



PLAYING FACILITIES, SURFACE AND MARKING STANDARDS

Purpose

To allow for the development of playing surfaces that conform to the requirements of the FIFA Laws of the Game and to the requirement to provide quality playing surfaces that are not only conducive to good football but are safe for players and officials. It is not intended to limit the scope for clubs to provide the best possible field but to set a minimum standard for a playing surface approved by Football Brisbane (FB).

Scope

This procedure is for all clubs requiring approval for play in the competitions organised by Football Brisbane. This document will give guidance to the preparation of a playing field, markings, technical area, ground enclosure fence and the access and egress for players, officials and medical staff.

Background

Clubs have a “Duty of Care” to provide safe playing conditions for practice and competition. The basic requirements are set out in the Rules of Competition, Section 4, Club Responsibilities. The FIFA Laws of the Game specify the basic rules for field sizes and marking. These laws are reproduced here to provide easy reference. Any clarification or further detail should be sought from the latest edition of the FIFA Laws of the Game.

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Initial Certification

The procedure for applying for approval for competition fixtures is as follows:

- All grounds currently in use for Football Brisbane competitions will be considered as having conditional approval. Any complaint regarding a particular playing field will be reviewed against this standard.

For new grounds, the Football Brisbane Review Committee will inspect the playing field and recommend one of the following:

- Approval for fixtures for the current playing season and no re-certification required unless advised of changes to the current situation
- Approval delayed pending further inspection. Reason for delay given in detail with recommendations for actions required bringing the ground into certification
- Approval denied. Reason for denial given in detail with recommendations for actions required bringing the ground into certification.

Disputed Compliance

To eliminate the controversy regarding the compliance of some club fields, due to the perception of the visiting clubs that the surface is "not up to standard", the following process will be followed:

- Football Brisbane receives a complaint regarding the compliance of a particular ground. **Note:** The complaint must be received on club letterhead, from an authorized officer of the club. Notification may also be received from a match official on the Referee Summary Sheet. Verbal and e-mail complaints from players, coaches etc. will not be reason to start this process. A single complaint may also be considered insufficient reason to initiate the process.
- FB Review Committee checks the last inspection documentation held. A ground inspection may be organized to give a second opinion of the ground. If in the opinion of the majority of the FB Review Committee that the ground is unlikely to be non-compliant, the complainant will be notified that no further action will be taken.

If in the opinion of the majority of the FB Review Committee that the ground may not be in compliance, the following action will be taken:

- The club will be required to facilitate an inspection by an appointed FB representative. The representative will report to the FB Review Committee. The report will be acted on in the following manner:
 - Ground Compliant
Organisations involved notified with a copy of the report summary. Any cost of the inspection may be charged to the complainant clubs equally
 - Ground Non-Compliant
Clubs involved notified with a full copy of the report to the affected club. Any cost of the inspection may be charged to the non-compliant club. Suspension of FB fixture matches until compliant.

Note: Any evidence of an attempt to mislead the Football Brisbane by any person or persons will result in appropriate action taken under the By-Laws and Regulations of FIFA, Football Queensland and Football Brisbane in place at that time. This would be considered a serious offence.

FIFA Laws of the Game

Field Markings

The field of play must be rectangular and marked with lines. These lines belong to the areas of which they are boundaries. The two longer boundary lines are called touch lines. The two shorter lines are called goal lines. The field of play is divided into two halves by a halfway line, which joins the midpoints of the two touch lines. The centre mark is indicated at the midpoint of the halfway line. A circle with a radius of 9.15 m (10 yds) is marked around it. Marks may be made off the field of play, 9.15 m (10 yds) from the corner arc and at right angles to the goal lines and the touch lines, to ensure that defending players retreat this distance when a corner kick is being taken.

Dimensions

The length of the touch line must be greater than the length of the goal line.

