

The Football Association

Goals for football

Guidance notes



This document has been put together by The FA with the full support and involvement of the following organisations. We and they share the same aim: ‘to make safety our goal’.

Department of Culture, Media and Sport

National Playing Fields Association

Sport England

Sports And Play Construction Association

The Sports Industries Federation

English Schools FA

Football Foundation

Edwards Sports

Harrod UK Ltd

ITSA Goal Ltd

Centre for Sports Technology Ltd

This document sets out the views of these organisations. We have done everything possible to make sure that the information in our Goalpost safety guidelines is accurate. However, we cannot guarantee that. We will not take any legal responsibility for the accuracy, completeness or usefulness of any information in these guidelines.

If you use goalposts, you must make sure that the goalposts are safe before you use them. You must be clear about maintaining them. You must follow the manufacturer’s instructions and notes or the facility operator’s instructions if this is appropriate. If you have any questions about the safety of goalposts, you should speak to the relevant facility operator or manufacturer. Facility operators and manufacturers should make sure that they are aware of the latest developments in goalpost safety and should read the relevant codes of practice or standards at all times.

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1 Covering document

a Foreword

Fatal accidents have happened involving goals. The purpose in publishing these notes is to help prevent accidents by describing what needs to be done to make sure that goals are safe. When installed and used in the right way, a goal that was built according to the correct safety instructions and maintained should not cause any injury.

There are three important aspects of a goal's design and construction which are potential dangers and where accidents have happened.

- How the net is fixed to the frame of the goal. Metal hook fixings have caused serious injuries, including amputations, deep penetrative wounds and injuries involving trapping parts of the body (fingers, head, and so on).
- The net itself. A net can cause cuts and trap parts of the body if the mesh size is too large, or the cord is too thin.
- The goal frame. Serious impact and crushing injuries have been caused by goals which have fallen over or collapsed, either as a result of poor design or maintenance or modification of the goal or through poor installation.

These notes look at each of these issues directly.

b Introduction

As the governing body for football in England, we want to promote good practice. These notes present the current view of what makes a safe goal - careful design, construction, installation, maintenance and use.

A starting point is the various published safety standards. The European Standard for football goals, EN 748, deals with goals which are full-sized or which measure 5 metres (m) wide by 2 m high. The British Standards Institution's Publicly Available Specifications, PAS 36-1 and PAS 36-2, cover metal and plastic goals up to 4.9 m wide by 1.85 m high. Other sizes of football goal are not dealt with in any published standard.

Our concern is with goals as sports equipment being used in formal, organised football. Goals that are designed to meet standards for toys (for instance, BS EN 71) are for that use only. They are not suitable for use as sports equipment.

You can find a list of public libraries where you can see copies of British and other Standards on the BSI web site at www.bsi-global.com. Search for 'list of libraries'.

We present these notes in two parts.

The first part, this document, describes in general terms the obligations that lie with all the various people involved with football in relation to safe goals, and outlines the steps you should take to make sure that football is a safe sport. It describes in practical detail the ways in which you should secure, put together, install, use and maintain goals.

The second part, 'Technical details', sets out the physical properties and dimensions any goal must have to be safe and to keep to the Laws of association football. There is a short glossary at the end of this part.

c Obligations and responsibilities

Anyone involved in providing facilities for other people to use may well have a duty, morally and in some circumstances legally, to make sure the facilities are safe.

As the provider, operator, manager or designer of a facility, duties and obligations are set out in one or more of various acts, including Occupier's Liability Acts of 1957 and 1984, various items of health and safety law and in case law dealing with negligence. You may also have to have insurance. Depending on your role, you may need public liability, employer's liability or professional indemnity insurance.

d Role of The FA

Our purpose in publishing these notes is to provide information and advice on safety, pulling together the views of anyone with an interest.

An important point is that the notes in general, and the technical details in particular, apply to goals of **all** types and sizes. This means all goals for football at all levels, for players of all ages, and for teams of all sizes, playing both indoor and outdoor football.

We have done everything possible to make sure that the information in these guidelines is accurate. However, if you use goalposts you should make sure that they are safe before you use them. You must also be clear about maintenance and follow the manufacturer's instructions and notes or the facility operator's instructions if this is appropriate. If you have any questions about the safety of goalposts, you should speak to the relevant facility operator or

manufacturer. Facility operators and manufacturers should make sure that they are aware of the latest developments in goalpost safety and should refer to the relevant codes of practice or standards at all times.

e Terminology

We have defined various parts of a goal here.

Goal The whole thing - posts and crossbar, together with any other parts such as the net, sockets, net support posts and so on.

Goal frame The uprights and crossbars only.
The width of the goal is the distance between the inside of the posts. Its height is the distance from the ground to the underneath of the crossbar.

Net Shaped netting, suspended behind the goal frame to trap the ball so that it is clear whether or not a goal has been scored.

Net support posts Two or more separate posts from which a line suspends the top back corners of the net in some designs of goal.

