

# ***ARTIFICIAL SURFACES***

## ***CONSULTATION DOCUMENT***



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### Disclaimer

Reasonable effort has been made to ensure the accuracy of the information contained within this consultation document. No party should make use of any part of this document in the development of an artificial surface, and anyone doing so, does so at its own risk.

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## 1. EXECUTIVE SUMMARY

The document sets out the background to the development and use of artificial surfaces, and explains some of the potential advantages and disadvantages of their use within professional football. The use of artificial surfaces in other European countries will be reviewed as well as developments in the Laws of the Game and competition rules. The FIFA Quality Concept for Football Turf will be examined in some detail and options for the implementation of artificial surfaces in The Football League will also be discussed.

The Football League has a long and rich tradition, and throughout its history it has sought to improve the game through innovation. The introduction of three points for a win in 1981 and the end of season play-offs in 1987 are two of the best examples. Also in the 1980s, four clubs took the bold move of installing an artificial surface at their grounds. These new 'plastic pitches', though modern in their time and commercially successful, ultimately proved to be unpopular with most football supporters and players. In 1989, a Commission of Enquiry into Playing Surfaces reviewed the use of both artificial surfaces and natural grass, and identified issues with ball roll and bounce as well as a fear of long-term injury on behalf of some players on artificial surfaces. Whereas a clear majority of fans surveyed viewed the game as more enjoyable on natural grass, the vast majority of fans also perceived a strong home advantage to the team with artificial. The Committee recommended a total ban in the then first division from 1990, and in 1995, League Regulations were amended to a complete ban in all divisions after the last of the four clubs reverted back to a natural grass pitch in 1994.

Since the mid-1990s, advances have been made in how artificial surfaces are constructed. 'Third generation' or '3G' pitches have been developed that more closely replicate the characteristics and performance of a natural grass surface. In 2001, the Federation of International Football Associations (FIFA - football's international governing body) introduced its Quality Concept for Football Turf, in which artificial surfaces are licensed and certified in accordance with quality criteria in laboratory and field tests. In 2004, the International Football Association Board (IFAB) approved the use of artificial surfaces in international matches, and in the same year FIFA introduced its '2 Star Recommended' standard for artificial surfaces used in professional football. Since this time, the number of professional clubs using an artificial surface has expanded and UEFA has amended its rules to permit their use in its club competitions in all rounds prior to the final match.

With the use of artificial surfaces continuing to spread throughout the world of football and with the potential for clubs to benefit economically and otherwise from their use, a number of Football League clubs have requested The League to review its ban on artificial surfaces. This consultation document is a key part of that process, and The Football League invites all those with an active interest in professional football to express a view on whether or not artificial surfaces should be used in first team matches.

Football League Regulation 15.1 states, 'No League Matches shall be played on an Artificial Surfaces'. 'Artificial Surface' means 'any playing surface which is not natural grass, predominantly natural grass or intended to be predominantly natural grass.'

'League Matches' are those played in the League Competition, which is the annual competition organised by The Football League for the 72 Member Clubs in three divisions known as The Championship, League 1 and League 2 respectively. 'League Matches' are the main component of a Member Club's senior first team fixtures and are the most important competition to consider in relation to any decision to permit or otherwise the use of Artificial Surfaces. These three divisions occupy the second, third and fourth tier of the English football pyramid, with clubs being promoted and relegated at the end of each season between each Football League division and to and from the Premier League (first tier) and the Football Conference (fifth tier). This obviously means that any Regulation change could impact Member Clubs following promotion or relegation as well as clubs that are currently non-members and other leagues.

In addition, the rules of the three cup competition in which Football League clubs compete each season also prohibit the use of artificial surfaces. The Football League Cup is organised by The Football League and involves the 72 Member Clubs as well as 20 Premier League clubs. The Football League Trophy is also organised by the Football League and involves the 48 Member Clubs in League 1 and League 2. The FA Challenge Cup is organised by The Football Association and involves 32 non-League clubs and 48 League 1 and League 2 clubs from the First Round and 24 Championship and 20 Premier League clubs from the Third Round. Member Clubs' participation in each of these cup competitions is also an important feature of senior first team fixtures. If any club were able to install an artificial surface at its ground for 'League Matches' it would also expect to stage its home cup ties at its ground and therefore cup rules would also have to be amended.

Any potential change to the League Regulation clearly requires consultation and careful planning. Assuming there is a will amongst Member Clubs to permit some Clubs to experiment with the introduction of an artificial surface at their grounds, the issues of how to ensure the quality of the surfaces, their use in cup competitions, and the handling of promotion and relegation in and out of the League all require some consideration. The 'FIFA 2 Star Recommended' criteria appear to be a 'ready to use' quality standard and it is also worth considering how to construct a monitored trial period.

## 2. SCOPE

The Football League is the world's original league football competition and is the template for leagues the world over. With 72 members, it is the largest single body of professional clubs in European football and is responsible for administering and regulating the npower Football League, Carling Cup and Johnstone's Paint Trophy, as well as reserve and youth football.

The aim of this consultation is to help review and inform the debate on whether the Regulations should be amended to permit the use of artificial surfaces in League Matches in the future.

The Football League Articles of Association state that any resolution to change the Regulations must be passed by a majority of Member Clubs and at the same time by a majority of the Championship clubs (in both cases those present and voting). Whilst Football League Clubs will ultimately decide whether or not to make any change to Regulation 15.1, The Football League recognizes this subject impacts on various stakeholders in the game as well as Football League clubs. Furthermore, any reintroduction of artificial surfaces in The Football League would be best achieved with a significant level of support (or at least a neutral stance) from a range of professional clubs, governing bodies, players, managers, supporters, groundsmen and match officials.

Therefore, in order to make an informed decision and to take into account views from across the professional game, it is has been decided to ask all those affected by any potential change to this Regulation whether or not they believe that any such decision would be beneficial to both themselves and to the professional game as a whole.