Length (touch line)	minimum 90m (100 yds)	maximum 120m (130 yds)
Width (goal line)	minimum 45m (50 yds)	maximum 90m (100 yds)

All lines must be of the same width, which must be not more than 12 cm (5 ins).

Goal Area

Two lines are drawn at right angles to the goal line, 5.5 m (6 yds) from the inside of each goalpost. These lines extend into the field of play for a distance of 5.5 m (6 yds) and are joined by a line drawn parallel with the goal line. The area bounded by these lines and the goal line is the goal area.

Penalty Area

Two lines are drawn at right angles to the goal line, 16.5 m (18 yds) from the inside of each goalpost. These lines extend into the field of play for a distance of 16.5 m (18 yds) and are joined by a line drawn parallel with the goal line. The area bounded by these lines and the goal line is the penalty area. Within each penalty area, a penalty mark is made 11 m (12 yds) from the midpoint between the goalposts and equidistant to them. An arc of a circle with a radius of 9.15 m (10 yds) from the centre of each penalty mark is drawn outside the penalty area.

Flag posts

A flagpost, not less than 1.5 m (5 ft) high, with a non-pointed top and a flag must be placed at each corner. Flagposts may also be placed at each end of the halfway line, not less than 1 m (1 yd) outside the touch line.

Corner Arc

A quarter circle with a radius of 1 m (1 yd) from each corner flagpost is drawn inside the field of play.

Goals

A goal must be placed on the centre of each goal line. A goal consists of two upright posts equidistant from the corner flagposts and joined at the top by a horizontal crossbar. The goalposts and crossbar must be made of wood, metal or other approved material. They may be square, rectangular, round or elliptical in shape and must not be dangerous to players.

The distance between the posts is 7.32 m (8 yds) and the distance from the lower edge of the crossbar to the ground is 2.44 m (8 ft). Both goalposts and the crossbar have the same width and depth, which do not exceed 12 cm (5 ins). The goal lines must be of the same width as the goalposts and the crossbar.

Nets may be attached to the goals and the ground behind the goal, provided that they are properly supported and do not interfere with the goalkeeper. The goalposts and crossbars must be white.