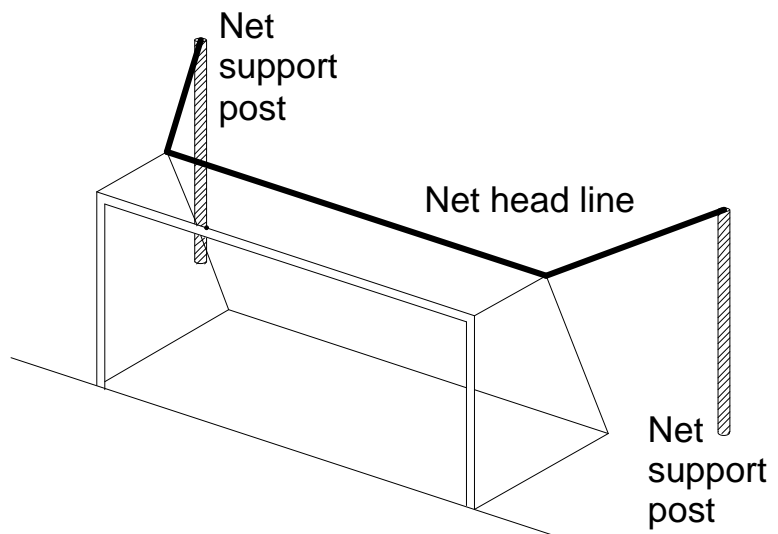


Figure 1

Source: Centre for Sports Technology (CST)

Net head line The line that suspends the net from the net support posts.

Cross brackets Diagonal supports at the top or bottom of a goal, connecting the posts to the side bars or the elbow brackets to the crossbar.

Elbow bracket A small frame attached to the back of a post at the top to support the net in the correct position behind the goal frame. Also known as a 'net roof support frame'. Figure 2 shows an example, though there are other designs.

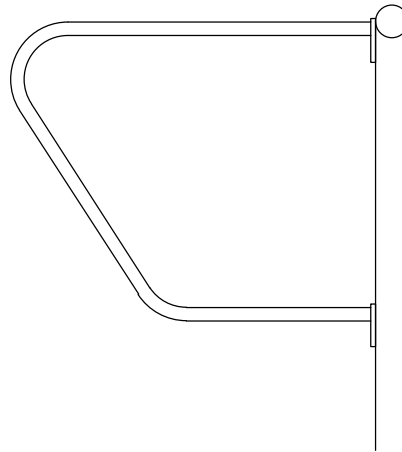


Figure 2

Source: Centre for Sports Technology (CST)

Ground frame A three-sided horizontal frame behind the goal frame at ground level. It includes a back bar and two side bars.

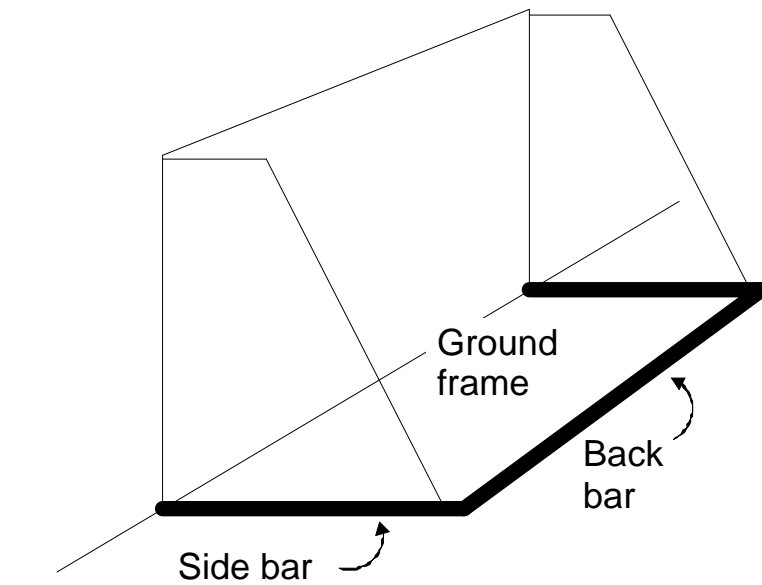


Figure 3

Source: Centre for Sports Technology (CST)

Back stanchion

Any part of the goal that lies in a plane at right angles to the goal line is connected to the post and is also connected to the ground frame or is set directly into the ground. The diagram shows typical back stanchions, for a 'free-standing' and a 'socketed' goal.

The back stanchion of a free-standing goal may stiffen the goal by bracing the goal frame to the ground frame. The back stanchion of a socketed goal is not usually meant to brace the goal frame.

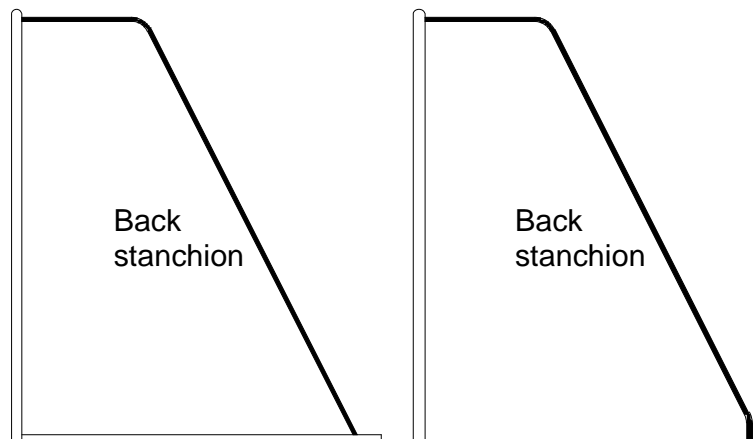


Figure 4

Source: Centre for Sports Technology (CST)

Socketed

A socketed goal is one whose posts are fitted into permanently-installed sockets in the ground. A socketed goal will not stand upright unless it is fitted into the sockets.