### WHO WOULD WE LIKE TO HEAR FROM?

The Football League would like to hear from stakeholder bodies and individuals with an active interest in professional football. These stakeholders include all Member Clubs, all Premier League Clubs and non-League clubs with an aspiration for promotion to The Football League. It also includes The Football Association, the Premier League, the Football Conference, the Northern Premier League, the Southern League, the Isthmian League and representative bodies including the Professional Footballers' Association, the League Managers' Association, the Football Supporters' Federation, Supporters Direct and the Institute of Groundsmanship.

The League would not wish to limit the consultation and corporate bodies and individuals other than those mentioned above (e.g. manufacturers, contractors, laboratories and consultants) are also invited to respond.

## **WHO IS ORGANISING THE CONSULTATION?**

The Football League Customer Services Department is organising the consultation.

## **WHEN IS THE CONSULTATION PERIOD?**

The consultation period commences in February 2012 and will close on 30 April 2012. Any submissions made after this date will be accepted, but the information contained may not be included in any reports made to in time for the Chairmen's Conference on 31 May/1 June 2012 when the subject is due to be debated by Member Clubs.

## **HOW TO RESPOND AND WHO TO CONTACT WITH AN ENQUIRY?**

Complete the questionnaire in section 6 or write to The Football League at the following address:

Lead Contact: Andy Pomfret

Email: [enquiries@football-league.co.uk](mailto:enquiries@football-league.co.uk)

Fax: 0844 826 9220

Address: The Football League, Edward VII Quay, Navigation Way, Preston, PR2 2YF

You can also respond online at: <http://www.zoomerang.com/Survey/WEB22ERJWUK6Y6>

## **WHAT WILL HAPPEN AFTER THE CONSULTATION IS COMPLETE?**

Once the consultation is complete a report will be made to Member Clubs that will inform the debate on the subject at Football League Board meetings and at the Chairmen's Conference on 31 May/1 June 2012. A copy of this report will be subsequently published on The Football League website [www.football-league.co.uk](http://www.football-league.co.uk)

### 3. BACKGROUND

In general, artificial surfaces are sports fields consisting of artificial turf, which is manufactured from synthetic fibres, and made to look and perform like a natural grass surface. The first product to be used in a major sport was laid in 1966 at the indoor baseball stadium, the Houston Astrodome in Texas. The use of this 'AstroTurf' and similar surfaces became widespread in the U.S. and Canada in the early 1970s, and they were installed in stadiums used for both baseball and American Football.

Artificial surfaces eventually reached English football in the 1980s, and four Member Clubs adopted them – Queen's Park Rangers, Luton Town, Oldham Athletic and Preston North End. Often referred to as 'plastic pitches', these surfaces were modern in their time. Whilst the clubs that installed them were able to make greater economies (e.g. from renting out their stadium facilities), the surfaces themselves, when used for professional football, proved to be unpopular with most football supporters and players.

In 1989, a Commission of Enquiry into Playing Surfaces (with representatives from Member Clubs, The Football League, the Professional Footballers' Association and the Sports Turf Research Institute) sat to review the use of both artificial surfaces and natural grass. The Committee identified negative issues with the performance of artificial surfaces such as ball roll and bounce. The Committee also collated the injury records of players at clubs with artificial surfaces and natural grass respectively, and on the evidence it had available, concluded there was not much difference between injuries received on the two surfaces apart from friction burns. However, the long-term physical effect of playing on artificial was not known, and this fear of injury was an important consideration of some players. Whereas a clear majority of fans surveyed viewed the game as more enjoyable on natural grass (when compared to artificial) and an overwhelming majority of fans surveyed perceived a strong home advantage to the team. A statistical analysis of the playing records of clubs with artificial surfaces was undertaken, but the results were inconclusive and a need for more detailed analysis was identified.

All considered, when the Committee reported to the League Board in May 1989, it recommended a total ban of artificial surfaces in the then first division from 1990; no matches to be played in the Second Division from 1990 apart from those involving those clubs with existing permission; and, that all new artificial surfaces should conform to new standards for ball rebound, ball roll, traction, sliding distance, shock absorption and force reduction. Ultimately the Member Clubs voted against the use of artificial surfaces across the League when in 1995, League Regulations were amended to complete a ban in all divisions after the last club reverted back to a natural grass pitch in 1994. Since this time The Football League has not formally reviewed its position.

Since the late 1990s, the Federation of International Football Associations (FIFA) has been the leading advocate of the development of artificial surfaces to specifically meet the needs of football. Following the experience of poor standard artificial surfaces in England and elsewhere in the 1980s, FIFA has sought to ensure that the game is not changed dramatically when played on an artificial surface and that the quality of the surface is adequate for both grassroots and the professional game.

In 2001, FIFA launched its Quality Concept for Football Turf, which is a licensing and certification programme which allows the purchasers of artificial football turf to rely on the 'FIFA Recommended' endorsement of a product when making an investment. This endorsement is a mark of 'outstanding quality, optimum playing comfort and regular checks by FIFA'. In 2004, the International Football Association Board (IFAB) decided to include the use of artificial surfaces (also known as 'Football Turf' by FIFA) in the "Laws of the Game" for the first time. At the same time, IFAB also decided to permit matches between national teams and international matches between club teams to be played on artificial surfaces that comply with the Quality Concept. In the same year, FIFA expanded its quality standards with the development of the 'FIFA Recommended 2 Star' criteria. The existing 'FIFA Recommended 1 Star' standard was supplemented with a second standard 'aimed to satisfy the most rigorous demands in professional football and further improve the playing conditions and safety of Football Turf pitches'. In 2009, FIFA launched its Preferred Producer Initiative Programme to further improve quality by setting firm obligations and requirements which must be adhered to at each stage of the turf lifecycle, manufacturing, installation and maintenance.

Whilst FIFA's aim has been to ensure that artificial surfaces have similar playing characteristics as natural grass, FIFA also explain that the demand for the surfaces is, 'chiefly in regions where the climate makes it impossible to organise football matches on good natural turf all year round'. FIFA is also an enthusiastic proponent of natural grass surfaces. Further information regarding the FIFA Quality Concept for Football Turf, the development in the Laws of the Game and competition rules, the use of artificial turf in other European countries and the potential benefits and costs of the use of artificial surfaces in professional football is outlined below.

