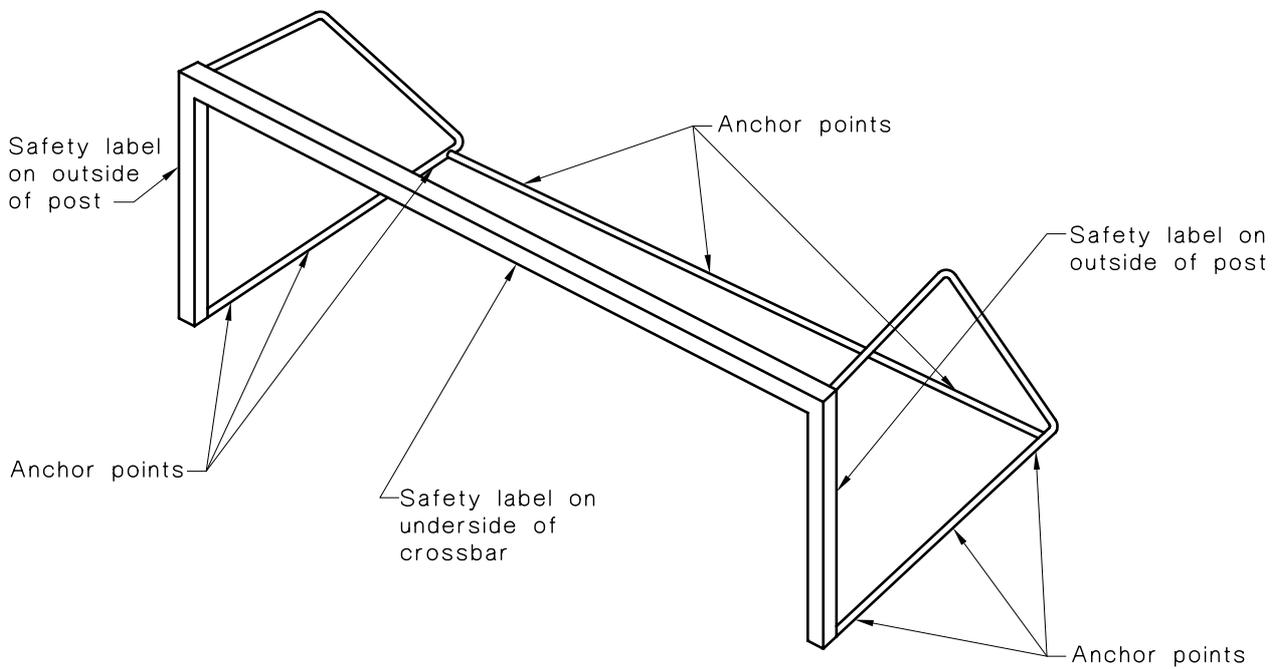


FIGURE 2 ANCHOR POINTS AND POSITION OF SAFETY WARNINGS

NOTES

NOTES

Standards Australia

Standards Australia is an independent company, limited by guarantee, which prepares and publishes most of the voluntary technical and commercial standards used in Australia. These standards are developed through an open process of consultation and consensus, in which all interested parties are invited to participate. Through a Memorandum of Understanding with the Commonwealth government, Standards Australia is recognized as Australia's peak national standards body.

Australian Standards

Australian Standards are prepared by committees of experts from industry, governments, consumers and other relevant sectors. The requirements or recommendations contained in published Standards are a consensus of the views of representative interests and also take account of comments received from other sources. They reflect the latest scientific and industry experience. Australian Standards are kept under continuous review after publication and are updated regularly to take account of changing technology.

International Involvement

Standards Australia is responsible for ensuring that the Australian viewpoint is considered in the formulation of international Standards and that the latest international experience is incorporated in national Standards. This role is vital in assisting local industry to compete in international markets. Standards Australia represents Australia at both ISO (The International Organization for Standardization) and the International Electrotechnical Commission (IEC).

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