Free-standing

A free-standing goal, also called 'moveable' or 'non-socketed', will stand upright at any position on a flat surface. You should only use free-standing goals when they are firmly and properly fixed or anchored. Some free-standing goals have weights which are part of the goal - some others have permanently-attached weights.

Fence-hung goals

A fence-hung goal is one which is hinged from the fence, or from permanently-installed posts whose size and strength are similar to fence posts, and which folds or swings back flat against the fence.

2 **Code of practice**

This section of the notes is a 'code of practice' for finding, supplying, providing, installing, maintaining, checking and using goals for association football.

General

We should not have to say that football goals are meant to be used only for playing football. You should treat goals carefully. The goal is a piece of sports equipment, not a toy. It is not gymnasium equipment nor playground equipment. It should not be used for chin-ups, for swinging on or for climbing up.

In carrying out any physical work, you should take account of all health and safety law.

a Finding a suitable goal

Companies can make and sell any goal or net, whether or not it keeps to our recommendations in these notes. We recommend that you buy a goal which at least keeps to the latest published British and European standards (BSEN 748 or PAS 36/2000). If a goal does meet these standards, the manufacturer will be able to provide evidence to show that it does. Do not buy goals that do not meet a relevant standard.

When buying goals, take care to order the extra items and accessories you may need to go with the goal. As well as nets, you may need weights, chains, locks and clips or other accessories for anchoring and stabilising the goal. You may also need to order safety warning signs.

Check for any test certificates. The supplier should be able to give you evidence in the form of test certificates to show that their goals are suitable. Check that the goal you are buying is exactly the same type as the one to which the test certificate refers.

The test certificate should have been prepared by a reputable test house which is not linked to the manufacturer. The test house should preferably be:

- a scientific body member of the International Association for Sports Surface Sciences; or
- accredited by the United Kingdom Accreditation Service or an equivalent national accreditation organisation.

We do prefer it if the goal supplier is also accredited, for instance to ISO 9000:2000. This accreditation proves that the supplier has effective management systems in place.

b Home-made goals

We do not approve home-made goals, including modified goals, as these often fail to meet the most basic safety levels. Most deaths from accidents involving goals have involved home-made or modified goals.

c Wooden goals

When you replace an existing wooden goal, be careful to replace it with a goal that meets the safety standard.

During one of our research programmes (Devereux Earle Sport and Leisure - July 2002) into the strength of goals, we tested or inspected many wooden goals. We came to a number of conclusions.

- All the wooden goals which we tested broke.
- Since the goals we tested were in apparently good condition, it seems likely that few wooden goals, if any, would pass the relevant strength test.
- Wood is a natural material, so its properties will vary. This means that even if one wooden goal passed the strength tests, we could not guarantee that every similar goal would also do so.
- Perhaps more importantly, if a goal passed strength or stability tests, it would not be possible to be sure that it would still pass at some later time, perhaps towards the end of the season or at the start of the next season.
- A painted goal may appear to be in good condition because the paint itself is in good condition. However, the timber beneath may be rotting.
- You must be suspicious of any wooden goal because you cannot be sure of its strength and condition.

d Providing goals

People who own or operate leisure facilities, which include football clubs, often provide the pitch and the goals for players to use. You should take steps to make sure that the equipment you supply is safe. This means, in the case of goals, that the goals themselves are safe.

e

Keeping records

The safety of goals is the responsibility both of the facility providers (who should provide safe goals and install and maintain them in safe condition) and of the users (who should not misuse the goals).

As a facility provider, you will want to know that you have met your responsibilities and can show that you have done so. Keeping records of the way you maintain, install and check goals is the only sure way to do this.

You should keep a log book to record when the goal was put together, how it was installed and how it is maintained. Keeping these records will make it possible to show that you have taken care to make sure that the goals were provided and maintained in a safe condition if, unfortunately, you need do so. Possible pages of this log book are shown in Appendix 2 of these notes.

You should provide these records if asked by any user, but you should also keep them in a secure place so that they cannot be lost or damaged. You will need to attach a permanent identification label to every goal and keep a log book. The facility provider must label goals so that they can identify each of them. This could be done, for example, with a simple numbered label.

The goal's identification label is a vital part of the record-keeping system. Do not paint over it, or scratch or peel it off. The same applies to all the labels the manufacturer has put on the goal, each of which provides information which is likely to be needed at some stage of the goal's life.

You should regularly inspect all the goals on your pitches and keep records of the findings of the inspections and of any action needed to correct faults found during the inspections. The inspections should take place at least three times each season.