## 4. FIFA QUALITY CONCEPT

The following chapter is based on the text from FIFA's website:

<http://www.fifa.com/aboutfifa/footballdevelopment/pitchequipment/footballfields/qualityconcept.html>

### FIFA QUALITY CONCEPT FOR FOOTBALL TURF

The FIFA Quality Concept, a guarantee of premium quality and consistency, is now a respected international industry standard. With its commitment to first-rate artificial surfaces, FIFA is responding to the growing demand for playing football on football turf - chiefly in regions where the climate makes it impossible to organise football matches on good natural turf all year round.

The FIFA certification and licensing programme, which was launched in February 2001, means that purchasers of football turf can rely on the FIFA RECOMMENDED endorsement when making their decisions. This endorsement is a mark of outstanding quality, optimum playing comfort and regular checks by FIFA. Artificial turf has been around for decades - but only recently, since manufacturers first developed surfaces tailored specifically to the needs of football, has it been a truly viable surface for football matches.

### FOOTBALL TURF

FIFA now feels it is appropriate to use "Football Turf" as the designation for artificial surfaces installed as part of the FIFA Quality Concept. The main reasons for this are that this designation underlines the high quality of the pitches that are certified as part of the programme and the playing characteristics of "football turf" mirror the quality of natural grass pitches that is required to play the game at a very high level.

### TEST PROCEDURES

The FIFA RECOMMENDED marks are only awarded to those artificial turf pitches which have passed a series of stringent laboratory and field tests. Natural grass in ideal condition is the benchmark for these FIFA test criteria in order to insure highest playing comfort and constantly improve the quality of artificial turf football pitches.

Therefore every turf product must first pass laboratory tests to determine its composition and then must be tested for durability, joint strength, climatic resistance, player-to-surface interaction and ball-to-surface interaction. If it passes all these tests, then this completes the first stage of the process towards the award of the marks.

In the second stage every installed pitch must be tested on site. Firstly, specialised field-testing equipment measures how the ball reacts on the surface in terms of roll, vertical rebound and how the ball behaves when it strikes the surface at an angle. Then it must similarly be tested to see how it reacts to the actions of players including shock absorbency, surface deformation, slip resistance and traction. In addition, the reaction of the turf to the skin of the players, when sliding on the surface, will be measured in form of skin abrasion and friction for the higher of the two FIFA RECOMMENDED levels.

If the artificial turf pitch passes all the laboratory tests and all the field tests then it will qualify for one of the two FIFA RECOMMENDED marks. The marks will only be given to an installed pitch and not simply to the turf carpet. This is because the underlying base surface is just as important to the playability of the pitch as the turf itself.

Detailed information can be found in the handbook of test methods and requirements. [http://www.fifa.com/mm/document/afdeveloping/pitch&equipment/68/52/24/fqctestmethodmanual\(may2009\).pdf](http://www.fifa.com/mm/document/afdeveloping/pitch&equipment/68/52/24/fqctestmethodmanual(may2009).pdf)

## **FIFA RECOMMENDED QUALITY LEVELS**

Based on player surveys, medical research and test results, as well as on information from the industry, the existing standard (FIFA RECOMMENDED 1 STAR) was supplemented with a second standard (FIFA RECOMMENDED 2 STAR) in the summer of 2004. The development of this second standard aims to satisfy the most rigorous demands in professional football and further improve the playing conditions and safety of football turf pitches.

The FIFA RECOMMENDED 1 Star is mainly for recreational, community and municipal use; however, it still has to go through a series of stringent tests before the highly respected FIFA certificate is issued.

The FIFA RECOMMENDED 2 Star for artificial turf is designed specifically to mirror the playing characteristics of professional football. FIFA final round competitions and top UEFA competitions have the FIFA RECOMMENDED 2 Star in their respective competition regulations.

All artificial turf pitches produced are subject to FIFA testing. FIFA Recommended 2 Star pitches must have their certificates renewed on a yearly basis, while FIFA 1 Star pitches hold a valid certificate for four years.

## BENEFITS OF A FIFA RECOMMENDED FOOTBALL PITCH

- Manufacturers benefit from the reliability and credibility afforded by the FIFA quality seal.
- Players and managers reap the benefits of the outstanding playing conditions of a FIFA RECOMMENDED artificial turf.
- Club officials and national football associations and confederations have the assurance that FIFA RECOMMENDED artificial turf pitches have been tested to the stringent FIFA criteria and so meet the highest quality standards and therefore only those surfaces specifically suited to top-flight football will qualify for the FIFA endorsement.
- Artificial turf pitches that satisfy the FIFA quality standards combine the benefits of natural turf with optimum playing comfort and maximum safety for players.
- Maintenance costs are low and artificial turf has greater longevity.
- The FIFA test criteria are based on the readings of good natural turf fields. Therefore artificial turf pitches of the newest generation have similar playing characteristics as real grass. The way the ball behaves on artificial turf and the player to surface interaction mirror the game on natural grass.
- The FIFA RECOMMENDED mark is only awarded to those artificial turf pitches which have passed a series of stringent laboratory and field tests. Therefore FIFA RECOMMENDED artificial turf pitches are a guarantee for football surfaces of the highest quality.
- Only recognised test institutes that are ISO 17025 certified and comply with the stringent accreditation procedures can be accredited and carry out testing for the FIFA Quality Concept. This guarantees the reliability of the FIFA RECOMMENDED quality marks.
- The durability and climatic resistance of artificial turf products is tested in the laboratory. Therefore a FIFA-certified pitch guarantees a long playing life and thus increases the return on investment.
- The FIFA RECOMMENDED endorsements simplify the decision-making process since national associations, confederations, football clubs and municipalities can rest assured that only those surfaces specifically suited to top flight football will qualify for the FIFA RECOMMENDED marks.
- The FIFA certificate and registration on [FIFA.com/Footballturf](http://FIFA.com/Footballturf) ensure that FIFA RECOMMENDED artificial turf pitches can be easily and clearly identified. Players and coaches can be confident that registered FIFA RECOMMENDED fields are of the highest quality.