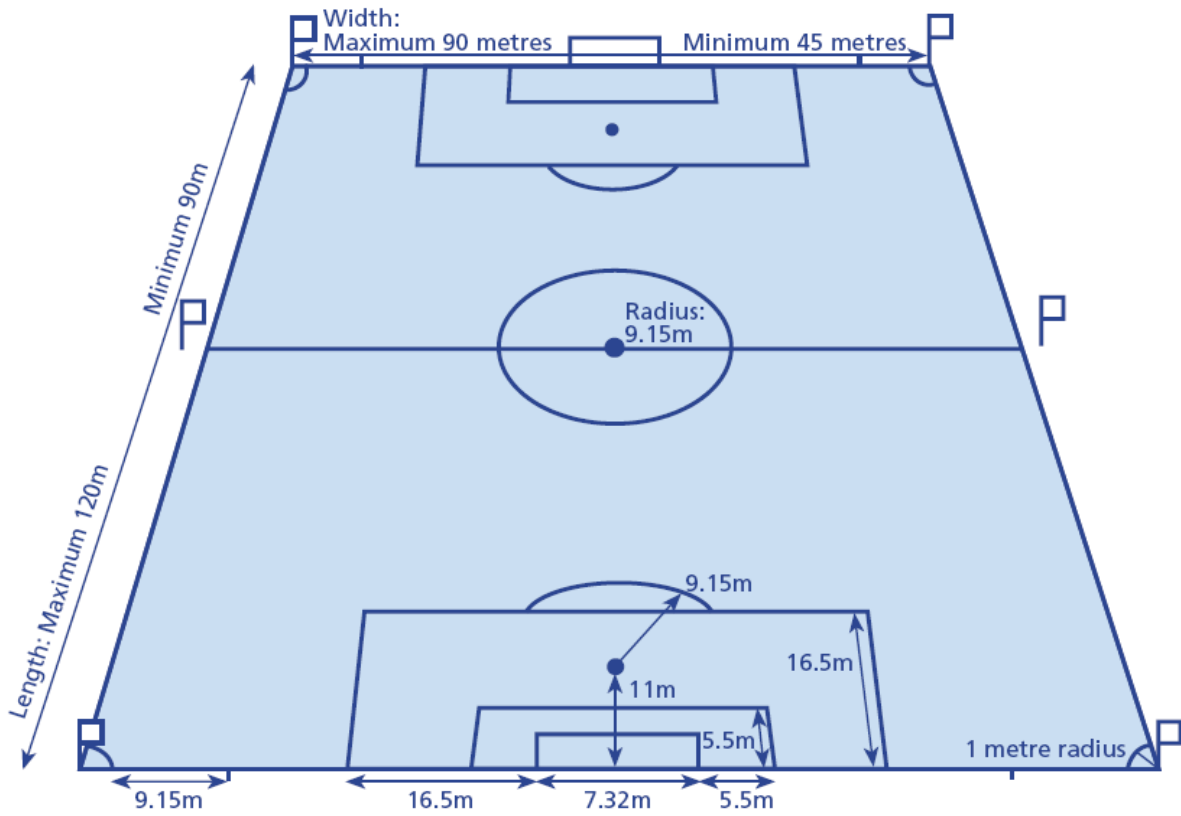
Safety

Goals must be anchored securely to the ground. Portable goals may only be used if they satisfy this requirement.

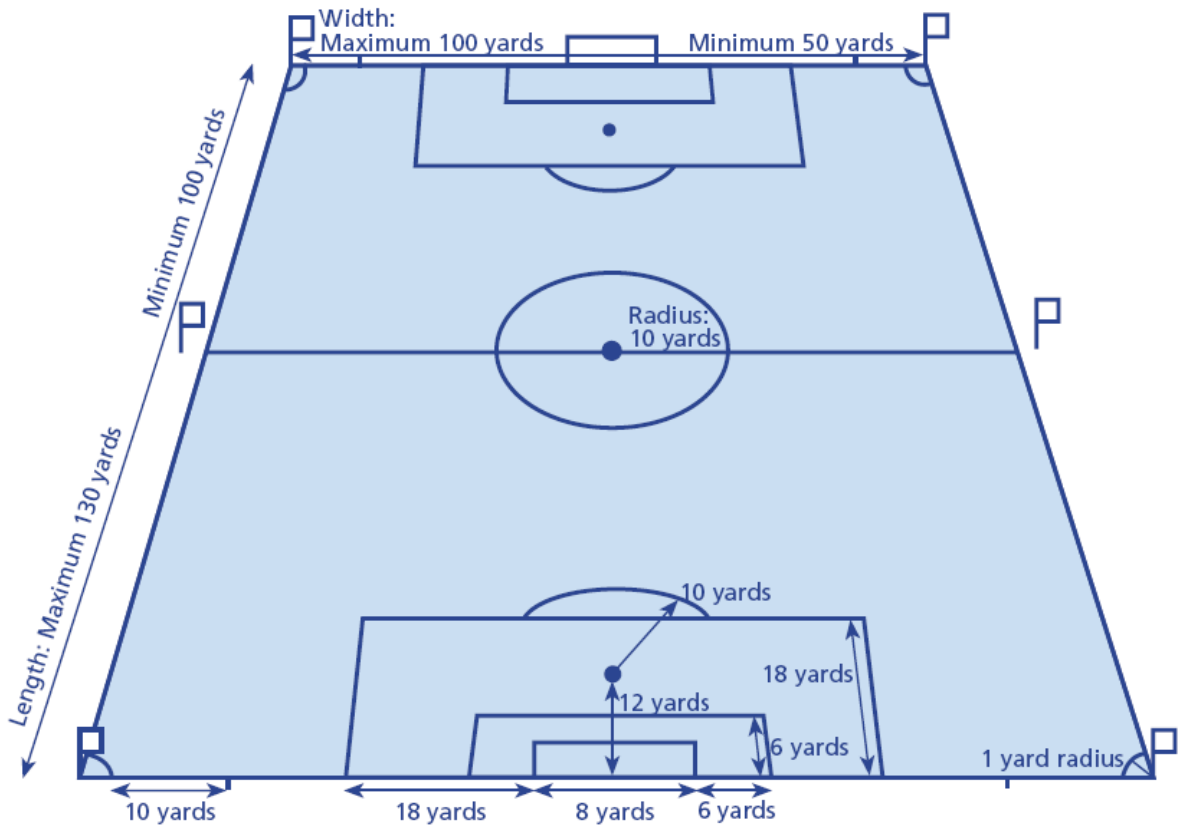
Portable goals will be assessed under the following Standards:

Qld Fair Trading Standards - Fair Trading Regulation 2001, Schedule 5D, Safety standard for moveable goals Standards Australia, Portable goalposts – Manufacture, use and storage (Available on the Football Brisbane website.)

Metric Measurements



Imperial Measurements



Technical Area

The technical area extends 1 m (1 yd) on either side of the designated seated area and extends forward up to a distance of 1 m (1 yd) from the touch line.

Markings must be used to define this area (see Rules of Competition (Senior), Section 4.15)

Advertising

Commercial advertising shall be at least 1 m (1 yd) from the boundary lines of the field of play. No form of commercial advertising, whether real or virtual, is permitted on the field of play, on the ground within the area enclosed by the goal nets or the technical area, or within 1 m (1 yd) of the touch line from the time the teams enter the field of play until they have left it at half-time and from the time the teams re-enter the field of play until the end of the match. Similarly, advertising is not permitted on the goals, nets, flagposts or their flags and no extraneous equipment (cameras, microphones etc.) may be attached to these items.

Logos and emblems

The reproduction, whether real or virtual, of representative logos or emblems of FIFA, confederations, member associations, leagues, clubs or other bodies is forbidden on the field of play, the goal nets and the areas they enclose, the goals, the flagposts and their flags during playing time.

Football Brisbane Standard for Playing Facility

Enclosure of Ground

The ground should conform to the minimum standard set out in 'Ground and Facilities Requirements' document available on the FB website and the supplementary requirements set out in this standard. The premises should be enclosed in a manner, which allows reasonable control to be exercised over spectators.

Enclosure of Playing Field

The main playing field should be enclosed by a fence of a type which effectively:

- assists in keeping the ball within the confines of the field of play, and
- deters spectators from encroaching onto the field of play

It shall be at least one (1) metre high and at least two (2) metres from the side lines and goal lines. However, it is recommended that fences should be a minimum of three (3) metres from side lines and goal lines.

In areas where fencing is unable to be installed, corrals or other structures may be used to provide perspective.

Construction

Suitable fences would be any fencing structure conforming to good workmanship practices and of suitable material for the purpose.

This would include, but not be limited to:

- Steel or wooden post and rail with mesh wire firmly attached
- Steel fencing known as 'pool fencing' provided the top is not pointed
- Steel or wooden posts with sheet metal signage forming the barrier

The attachment of signs or the mesh itself should be free of protruding edges, points and sharp corners. Bolts, screws or wire fasteners must be safe or positioned to be inaccessible to normal activity.

Condition

The fence, regardless of its construction must be maintained in good order and repair. Any damage, wear and tear should be repaired immediately. All attachments, signs and the like must be firmly attached.

Access / Egress

Access to the playing field must be through gates that are maintained in the closed position when not in use.

Players and officials should have separate gates, suitably located away from main spectator areas and structures. Where possible the home and away players should have separate gates.

A clearly marked 'Ambulance Access' gate must be accessible at all times. An alternative gate would be desirable. If normally locked, the attending Ground Official must have access to the key.