It is not enough simply to create the records. You should keep them long enough to make sure that your evidence of good practice is available when it is needed. To be sure that this is always so, you need to keep these records for 21 years.

f

Moving goals

Experience shows that a goal may be at its most dangerous when it is being moved. Under those circumstances, most types of goal are detached from any anchors, separate or loose weights, fixing points or sockets and so are not stable.

If you move a goal, avoid distorting it, which can damage the joints and bend parts of the goal. Follow the manufacturer's and facility operator's advice.

You should never try to move any full-sized goal with fewer than four adults. For some goals, which can weigh as much as 180 kilograms (kg), you will need the help of several people. The HSE's guidance notes, such as 'Getting to Grips with Manual Handling', give advice on lifting and moving heavy objects safely. The 'Manual Handling Operations Regulations 1992' set limits on the loads which may be lifted in the workplace. Make sure that all helpers are physically fit and capable and that they use proper lifting techniques.

Never drag goals across the ground. Moving them in this way is likely to damage the goal and can easily damage the surface, whether natural or synthetic. You should always lift goals clear of the ground when you move them.

If wheels are fitted to the goal, use them correctly, as shown in the manufacturer's instructions. Wheels should be of a type suitable for the surface across which the goal is to be moved. Goals fitted with four wheels can easily topple if they are pushed in the wrong direction. You should only move them by pushing the uprights in the 'backwards' direction. Similarly, you should move goals with two wheels by lifting the back bar and pulling in the direction shown in figure 5. When the ground is very soft, you may need to lift even wheeled goals.

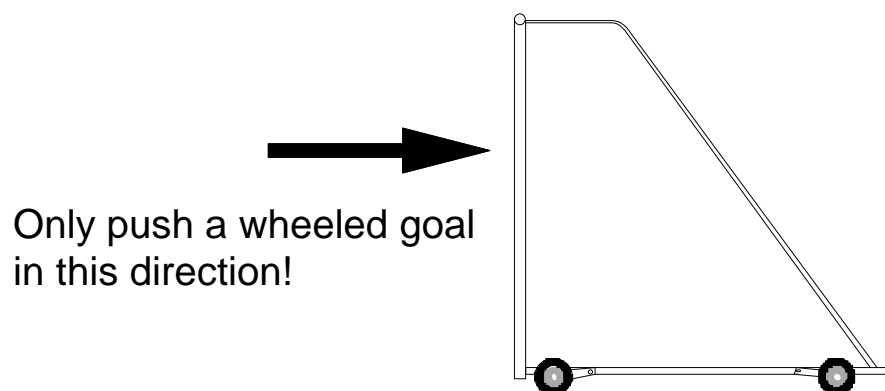


Figure 5

Source: Centre for Sports Technology (CST)

g

Installing goals

The stability of socketed goals and how effective most methods of stabilising free-standing goals are will depend on the conditions of the ground. Since ground conditions vary widely, the approach we have adopted is to:

- 1 recommend only methods of anchoring free-standing posts which will be effective under all conditions under which it is possible to play football; and
- 2 choose a size for the concrete base of socketed posts which will be adequate under all conditions under which it is possible to play football.

The facility operator is usually responsible for installing goals, whether socketed or free-standing, properly. This is the case whatever the size or scale of the facility. However, the person who actually installs the goals may well have a legal responsibility too. Ground sockets are the responsibility of the pitch provider.

The best source of advice on installing a goal is the goal's manufacturer. The installation instructions provided with new goals include detailed instructions on installing them properly. These instructions should be on a durable laminated sheet which you should keep in a place which everyone knows about and which is accessible to all concerned with handling and installing goals on the site. We recommend that you copy the instructions and put the copy with the 'goal inspection sheet' in the goal log book (see appendix).

Goals should only be put together and installed by a competent person with enough experience and with the right help. If necessary you can get guidance in putting together and installing goals from the manufacturer or supplier.

g 1

Free-standing goals

Free-standing goals will only be safe if you stabilise them properly.

Always use all the accessories supplied for the purpose of anchoring a goal.

You can get a warning sign, which summarises the dangers of not installing and using free-standing goals properly, from the goal manufacturer. You should display the sign on or near every pitch and in every sports hall where you use free-standing goals.

Most of the commonly-used methods of stabilisation can be affected by poor installation techniques as well as by poor ground conditions. For this reason, the most reliable methods of stabilising free-standing goals are:

- a attaching the back bar to permanent fixing points, for instance, eyebolts, stainless-steel loops set in concrete blocks in the correct position or suitable attachment points on a permanent fence; and
- b using adequate weights attached to the goal's back bar in the correct positions or forming part of the goal.

We strongly recommend you use of one of these two methods as they are most likely to lead to a safe goal.

We do not recommend pins, pegs, u-staples or screw-in anchors. Fixings of these types may hold on some types of ground and under some ground conditions. However, both these factors vary, both from place to place and from time to time. You should only use these types of fixing if you have evidence that they are effective under the worst predictable ground conditions on the site in question.

You can stabilise goals by attaching them to permanent fixings, such as eyebolts concreted into the ground or fixing points on a permanent fence. This of course only applies if it is possible to install these fixings. It may sometimes be possible to install eyebolts or stainless-steel loops in concrete blocks on a grass pitch, as long as they are set far enough below the surface to allow you to maintain the grass. However, because these will be permanent it might make having moveable goals pointless. Permanent fixings of this type will more often be used in the surround of a synthetic turf pitch or in the floor of a sports hall.