## 5. LAWS OF THE GAME

Law 1: the Field of Play - Field surface, states:

*'Matches may be played on natural or artificial surfaces, according to the rules of the competition.*

*The colour of artificial surfaces must be green.*

*Where artificial surfaces are used in either competition matches between representative teams of member associations affiliated to FIFA or international club competition matches, the surface must meet the requirements of the FIFA Quality Concept for Football Turf or the International Artificial Turf Standard, unless special dispensation is given by FIFA.'*

The Laws of the Game, therefore, require that where artificial surfaces are used for international matches or international club matches the surface must meet the requirements of FIFA's Quality Concept for Football Turf or the International Artificial Turf Standard (IATS). These standards are designed to mirror the playing characteristics of natural grass, with the 'FIFA 2 Star' standard applying to 'satisfy the most rigorous demands in professional football' and 'FIFA 1 Star' (and the IATS equivalent) being mainly for 'recreational, community and municipal use'.

In international football, the competition rules permit the use of artificial surfaces as follows:

Competition	FIFA Recommended	Authorization
FIFA Preliminary Competitions	1 or 2 Star	FIFA Competition Regulations
FIFA Final Competition Rounds	2 Star	FIFA Competition Regulations
UEFA Champions League	2 Star	UEFA Competition Regulations
Other UEFA Competitions	1 or 2 Star	UEFA Competition Regulations

Note: the Final of UEFA Champions League / Europa League must be played on natural grass.

## 6. USE IN EUROPE & RUGBY

Following the International Football Association Board's endorsement of Artificial Surfaces in international matches in 2004, and their own extensive research, the Union of European Football Associations (UEFA) sanctioned the use of Artificial Surfaces in its national team and club competitions from the 2005/6 season. The European qualification stages for the World Cup and all stages of the European Championships, the Champions League and the Europa League can be played on a FIFA accredited artificial surface, with the exception of the final match, which is still reserved for a natural grass pitch.

In 2003, UEFA launched a pilot project involving six club grounds where an Artificial Surface would be laid in an effort to test their usage. The venues were in Almelo (Netherlands), Denizli (Turkey), Dunfermline (Scotland), Moscow (Russia), Örebro (Sweden), and Salzburg (Austria). Whilst the results of this initial pilot were mixed, particularly in the case of Dunfermline where the pitch ultimately failed to meet the FIFA 2 Star standard, the development of new artificial surfaces in the professional game had been given an important fillip and a critical opportunity to gain increased exposure and credibility.

According to FIFA, in excess of 262 FIFA 2 Star pitches now exist in the UEFA territory, and as of 2011, artificial surfaces are in use by at least one club in the professional league of the following countries:

- Azerbaijan
- Lithuania
- Russia
- Belgium
- Kazakhstan
- Scotland
- Bulgaria
- Malta
- Serbia
- France
- Netherlands
- Sweden
- Finland
- Northern Ireland
- Switzerland
- Georgia
- Norway
- Turkey
- Italy
- Republic of Ireland
- Wales

Furthermore, there are many examples of professional clubs with an artificial surface that operate at a comparable level to Football League clubs, including:

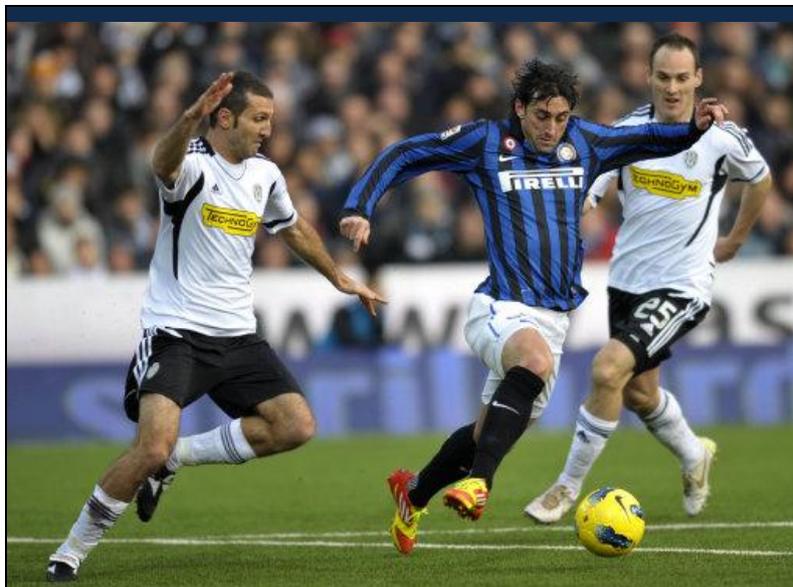
- Cesena, Novara – Serie A (Italy)
- Lorient, Nancy – Ligue 1 (France)
- Chateauroux – Ligue 2 (France)
- Neuchatel Xamax, Young Boys of Berne – Swiss Super League
- Excelsior Rotterdam, Heracles Almelo – Eredivisie (Netherlands)

- Almere City, AGOVV Apeldoorn, FC Volendam, FC Zwolle – Eerste Divisie (Netherlands)
- Airdrie, Alloa Athletic, East Stirlingshire, Montrose, Stenhousemuir – Scottish Football League
- The New Saints – League of Wales
- Crusaders – Irish Premier League (Northern Ireland)
- Dundalk – League of Ireland (Republic of Ireland)

The following text explains some of the background information regarding use by clubs in Serie A in Italy, Ligue 1 & Ligue 2 in France, the Swiss Super League, Eredivisie in Holland and in the Scottish Football League.