Positioning of Structures

Structures erected at the edge of the playing field shall be at least two (2) metres from the side lines and goal lines. However, it is recommended that structures should be a minimum of three (3) metres from side lines and goal lines.

Where permanent structures such as light poles, soil retaining walls or any other structure is located inside three (3) metres, the following considerations should be followed:

- Use temporary 'crash padding' to mitigate the effect of the structure during games
- Post or support pylons padded to a height of 1.8m above the ground. If padding is not practicable, all sharp corners should be rounded or removed
- Relocate the structure during any modification or upgrade to the facility
- Reduce the size of the field (in accordance with the 'Laws of the Game') to accommodate the safety margin of 3m

Football Brisbane Standard for Playing Surface

Playing Surface

When the 'European Standard for Sports Surfaces' is finalised this standard will be the reference document for Football Brisbane. CEN TC/217 WG3 – Natural Turf. (under development).

The surface of the main playing field shall be even and shall be maintained in good order and condition, to encourage quality football and help enhance playing standards.

Surface – General

The field surface should be level, flat and even within acceptable limits taking into consideration drainage requirements. The field should not be 'domed' about the centre nor should it contain a cricket pitch or some other type of playing surface.

The playing surface should be maintained free of holes, loose patches, stones or other foreign objects. All repairs should be carried out using quality materials and to the best practice. All inconsistencies must be filled or re-turfed to eliminate conditions in the surface that affects the roll of the ball and pose a potential injury risk for players and officials.

Grass Coverage

Any grass type is acceptable provided the cover is even, consistent in depth in all parts of the ground and free of bare patches and clumps of foreign grass types. One type of grass over the entire surface is preferred but if different types are used they should be maintained to a consistent height in all places.

In-Field Watering Devices

Those fields fitted with in-field sprinkler heads must be maintained to ensure the sprinkler heads are not protruding above the general level of the soil surface (not the finished grass height). They must be maintained to ensure that depressions are not formed during the sprinkling operation by the erosion of the soil surface. Any depressions must be filled with a clean sand/soil mix and finished level with the general soil surface.

Line Marking

The pitch shall be clearly marked and without the use of weed killer. The use of growth retardant/bleaching agent is permissible. The line must be consistent with the general level of the grass surface. Eroded lines must be filled or re-turfed to eliminate depressions in the surface that affect the roll of the ball and pose a potential injury risk for players and officials.

Goalposts and Flag Posts

The goalposts and flag posts must be clean and undamaged with a well-maintained coat of white paint.

Floodlighting

Clubs wishing to host night fixtures during the season must submit field lighting audits when requested. Recommendations for football field lighting are detailed in the Australian Standard Australian Standard AS2560 Part 1 and Part 2.3 "Lighting for Football". These state that the Maintained Illuminance (the level below which the average illuminance is not allowed to fall) is 100 Lux (Average) and Minimum Uniformity Ratio (Min/Ave) is 0.5 for competition matches. To achieve this level for the whole season, **the Maintained Average Illuminance at the commencement of the season must be a minimum of 110 Lux.**

Artificial Surface

FIFA have developed a compliance standard for artificial surface playing surfaces. Any information required on this matter should be obtained from the FIFA web site (www.fifa.com).

FIFA Standard for Playing Surfaces

The following information is not intended as a final, unwavering standard for natural turf pitches in our geographic area. FIFA have developed measurements from natural turf pitches in Europe to allow the organisation to draft quality standards for artificial turf. Much work has been done in this area and we can now draw on that work to determine the "ideal" pitch surface for our conditions.

Safety must be the primary concern of any club and certainly this association. A poorly constructed and/or neglected field will often be a dangerous field. Simply put, the field that is not constructed correctly and maintained can present a number of hazards to the players, which can lead to a variety of injuries. This can further detract from the attraction of the facility and open the owners up to threat of litigation.