You will find a diagram of a typical permanent fixing point, of a type for setting into grass or the surround of a synthetic turf pitch, in figure 6. You will find the minimum dimensions for the concrete foundation into which you should set this type of fixing point in table 1. The fixing loop must be made from stainless steel or it may not last more than a couple of years. The drainage hole must be big enough and must be in a position that will allow it to be cleared when it silts up.

When you remove the posts from a socket or there is no attachment to an anchoring point of the type shown in figure 6, you must cover the open hole, for example with a blanking plug.

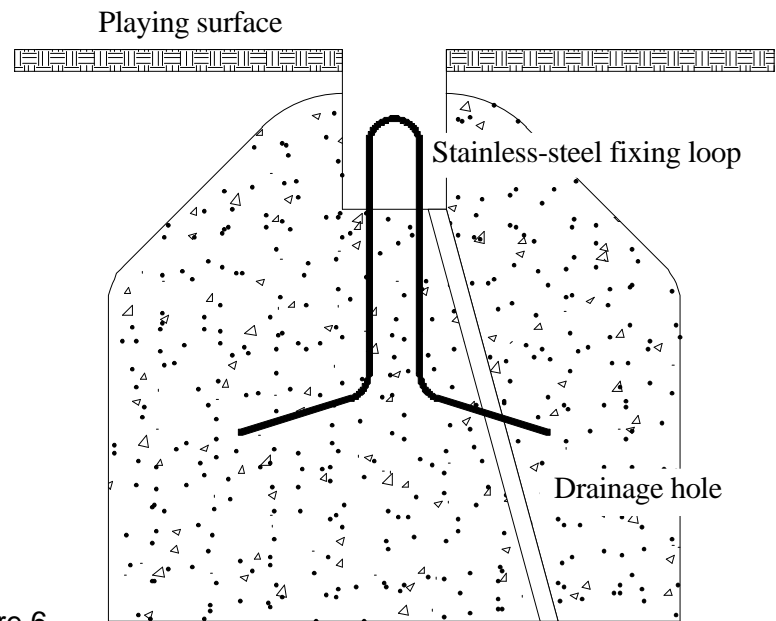


Figure 6

Source: Centre for Sports Technology (CST)

Weights are a reliable, effective way of stabilising a goal, as long as you use enough of them and as long as they are attached to the goal. It is obvious, but is often ignored, that weights that are not attached to the goal will not help to stabilise it. Weights can be used on any type of surface. The number and total quantity of weights you need can be very large – as much as 150 kg for a full-sized goal. The weights may be:

- part of the goal;
- permanently attached to the goal;
- fixed directly to it; or
- positioned on the ground beside it and attached by short, clipped-on chains or short, strong wire cords.

When moving weights, always take account of health and safety rules, and use proper lifting techniques. Depending on the size of individual weights, you may need mechanical aids, protective footwear and so on. Some designs of goal may include the stabilising weight needed in the goal frame. This avoids any possibility of using the goals in an unstabilised condition.

Whatever method you use to stabilise a goal, any attachment like a chain or a wire cable between the goal and the weight, anchor, eyebolt or other fixing point must be as short as possible. The attachment must not allow the back bar of the ground frame to lift more than 50 mm from the ground. If the chain or cable were too long, it would not become taut until the goal had already started to tip. This could mean that somebody could be injured before the attachment started

to have any effect. There have been cases where the attachment has been so long that it has completely failed to prevent a goal from tipping. Chains and cables and their fixings must be of good quality and strong enough.

The positions at which the goals are attached to their anchors should be as close as possible to the back corners of the goal. This avoids loading the back bar (which in many goals is not designed to be a load bearer) and makes the anchor as effective as possible. You should not use a single anchoring point near the centre of the back bar, even if it is attached by chains or cords to the outer corners of the goal.

Many folding free-standing goals have no back bar. Do not use these goals unless all the pins or clips provided to lock the side frames in place are present and working. Since they have no back bar, goals of this type need special care in the way you stabilise them.

Socketed goals

Goalpost sockets should always be set into concrete. The recommended dimensions of the concrete foundations are shown in figure 7 and in table 1.

We recommend that the base is square. A square base is less likely to overturn than a circular base of the same diameter.

The diagram shows a design where the post is not as deep as the full depth of the socket. The post is supported at the correct height by a pin, bar or other device. This type of design is not a requirement. The post may extend to the full depth of the socket. Goalposts must always be inserted into their sockets to the correct depth. The manufacturer may fix a label to a new post to show when the post is properly inserted.