### **SERIE A (ITALY)**

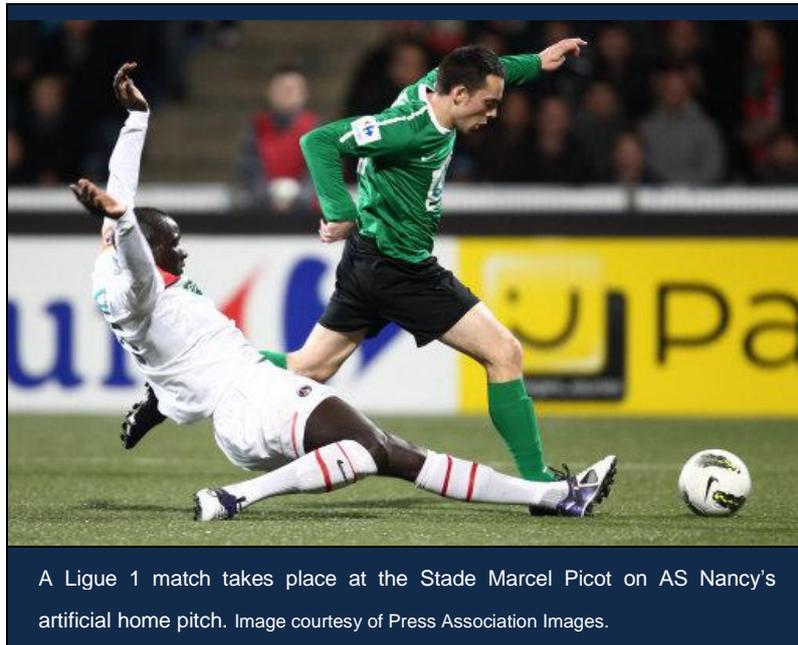
Both Cesena and Novara were promoted from Serie B at the end of the 2010/11 season. Novara installed their FIFA 2 Star artificial pitch at the start of 2010/11 season and Cesena installed theirs in time for the start of the 2011/12 season. Both clubs chose an artificial surface to reduce pitch maintenance costs and to improve the year-round quality of the playing surface.



Cesena play against Inter Milan in a Serie A fixture on their artificial pitch at the Stadio Dino Manuzzi. Image courtesy of Press Association Images.

## LIGUE 1 & LIGUE 2 (FRANCE)

Lorient and Nancy switched to an artificial surface for the 2010/11 season. Both clubs attributed the switch to weather and economic considerations. A report by the Ligue de Football Professionnel (French League) after the first year of operation concluded that the sporting results have not drastically changed, that delegates and referees are satisfied, and that serious injuries are lower, but some joint and lower back pain slightly more frequent. A Ligue 2 club, Chateauroux, has also installed an artificial pitch for the 2011/12 season.



A Ligue 1 match takes place at the Stade Marcel Picot on AS Nancy's artificial home pitch. Image courtesy of Press Association Images.

## SWISS SUPER LEAGUE

Young Boys and Neuchatal Xamax, play on artificial surface in the Swiss Super League. Young Boys' home at the Stade de Suisse in Berne is also used for ice hockey and musical concerts and has had an artificial surface since 2006. Neuchatel Xamax's artificial surface was laid in 2007.



A Swiss Super League match takes place at the Stade de Suisse in Bern on Young Boys Bern's artificial pitch. Image courtesy of Press Association Images.

## EREDIVISIE & EERSTE DIVISIE (NETHERLANDS)

In May 2005 Heracles Almelo became the first club to introduce an artificial surface in the top division. The club started playing on the surface as part of a UEFA programme. Another Eredivisie club with an artificial surface is Excelsior Rotterdam, which was installed for the start of the 2010/11 season. A further four clubs use an artificial surface in the second division – Almere City, AGOVV Apeldoorn, FC Volendam and FC Zwolle. The minimum standard in the professional leagues is the FIFA 2 Star. A ProZone study of 34 Eredivisie matches in the 2006/7 season concluded that artificial turf 'does not dramatically affect the pattern of a football match, with clear similarities in the data with games played on grass'.

## SCOTTISH FOOTBALL LEAGUE

Second division sides Airdrie United and Stenhousemuir and Third Division sides Alloa Athletic, East Stirlingshire (ground share with Stenhousemuir) and Montrose operate with an artificial surface. Scottish Football League (SFL) rules permit clubs to use 'an artificial surface which complies with the quality standards set by UEFA and/or FIFA and approved by the Board'. Scottish FA Cup and League Cup ties are also permitted on a FIFA certified artificial surface. Stenhousemuir installed its FIFA 2 Star surface in the summer of 2006, and benefitted from a local authority grant of £250,000 on the understanding that facility would be available for the use of the community. Montrose installed its FIFA 2 Star pitch in the summer of 2007 and has reported 'very strong financial and community benefits'. In 2003, Dunfermline installed an artificial surface pitch as part of a UEFA pilot programme, but after

two seasons of use, the SPL ordered its removal after poor performance and it failing to pass a FIFA 2 Star test. Hamilton Academicals has also had an artificial surface for 4 seasons, but they removed it on promotion to the SPL in 2008 after having to meet a requirement to install under-soil heating.

## **RUGBY**

Currently 12 Member Clubs share their ground with either a Rugby League or Rugby Union club. Both rugby codes' laws of the game now permit the use of artificial surfaces at senior level. It is apparently possible for both football and rugby to be played on the same artificial surface. Both the Rugby Union (IRB Regulation 22) and the Rugby League (Performance & Construction Standards for Synthetic Turf Pitches) quality criteria share the components of the FIFA Quality Concept for Football Turf, although it is necessary for any rugby artificial surface to contain an appropriate shock absorbing layer. In 2012, the Super League will experience an artificial surface for the first time with a new pitch installed at Widnes Vikings Rugby League FC.

Some consideration would be required for pitch markings on dual-code pitch so as to ensure compliance with the Laws of the Game.