The playing characteristics of the field will be severely impaired by poor design and/or a lack of maintenance. The ball can become faster over the surface, it will roll unevenly and the ball bounce will vary from place to place. The players will feel uncomfortable running on an uneven surface and frustrated by the inability to control an unpredictable ball.

In preparing this document the following documents have been used as reference material:

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| • Sport England (English Sports Council) | www.english.gov.uk | Natural Turf for Sport |
| • FIFA Quality Concept for Artificial Turf | www.fifa.com | Standard for surfaces. |
| • The Sports and Play Contractors Assoc | | Technical Guidance No.6 |
| • Medi Sci Sports Exercise 31(5): S354 | | Ground Hardness using the Racetrack Penetrometer |
| • Sports and Recreation Queensland | | Facilities Planning. |

Scope

The performance of a playing surface depends upon the installation process, the preparation of the sub-base and the composition of the existing sub-soil (construction). Pitch maintenance is also critical to performance. The following standard relates to the following:

- Construction Tests
- Ball/Surface Interaction
- Player/Surface Interaction

The player/surface interaction and the ball/surface interaction tests are carried out on the constructed pitch. The intention is to promote the FIFA standard as the acceptable standard for football surfaces. The existing playing fields should be prepared to conform to this standard as much as practicably possible. Existing pitches may never reach this standard but it should be attempted.

Construction

It is necessary to impose certain constructional requirements for the game of football. Therefore testing and values for slope and evenness has been determined.

The slope of the field should not be excessive or the ball will be unduly influenced. The surface should have a degree of evenness to allow the ball to roll over the surface without affecting its trajectory or causing the ball to bobble on the surface.

There are two evenness requirements:

- One to cover the macro evenness of the field and the other to prevent small steps in the surface sometimes observed for example on the line marking areas

Characteristic	Test Method	Requirements
Slope	EN 22768-1	< 1.0 %
Evenness (Macro)	EN 22768	< 10 mm under 3m
Evenness (Micro)	EN 22768	< 2 mm under 300 mm

Generally, depending on the standard of facility required, the playing surface should be no steeper than 1:100 (1%) along the line of play and 1:50 (2%) across the line of play.

Ball/Surface Interaction

There are three categories that define the performance of a ball on the surface. These are *Ball Bounce*, *Ball Roll* and *Angled Ball Behaviour*. The behaviour of a ball on the surface is correlated to the anticipation of the player. A player expecting to receive a ball makes certain mental assumptions regarding the rebound of the ball, the pace of the ball across the surface and the speed at which an angled ball comes off the surface.

Vertical Ball Rebound

Clearly if a ball bounces higher than expected the player may fail to control the ball or it may bounce over his head or bounce too low and pass under a raised foot. It is necessary therefore to measure the height to which a ball bounces when dropped from a certain specified height onto the surface.

The *Vertical Ball Rebound* is measured by dropping a ball from a specified height and measuring its rebound height. Natural turf will give values of between 50-90%, but an "ideal" natural turf will give values of between 60-84%.

Ball Roll

A ball moving over the ground towards a player more quickly or slowly than anticipated will result in the player failing to control the ball correctly. The player passing the ball will also assume the ball will be slowed over the surface and will therefore kick it with a certain force anticipating the ball to be slowed down accordingly. The test used to predict the slowing down of the ball over the surface is called *Ball Roll*. A ball is allowed to roll down a ramp onto the surface through sets of timing gates and the speed of the ball over the surface is assessed. This allows the surface to be classified in terms of the speed of the surface or the deceleration of the ball over the surface.

A calculation can be done by measuring the decreasing velocity of the ball over a defined distance. The velocity change calculated for natural turf would vary between 0.5 m/s-0.8m/s. The higher the velocity changes the slower the pitch.

Angled Ball Behaviour

In practical terms a ball hit at an angle and speed, particularly a long ball, will bounce off the surface at a certain angle and speed. If the ball comes off the surface at a different trajectory and speed than anticipated it makes it difficult to control the ball. The complexity of the measurement task is beyond our scope and the values are for reference only.