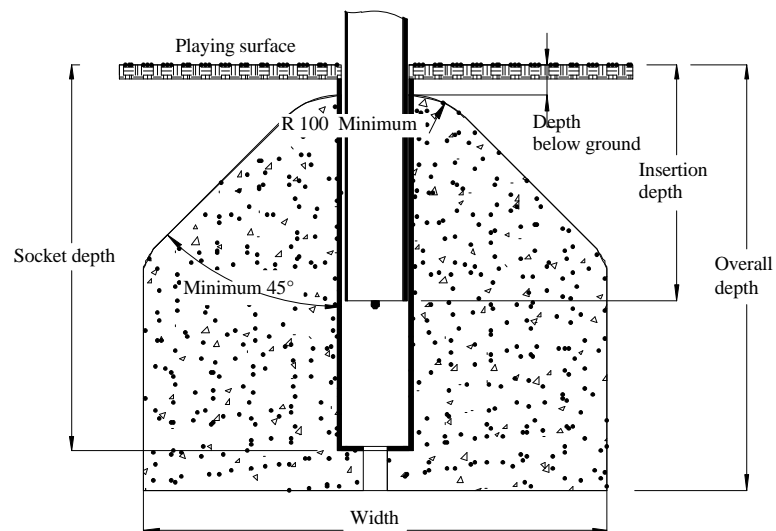


Figure 7

Source: Centre for Sports Technology (CST)

For net support posts, you should also use sockets set into concrete. The recommended dimensions of the concrete foundations are shown in figure 7 and table 1.

FA guidance notes - Table 1					
	Block size	Socket depth	Insertion depth	Overall concrete depth	Depth below ground
		(at least)	(at least)	(at least)	
Goalpost	600 square	475	300	600	40 to 100
Foundation for permanent anchor	500 diameter	Does not apply	Does not apply	500	40 to 100
Net support post	400 square	350	300	450	40 to 100
All dimensions are in millimetres					

The top of the concrete foundation should be at least 40 mm below the surface of the ground. This will make sure that it stays below ground even if there is some wear or shrinkage and also that it will be safely below ground when the post is not there and the grass is being maintained. The top surface of the foundation immediately around the socket is level. You need to provide this for strength. If the concrete is brought up to the socket at an angle, it is more likely to crack. The concrete should be rounded gently away from the socket and should then slope downwards at an angle of about 45°. Sloping the top of the foundation in this way makes it less likely that there will be a problem above the foundation if the ground settles or shrinks, for instance during dry weather.

These recommended dimensions will make sure that the goal will be stable under all ground conditions that would allow football to be played. You should only use sockets of a smaller size if you have enough information on local ground conditions, including the bearing strength of the soil under the worst possible conditions. This will allow you to work out the correct foundation size.

You must ignore how the back stanchions contribute to the stability of a socketed goal because you cannot rely on them. The back stanchions of the goal are not structural - their purpose is to support the net and to hold it in place.

Sockets that you are not using should be capped or otherwise blocked off to prevent accidents involving the sockets themselves. You can fill capped sockets with sandbags with a layer of loose rags on top, to prevent soil and other rubbish from falling into them. Never clean out sockets by hand because rubbish falling into the socket behind your hand could trap your arm.

h Storing goals

It is at least as important to make sure that goals are properly stabilised when they are not in use as it is when they are. Never leave a goal accessible, upright and unstabilised.

Do not leave socketed goals and folded free-standing goals leaning unsecured against a wall or fence. If you cannot lock them securely and safely to the wall or fence, they are best left lying flat on the ground so they cannot fall over.

You can make moveable goals safe by, for instance, chaining them face to face in pairs. Many synthetic pitches have lockable enclosures for storing goals and other equipment. If no method is available to secure goals that are not in position, it is probably safer to leave them in place, properly stabilised as if for use.

i Checking

This part of the notes gives some guidance as to the types of check you should carry out on goals and how often you should check.

There is no point in checking a goal if you do nothing when you find a fault.

You should only repair goals that have been damaged or have rusted using the correct parts supplied by the original manufacturer. Do not modify goals by welding or by substituting incorrect parts. If any part is missing or broken, you should get a replacement from the manufacturer.

i 1 New goals

If a new goal meets the British and European standards (BSEN 748 or PAS 36/2000), the manufacturer will be able to provide evidence to show that it does. Do not buy goals that do not meet a relevant standard. The manufacturer will be able to provide a test certificate stating that an identical goal has been tested, by an inspector independent of the manufacturer, to show it meets the standard and has passed the tests. This includes the strength and stability tests, carried out after the goal has been installed following the procedures described in the manufacturer's installation instructions.

You need to check new goals carefully to make sure that they have not been damaged while being transported and that all parts are present. If anything is missing, contact the supplier to get it. Do not start to put the goal together until you have all the right parts.

You should put goals together and install them strictly in line with the manufacturer's instructions. If the instructions are missing, contact the supplier for a copy - they are as important a part of the goal as any other.

i 2

Existing goals

A new goal, properly installed, should be safe, but after a time this may no longer be the case. Rust may weaken the goal. Bolts and other fixings may become loose or break or be lost and nets may lose strength when exposed to the elements. Sockets may become loose and the goal may be detached from its anchors and not re-attached.

To prolong the life of the goal and to make sure that it is not used when in an unsafe condition, you should make regular checks. It is not possible to say exactly what checks you should make or at what intervals, because the conditions under which goals are kept and used vary so widely.