## 7. POTENTIAL ADVANTAGES & DISADVANTAGES

The question of whether or not to permit the use of artificial surfaces in The Football League can be assessed by identifying the most obvious potential advantages and disadvantages of the use of artificial surfaces in professional football. Without attempting to be judgmental, exhaustive or to prioritise, the list of issues would be likely to include the following items:

### POTENTIAL ADVANTAGES

- Consistency of playing surface in all parts of the pitch
- Durability of playing surface throughout the season
- Climatic resistance and reduced risk of postponements or abandonments
- Reduced pitch maintenance costs
- Increased commercial income through pitch and stadium rental
- Increased commercial income through secondary spend at stadium
- Greater community access to stadium
- Reduced costs for training facilities for the first team, reserves and youth teams
- Reduced costs for playing facilities for reserves and youth teams

### POTENTIAL DISADVANTAGES

- Upfront capital costs for a Member Club installing an artificial surface.
- Players changing from playing on an artificial surface to a natural grass surface from match to match.
- Creation of any perception of a home team bias for a club with an artificial surface when playing a club with a natural grass pitch.
- The perception of greater injuries sustained by players in either the short-term or the long-term.

One of the aims of this consultation document is to canvas opinion on the advantages and disadvantages and any concerns stakeholders may have regarding a reintroduction of artificial surfaces in The Football League. The views of stakeholders are therefore invited on each of these issues. Also, if any other significant issues can be identified, then The Football league would be interested to hear about these.

In itself, the potential for increased usage of the playing surface is clearly an attractive proposition to professional football clubs. In this regard, a note of caution is required. FIFA's Quality Concept Handbook of Requirements (2009) states, '*experience has shown fields subject to very high intensity use may not be able to retain the demanding performance criteria of the FIFA Quality Concept for the life of the playing surface*'. The FIFA 2 Star product is designed to replicate low to moderate levels of use often found on football specific stadium fields, which suggests that intensive use (e.g. daily pitch hire) may not be compatible with maintaining the highest standard suitable for professional football. It would therefore be necessary for clubs to strike the balance between pitch use and maintaining a quality surface. Furthermore, any potential reduction in maintenance costs would only be a realistic gain after accounting for adequate maintenance and care of the artificial surface so as to ensure its ongoing compliance with the FIFA 2 Star standard.

On the issue of risk of injury, according to FIFA, '*the overall risk of injury is not higher when playing on football turf (i.e. an artificial surface) compared to playing on grass*' – Stuart Larman, FIFA Project Manager, Playing Surfaces (presentation at the 'Soccer Industry Medical Symposium', Fort Lauderdale, 8<sup>th</sup> January 2011). The evidence referred to by FIFA suggests a tendency to minor observed differences in the pattern of injuries, for example, an increase in ankle sprains, skin burns and players feeling more fatigued, and a decrease in muscle injuries and severe injuries (i.e. absence greater than 4 weeks). Overall it is evident that the studies referred to by FIFA do not identify a difference in the overall level of risk of injury on artificial turf compared to grass. Additional medical studies are listed in the references section.



Novara in action against Inter Milan in a Serie A fixture on their artificial pitch at the Stadio Silvio Piola, Image courtesy of Press Association Images.

An additional example, albeit of limited scope, is the investigation carried out by the French Football Federation and Professor P Rochcongar with regards to injuries suffered by players at Nancy and Lorient during the 2010/11 season. Statistics from the first season the two teams had used an artificial surface were compared with the preceding season played on natural grass. In conclusion, an equal or lower number of injuries were recorded on artificial surfaces. Serious injuries and muscle injuries were a little less frequent, and some joint pain and low back pain was noted as slightly more frequent, and both teams reported a statistical reduction in average injuries per match. Obviously this analysis is inadequate as it is from just one season with two teams, but it does indicate the recent experience of two professional football clubs.

The issue of whether there is any difference in how the game is played on artificial turf compared to natural grass has also been the subject of technical studies. In 2006, FIFA, working with ProZone (a performance analysis company) started to use video technology to examine and quantify match analysis on FIFA 2 Star pitches to compare and contrast the pattern of football matches. Eventually, four separate studies were performed which analysed up to 100 competitive matches. Analysis from these games showed that 'no significant differences were found in the frequency of passes made/received, dribbles, tackles, or average touches'. Despite some observations on number of tackles and style of play in the final third, the conclusion was that, *'artificial turf does not dramatically affect the pattern of a football match, with clear similarities to data collated from games played on natural grass'*.

Additional studies have been performed. For example, again throughout the 2010/11 Ligue 1 season in France analysis was undertaken to measure the opinion of players and coaches with regard to the artificial surfaces installed at Nancy and Lorient. The main feedback included points that artificial surfaces tend to suit technically good players as passing accuracy becomes more important, and that the game is played at a faster pace on artificial turf, with the ball played on the ground more and a less aggressive form of tackling displayed. Ligue 1 referees and match officials also reported that they saw 'no negative or inferior performance issues in relation to their ability to perform on artificial pitches'.

Finally, since the introduction of first artificial surfaces in football in the 1980s there has been a belief that teams playing at home with an artificial surface gained a competitive advantage. The 1989 Football League Commission of Enquiry into Playing Surfaces concluded that following the analysis of the records of 4 clubs with 14 seasons of data for artificial surfaces and 232 seasons for clubs with natural grass there was 'a strong hint' of home advantage, but that the information was not statistically significant and that more playing records over a greater number of seasons would be required to be analysed before any firm conclusions could be drawn.

Since this time the quality of artificial surfaces have improved and the products more closely replicate the performance of natural grass, and it may be argued that any propensity for home

advantage, if it ever existed, has declined. However, it remains difficult to test this issue due to the lack of historical data and multitude of factors that may or may not have an impact on a team's overall performances at home. For example, in 2010/11, the French Football Federation conducted a study of the impact of the artificial surfaces at Lorient and Nancy. The research revealed "no notable difference in team performance". The study indicated that the clubs' performances remained consistent with previous seasons. Indeed only two Ligue 1 clubs failed to score a point while playing away on the artificial pitches of Lorient and Nancy. The average goals scored in matches surface at either Lorient and Nancy was only very slightly higher than the national average by 0.1 goals. Further research into the two teams' performances would obviously be required, and it is not apparent what conclusions can be reached with the data available.