Ball / Surface Interaction Tests

There are three categories that define the performance of a football on a surface. The tests that measure these are vertical ball rebound, football roll and angled ball behaviour. The requirements are as follows:

Characteristic	Test Method	Recommended Value
Vertical Ball Rebound	EN 12235	60 - 100 cm
Ball Roll Velocity Change	EN 12234	0.35 - 0.95 m/s
Angled Ball Behaviour	FIFA Quality Concept (50 km/h with an impact angle of 15)	45 - 70 %

Player/Surface Interaction

The characteristics of a surface that a football player needs to play the game fall into several categories.

Shock Absorbency

The surface can feel "hard" or "soft". A hard surface can lead to injuries to the body by causing the joints (particularly ankles, knees, hips and spinal column) to compress which results in damage to the cartilage between the bones in the joints. Furthermore falling on a hard surface can cause bruising to soft tissue like muscles and extreme cases can cause fractures to bones. A soft surface can cause fatigue to the player running on the surface.

The ability of a surface to absorb the impact of a player running on the surface is called its *Shock Absorbency*. *Force Reduction* is expressed as a percentage. The higher the percentage the "softer" the surface i.e. the more shock absorbing is the surface. Natural turf in good conditions gives values of between 55 - 70%. Natural turf in "ideal" conditions produces values of between 60 - 70%.

Traction

Another aspect of the interaction between the shoe sole and the surface is the ability to change direction at will when running at speed. Football is not a unidirectional sport but is one involving repeated changes of direction. The player therefore needs to change direction on a regular basis as the game moves around the field. The surface must allow sufficient Traction to allow the player to repeatedly change direction.

Values for natural turf of between 25-50 N.M. (Traction Coefficient 1.2-1.8) for good turf and between 35-45 N.M. for an "ideal" natural turf have been measured.

Deformation

The stability of a surface as a player runs across it has a significant effect on his stride pattern (often referred to as gait). A surface that deforms excessively gives the impression of being unstable. Consequently the player will shorten his stride and his speed will reduce accordingly. A surface that does not deform is hard and unforgiving and causes discomfort. We measure the stability of a surface by the amount of give in the surface, or Deformation.

Slip Resistance

If a football player is to run on a surface he needs to have sufficient foot holding for him to be able to accelerate and decelerate as necessary. A football player needs to both accelerate from a standing start and be able to stop quickly equally as well. This characteristic requires an interaction between the sole of the football shoe and the surface. The shoe has to gain sufficient grip on the surface to allow the propulsive forces of the take-off to be transmitted to the surface to allow the player to accelerate from standing. Similarly the player must gain sufficient grip from the surface to enable him to stop quickly. If there is insufficient grip the player will slip which could result in a loss of balance with the danger of physical damage to muscle ligaments, soft tissue or even bones. Conversely too much grip is also dangerous. When a player attempts to stop forces are transmitted to joints and ligaments to decelerate the body's forward momentum. If the forces are transmitted too quickly then there is a danger that too high a strain will be imparted to the joints and ligaments resulting in damage.

Values between 3.0-6.0 g for this deceleration have been measured on good natural turf. Lower values indicate a surface with low grip and higher values with high grip.

Player / Surface Interaction Tests

The characteristics of a surface that a football player needs to play the game fall into several categories. The testing for player/surface interaction consists of shock absorbency, vertical deformation, slip resistance, traction and sliding distance. The criteria were based on the performance characteristics of natural grass. The requirements are as follows:

Characteristic	Test Method	Recommended Value
Shock Absorbency	EN 14808	55 - 70%
Vertical Deformation	EN - Low Impact "Stuttgart Athlete" EN 14809	4 mm - 9 mm
Slip Resistance	Slip Resistance Tester	120 - 220 Scale 3 - 6 g Deceleration
Traction	Number to be allocated	25 -50 N.M.