You may need to check a goal which is permanently installed in an open public space every day, while one which is in a locked, fenced enclosure and is only ever used by an organised club at a high level with supervision may need to be checked relatively infrequently. The type and thoroughness of the checks needed will also vary with the type of goal.

For these reasons, you should use the following inspection procedure as a guide. You need to choose for yourself how frequent and how detailed the checks will be. However, if your records show that you find faults at each inspection, you need to carry out inspections more frequently.

The only way to be certain that a goal continues to meet the guidelines is to carry out a complete inspection and test of all the properties covered in the relevant standard. It is not possible to put together an informal or partial test procedure that will have the same effect as a formal test. The inspection procedure given will give you an idea of the general condition of a goal. If any doubt is raised by the inspection, test or replace. Do not use the goal if there is any doubt over its safety.

Never test a goal's strength or stability by hanging or swinging from the crossbar.

As a starting point, we recommend three types of inspection procedure.

- 1 At least every week (see below).
- 2 In the case of a moveable goal - every time you move it.
- 3 At the start of every season and every three months, and:
 - in the case of a socketed goal, every time it is re-installed, including moving from place to place; or
 - in the case of a moveable goal, when you first install it.

If you find a fault – do not use the goal! Repair it or replace it immediately!

j Suggested inspection procedures

One At least every week - but before any game or training activity

Carry out a thorough visual check of the whole goal. Check for the following.

Loose and missing nuts, bolts, pins and other fixings.

If nuts, bolts, and so on are loose or missing, you cannot put the goal together properly. It could fall apart or collapse at any time without warning.

Firm attachment to anchoring points or signs of movement in sockets.

A goal which is not firmly anchored could fall over. People have been killed by falling goals. Children are particularly at risk.

Broken or missing net fixings.

Missing or broken net fixings could allow the ball to pass between the edge of the net and the ground or the goal frame, causing confusion over whether or not a goal has been scored.

Any broken cord in the nets.

The size of the mesh of the net has been chosen to reduce the risk of injury caused by becoming trapped in the net. If there are broken cords in the net the holes are too big.

Bent sections or other damage to any part of the goal.

If parts of the goal are bent or other damage is present, this is evidence that the goal has been over-stressed or misused. There may easily be yet more damage which is not obvious but which could result in the goal collapsing or tipping, such as broken internal fixings or sheared pins.

Two Each time a goal is repositioned

Carry out all the checks listed under 'One' above and do the following.

Check that the goal has been firmly reattached to all of its anchors.

Check that the anchors themselves are secure.

If you are using weights, count them to check that they are all there. The manufacturer's label on the goal should say what weight you need to stabilise it.

Check that the goal has not been bent or otherwise damaged while being moved.

Three At the start of every season and every three months

Carry out all checks listed under 'One' and 'Two' above and do the following.

Ideally, at the start of the season and again after three months, you should check every goal properly for strength and stability, by having it tested.

If the goal is neither new nor recent, marked as meeting EN 748 or PAS 36, carry out a detailed risk assessment to get a realistic idea of the dangers associated with continuing to use a goal of uncertain strength and stability. It will only then be possible to decide what action to take.

If testing is completely impossible, then do the following.

For free-standing goals anchored to permanent fixing points:

- check that the goal's permanent fixing points are secure.
Depending on the type of fixing point, check for rust, loose bolts and other signs of weakness.

For free-standing goals with weights:

- check that the anchoring points both on the weights and on the goal are secure and do not show signs of wear or rust. Check that enough weights are available.

You can find out how much weight the goal needs by looking at the manufacturer's label on the goal. If the label is missing or illegible,

you can work out how much weight is needed by using the following procedure. This is based on the BSEN 748 stability test.

- 1 Measure the height of the crossbar.
- 2 Measure the length of the goal's side bars.
(It does not matter what units (for example, metres or inches) you use to measure the crossbar height and the side-bar length, as long as you use the same units both times.)
- 3 Divide the height by the length. Multiply the result by 112 and make a note of the answer.

This is the total weight in kilograms you need to stabilise the goal.

For example, in the case of a full-sized goal:

- the height of the goal is 2.44 metres;
- the length of its side bars is 2 metres;
- $\text{height} \div \text{length} = 2.44 \div 2 = 1.22$
- $1.22 \times 112 = 136.64 \text{ kg.}$

You need 140 kg to stabilise this goal.

There is no safe, simple way to check or work out the strength of the crossbar. If testing is not possible, check the crossbar carefully for signs of damage and rust. **If you are in any doubt over the strength of the goal, have it properly tested or replace it.**

Check that all fixing bolts fit properly and that they are all present. It is safest to work on the assumption that there should be no empty holes anywhere on a goal. If there are any empty holes, check the manufacturer's instructions to find out why the holes are there. If a bolt, clip or other fixing is missing, replace it.

The manufacturer's labels attached to goals provide the contact details for getting any spare parts needed. Do not paint over or remove the labels.

Check goal frames for missing and broken net fixings. Only use suitable safe fixings or recessed hooks. Remove any cup hooks or get rid of the goal immediately, before the goal is used, as should have been done several years ago when the use of cup hooks was prohibited.

Check nets for broken cords. Broken cords in nets are not a trivial matter, because they increase the risk of people being caught by the neck.

k Use of goals

k 1 Size of goal

The size of goal used should be appropriate for the age of the players.