**Outline Business Plan for an Artificial Surface at a Football League Ground:**

The decision to replace a natural grass pitch with an artificial surface will be based on a comparative analysis of the two surface types. Commercial, technical and health & safety concerns will be at the forefront of any decisions. The costs of installation, maintenance, testing and replacement are key items as well as increased revenue generation and cost savings.

An example would be as follows:

Initial Capital Investment (Sub-base, tarmac, pitch, professional fees, waste disposal maintenance equipment etc)	£400,000 - £500,000
Annual Commercial Income (Pitch rental, secondary spend, special events, reduced postponements etc)	£100,000 - £150,000
Annual Cost Savings (Rationalisation of training facilities and natural grass maintenance etc)	£30,000 - £60,000
Annual Revenue Expenditure (Staffing costs, floodlighting, pitch maintenance, testing etc)	£30,000 - £60,000
Estimated Payback Period	3 – 6 years

The exact amount for each of these items is clearly subject to the circumstances of individual Member Clubs. When accounting for an artificial surface a decision will need to be made regarding the depreciation policy to be applied (e.g. 5 -10 years for the surface) and also whether to set aside for amounts for a replacement surface, which would amount to around 50% of the 'Initial Capital Investment' at today's prices.

Maintenance is a very important element of the business plan as it affects both the potential for cost savings and the lasting quality of artificial surface. Most manufacturers will offer warranties with conditions relating to usage and maintenance, and some may agree to performance guarantees for any agreed period in order to ensure the FIFA 2 Star standard.

FIFA has made available a number of case studies from the UK and Europe that provide financial information and commentary. For example, a Stenhousemuir FC case study is available at: [http://www.fifa.com/mm/document/afdeveloping/pitchequip/cs\\_stenhousemuir\\_37445.pdf](http://www.fifa.com/mm/document/afdeveloping/pitchequip/cs_stenhousemuir_37445.pdf)

## 8. IMPLEMENTATION

The International Football Association Board Laws of the Game state that, *'Matches may be played on natural or artificial surfaces, according to the rules of the competition.'* Therefore, it is for individual competitions to decide whether or not and how to permit the use of artificial surfaces.

In order to begin to distill the options for implementation, it is useful to note the domestic league and cup competition rules:

- Football League Regulation 15.1 states, *'No League Matches shall be played on an Artificial Surface'*.
- Premier League Regulation I.29 also states, *'No League Match shall be played on an Artificial Surface'*.
- Football Conference Rules 24 states, *'Competition matches shall not be played on any synthetic or artificial grass surfaces without the approval of the Board'*.
- Carling Cup Rule 24.3 states, *'No matches shall be played on an artificial surface'*.
- The Johnstone's Paint Trophy competition rules are silent on playing surfaces.
- FA Challenge Cup Competition Rule 13(a)i states, *'All matches shall be played on a natural grass pitch'*.

Note that The FA Cup permits the use of artificial turf in some of its competitions (e.g. FA Trophy, FA Vase, FA County Youth Challenge Cup, Women's FA Cup, FA Sunday Cup). Non-League teams Durham City and Woodley Sports each have a ground with a FIFA 1 Star artificial surface and they participate in the Northern Premier League.

The FA Trophy competition rules permit the use of artificial surfaces as follows:

*'Artificial grass pitches may be used in the Competition provided the pitch is listed on The Associations register of artificial grass pitches and with the prior consent of The Association. This should be requested at the time of entry to the Competition in each Season, provided that the artificial turf meets the following conditions:-*

*(a) the pitch shall be surfaced with an artificial grass surface that has laboratory type approval according to the FIFA Quality Concept Handbook of Requirements for Football Turf (March 2009 edition) Recommended One Star Category or the International Artificial Standard (March 2009 edition) and have satisfied the performance and construction requirements at the time of its last annual assessment. The pitch must be retested every close season and certificates must be provided to the Association by 1st August each season.*

*(b) the artificial grass pitch, including run-offs, shall be one continuous playing surface and shall be green in colour. All line markings shall be white and in accordance with the Laws of Association Football. Any other temporary lines must be removed prior to any FA competition match. The manufacturer of the carpet should be contacted to advise on the painting of temporary lines and the correct method of removing lines.*

*(c) the home Club shall allow their opposition the opportunity to use the pitch and train on the surface two hours prior to the kick-off and there must not be another game or event on the pitch following the training period. If it is intended to water the pitch before the match, the pitch shall be watered prior to the training period.*

*(d) the Club using the artificial grass pitch shall advise their opposition at least 10 days before the match of limitations or recommendations on the types of boot or stud that may be used on the surface.*

*(e) the Club shall provide all necessary assistance and data relating to player assessments, injury records, maintenance etc as requested by The FA, FIFA or UEFA.*

## **PROPOSALS**

If The Football League were to change its Regulations to permit the use of artificial surfaces it would be sensible to adopt the same standards as used elsewhere in world football. The FIFA Quality Concept and the FIFA Recommended endorsements are 'a guarantee of quality and safety' and certainly their existence simplifies the decision-making processes for The Football League and Member Clubs. This is because the required standards for professional football have already been established by FIFA and the artificial surfaces industry is geared up to deliver products that meet the FIFA standards.

The FIFA Quality Concept – Handbook of Requirements for Football Turf (2009 edition) comments that, the FIFA Recommended 2 Star, *'has been established to ensure fields meeting it replicate the playing qualities of the best natural turf pitches. This category is intended for professional clubs and national federation teams wishing to play competitive matches'*. The FIFA Recommended 1 Star, *'has slightly wider bands of acceptability and is primarily aimed at organisations wishing to provide facilities for training and community use'*. Therefore, it follows that The Football League should adopt the FIFA Recommended 2 Star as its quality standard. This would ensure a level of performance suitable for professional football and also allow for similar playing surface characteristics at grounds with artificial surfaces and natural grass respectively.

FIFA certification services are provided in the United Kingdom by Labosport UK based in Heanor, Derbyshire and Sportslabs based in Livingston, West Lothian. Before the field testing stage, each product also has to pass stringent laboratory tests in order to be licensed,

and so the type of artificial surface is controlled from an early stage. FIFA has created a Preferred Producer Initiative to assist purchasing.

To implement artificial surfaces in The Football League it would be proposed to require that a Member Club registers its interest in doing so with the League, and then set out a plan to install a FIFA 2 Star Recommended artificial surface. It should also be recommended that a FIFA Preferred Producer is selected. Once an artificial surface is installed it would have to be fully certified as FIFA 2 Star Recommended before use in any League Matches. FIFA Recommended 2 Star test certificates are valid for 12 months, and therefore, it follows that pitches would have their certificates renewed on an annual basis before the start of each season if they are to be used on a continuous basis.



Assuming an artificial surface has previously been certified the FIFA 2 Star standard, but then fails an annual test, and it is not possible for the surface to be remedied immediately, the League may allow the Member Club up to 6 months to pass a re-test in order to obtain a new FIFA 2 Star certificate. If after say, 31<sup>st</sup> January, a certificate is not obtained, then the Member Club would be instructed to arrange for a new surface (grass or artificial) to be laid in the close season. In the meantime, the Member Club would be permitted to use the pitch for League Matches until the end of that season.

The League should also create a monitored trial period of five years from the point of the first use of an artificial surface. During this period the League would assess how the game is

played on the surface, the comparative level of injuries and that maintenance is being adequately applied. The League may also need to develop some protocols for allowing away teams to access and to train in advance and for pitch watering in a similar way as per the FA Trophy competition rules.

If Regulations were changed it would affect every division of the League. To adopt artificial surfaces in some divisions and not in others would not be practical given the potential for promotion and relegation at the end of each season. If a Member Club with an artificial surface were to be relegated to The Football Conference, the League would seek agreement with the Football Conference to accept the club and grant permission for continual use of the artificial surface, and if relegated below that league, FA rules should permit use in any event. If a Member Club with an artificial surface were to be promoted to the Premier League, the club would have to comply with the Premier League Regulations before the start of the new season. However, the economic considerations of reverting to a natural grass pitch on promotion to the Premier League are not likely to be insurmountable.

With regard to cup competitions, it would be proposed that any Member Club with an artificial surface be permitted to stage its ties at home. This is essential for the proper functioning of the cup competitions. Currently, in The FA Cup, any non-league team with an artificial pitch is obliged to play at the nearest suitable ground, but this would not be sustainable for professional clubs. This would require an amendment to Carling Cup and FA Cup competition rules, and the support of The Football Association, the Premier League and the Football Conference. The competition rules for the Johnstone's Paint Trophy would be assumed to fall in line with those relating to League Matches. It is worth noting that some Premier League clubs already participate on artificial surfaces in the UEFA Champions League and Europe League.

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Laws of the Game (authorised by the International Football Association Board)

[http://www.fifa.com/mm/document/affederation/generic/81/42/36/lawsofthegame\\_2011\\_12\\_en.pdf](http://www.fifa.com/mm/document/affederation/generic/81/42/36/lawsofthegame_2011_12_en.pdf)

### *Governing Bodies:*

Federation of International Football Associations [www.fifa.com](http://www.fifa.com)

Union of European Football Associations [www.uefa.com](http://www.uefa.com)

Ligue de Football Professionnel [www.lfp.fr](http://www.lfp.fr)

The Rugby Football League [www.therfl.com](http://www.therfl.com)

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## 10. QUESTIONNAIRE

Please complete the following questionnaire by placing a cross in the box of your chosen answer. Please also provide us with any additional comments you may wish to make about any of the topics raised.

When responding please ensure that you state whether you are responding as an individual or representing the views of an organisation. You can also reply to this consultation online at <http://www.zoomerang.com/Survey/WEB22ERJWUK6Y6>

<b>Contact Name</b>	
<b>Organisation (if applicable)</b>	
<b>Email Address</b>	
<b>If you are responding as an individual please indicate your involvement in professional football? (E.g. supporter, player, match official, manager, coach etc.)</b>	

QUESTION	
<b>Do you believe that the use of Artificial Surfaces in The Football League would be a benefit to professional football as a whole?</b>	YES <input type="checkbox"/> NO <input type="checkbox"/> DON'T KNOW <input type="checkbox"/>
Please provide any further comments -	

QUESTION	
<b>Would you support the use of Artificial Surfaces in League Matches? (i.e. the 46 rounds of League Competition and Play-Offs)</b>	YES <input type="checkbox"/> NO <input type="checkbox"/> DON'T KNOW <input type="checkbox"/>
Please provide any further comments -	

QUESTION	
<b>Would you support the use of Artificial Surfaces in all Cup Matches? (i.e. The League Cup, The League Trophy and The FA Cup?)</b>	YES <input type="checkbox"/> NO <input type="checkbox"/> DON'T KNOW <input type="checkbox"/>
Please provide any further comments -	

Please provide any further relevant comments –

**Confidentiality & Data Protection**

Any personal data supplied in response to this consultation will only be used by The Football League in respect of the consultation and will not be used for marketing or promotional purposes. By providing your address, telephone number and /or email address you are confirming you are happy for us to contact you by those methods to follow up any points raised by your response, but not otherwise. All responses will become property of The Football League. The Football League reserves the right to quote from responses in any future documents it creates on this subject without limitations of time and without the need to obtain any further consent from you. Quotes may or may not be accredited to you. If you do not want your responses to be used in that way please tick this box.

**THANK YOU FOR COMPLETING THIS QUESTIONNAIRE**  
**PLEASE RETURN BY 30<sup>TH</sup> APRIL 2012 TO ANDY POMFRET –**  
**BY POST TO CUSTOMER SERVICES DEPARTMENT**  
**OR EMAIL TO [enquiries@football-league.co.uk](mailto:enquiries@football-league.co.uk)**  
**OR FAX TO 0844 826 9220.**  
**YOU CAN ALSO REPLY TO THIS CONSULTATION ONLINE AT**  
**<http://www.zoomerang.com/Survey/WEB22ERJWUK6Y6>**

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