The laws of the game stipulate the full size of the goal, which is 7.32 by 2.44 metres. However, we allow modifications to the width and height of the goal for players under 16, for women, veterans and players with disabilities. The laws of Futsal, which are different, stipulate a goal size of 3 by 2 metres.

The following table shows the size of goal considered appropriate for the age ranges given, in line with our rules.

The numbers of players may also vary with their ages.

		Sizes in mm	Sizes in feet
11-a-side (or as appropriate)	Under 15 to adult	7320 × 2440	24 × 8
	Under 11 to under 14	6400 × 2130	21 × 7
(Mini-soccer)	Under 10	3660 × 1830	12 × 6
5-a-side	Senior	4880 × 1220	16 × 4
	Junior	3660 × 1220	12 × 4
	Mini	2440 × 1220	8 × 4
Futsal		3000 × 2000	

Tolerances

Errors are a fact of life. When you check the size of a goal, you will often find that it is slightly smaller or larger than its given size. The ‘tolerance’ is the maximum error in size that you can accept.

For instance, EN 748 states that the height and width of a full-sized goal must be no more than 8 mm different from the given size, which is 7320 mm by 2440 mm. This is not achievable. Fewer than 10% of full-sized goals we examined during our research programme (Devereux Earle Sport and Leisure - July 2002) were within the EN 748 tolerances.

There are at least three factors that can affect the difference between the actual size of a goal and its intended size.

The first is how accurately the parts of the goal have been made. We deal with this aspect in Part 2, ‘Technical details’.

A second factor is how even the ground is in the goalmouth, which affects the height of the goal.

The third factor is the accuracy with which the goal has been put together and installed. You need to take extreme care when installing sockets for a goal and also when putting together and moving free-standing goals.

You must install the sockets of a goal at the correct spacing, at the correct depth, and vertically. If you do this, the height of each post compared to the ground next to it will be correct. Also, the distance between the posts will be correct both at ground level and at the top of the posts. We believe you can achieve the following tolerances on an installed, socketed goal.

Distance between bases of posts	7320 mm - within 20 mm
Distance between tops of posts	To be the same as the distance between the bases of the posts - within 15 mm
Height of crossbar at posts	2440 mm - within 10 mm
Difference between heights of posts	Not more than 10 mm

How even the ground is within the goalmouth is obviously a far more significant factor on natural grass than on synthetic pitches. On a poorly-maintained, heavily-used grass pitch, the ground at the centre of the goalmouth is often 50 mm lower than at the posts. On a carefully-maintained, crowned pitch, the opposite effect may exist. The ground at the centre of the goal can be 20 to 30 mm higher than at the posts.

Even on synthetic surfaces, wear of the carpet alone can cause a significant change in ground level. You can expect the height of the carpet pile to be reduced by between 10 and 30 mm over the life of the pitch. A 'dynamic' pitch base can settle, too, sometimes reducing the level in the goalmouth on a synthetic pitch by a further 20 to 30 mm. These facts are outside the immediate control of whoever installs a goal, but they give you an idea of the variation that you can expect in the crossbar height across the width of a goal.

As well as the variations in a single goal, there will be differences between the two goals on a single pitch. The widths of the goals and the post heights should be within the measurements given in the table on page 24. The difference between the average heights of the crossbars should not be more than 25 mm. To find the average height of the crossbar, measure the height at five points equally spaced across the width of the goal and take the average of the five readings.

Appendix 2

The following are examples of possible pages you could use in a goal log book system.

The first page is a goal inspection sheet. This is a page you can use to record the checks carried out on a new goal when it is first installed, or on an existing goal when the checking system starts to be operated. At this stage you need to record all known, relevant facts about the goal and carry out a 'type 3' inspection. Assuming that everything is satisfactory, you can use the goal.

If there are faults and it is a new goal, you should fill in a second inspection sheet after the supplier has put this right. For an existing goal, you need to make suitable arrangements for correcting the faults before you inspect the goal again and fill in a second sheet.

The second page is a 'goal record sheet'. This is a page you fill in every time you check a goal whether as a matter of routine or for some other reason, for instance after repairs have been carried out. The sample page shows examples of possible entries under each heading. This is not a full list of possible entries.

The manufacturer should provide sample blank sheets with a new goal.

Goal inspection sheet

Goal reference

Type of goal

Size of goal

Supplier or manufacturer

Contact details for spares and repairs

Date of manufacture

Date of inspection

Findings

Action taken

Inspected by

		Goal record sheet			Goal reference
Date	Type of check	Reason for check	Findings	Action taken	Checked by
	1, 2 or 3	Routine	All OK	None needed	Printed name and signature of person carrying out the check
		Goal installed for first time (this season)	Description of any faults found	Repairs carried out (with description)	
		Goal moved (from ...? to?)		Goal taken out of use (include method used)	
		Problems reported		Goal taken out of use and parts ordered	
		Repairs completed		Goal taken out of use and repairs ordered	
				Goal taken out of use and being scrapped	

		Goal record sheet			Goal reference
Date	Type of check	Reason for check	Findings	Action taken	Checked by