



FIFA QUALITY PROGRAMME FOR FOOTBALL TURF

TEST MANUAL II – Test requirements

October 2015 edition | v3.4 01.02.2022



Contents

1. INTRODUCTION	3
2. FIELD CERTIFICATION	4
2.1. TEST PROCEDURE AND TECHNICAL ASSESSMENT OF THE PLAYING SURFACE	5
2.2. FIELD CERTIFICATION	5
2.3. PERIOD OF CERTIFICATION	5
2.4. RETESTING	5
2.5. CERTIFICATION FOLLOWING RETESTS	6
3. TEST METHODS	7
4. LABORATORY TEST REQUIREMENTS	7
4.1. GENERAL	7
4.2. UNCERTAINTY OF RESULTS	7
4.3. RESISTANCE TO ARTIFICIAL WEATHERING	7
4.4. USE OF EXISTING SHOCKPADS/ELASTIC LAYERS	7
4.2. USE OF EXISTING INFILLS	8
4.3. CALCULATION OF VARIATIONS	8
4.4. ORDER OF TESTING	8
TABLE 1 – LABORATORY TEST REQUIREMENTS	10
TABLE 2 – LABORATORY TEST REQUIREMENTS FOR SHOCKPADS	13
TABLE 3 – PRODUCT IDENTIFICATION TESTS	14
5. FIELD TEST REQUIREMENTS	15
5.1. FIELD TEST PROCEDURES	15
5.2. VIDEO FOOTAGE OF FIELD (SITE) TESTS	15
5.3. VISUAL INSPECTION	15
5.4. MATERIAL IDENTIFICATION – FIRST FIELD TEST	16
5.5. MATERIAL IDENTIFICATION – FIELD RETESTS	16
5.6. MAINTENANCE EQUIPMENT	16
5.7. SPRINKLERS	16
5.8. MAINTENANCE DURING FIELD TESTS	17
TABLE 4 – FIELD TEST REQUIREMENTS FOR FIFA QUALITY PRO AND FIFA QUALITY	17
TABLE 6 – MATERIAL IDENTIFICATION FOR FIRST SITE TEST – FIFA QUALITY PRO AND FIFA QUALITY	18
TABLE 7 – MATERIAL IDENTIFICATION FOR SITE RETESTS – FIFA QUALITY PRO AND FIFA QUALITY	19
6. FIELD DIMENSIONS AND MARKINGS	19
6.1. FIELD DIMENSIONS	19
6.2. FIELD MARKINGS AND ELIGIBILITY FOR INTERNATIONAL COMPETITIONS	19
7. RUN-OFF AREA	20
7.1. FOOTBALL TURF FIELDS	20
7.2. NATURAL TURF FIELDS	22
7.3. MAINTENANCE REQUIREMENTS	22
8. ANNEXE A – GENERAL REQUIREMENTS	23
8.1. GLARE	23
8.2. BEARING CAPACITY	23
8.3. STAINING	23
8.4. TOXICOLOGY	23
8.5. ENVIRONMENTAL COMPATIBILITY	23
8.6. CLIMATIC CONDITIONS	23
8.7. RESISTANCE TO FIRE	23
9. ANNEXE B – FACTORY QUALITY CONTROL PROCEDURES	24
9.1. INTRODUCTION	24

9.2	ORGANISATION	24
9.3	CONTROL PROCEDURES	24
9.4	DOCUMENT AND DATA CONTROL	24
9.5	SUB-CONTRACT SERVICES	24
9.6	KNOWLEDGE OF RAW MATERIAL	24
9.7	MANAGEMENT OF PRODUCTION	25
9.8	INSPECTION AND TEST	25
9.9	CONTROL OF NON-CONFORMING PRODUCTS	25
9.10	HANDLING, STORAGE AND CONDITIONING IN PRODUCTION AREAS	26
9.11	TRANSPORT AND PACKAGING	26
9.12	TRAINING OF PERSONNEL	26
9.13	MINIMUM TEST FREQUENCIES FOR GENERAL PROPERTIES	26
9.14	COMMUNICATION	26
9.15	DESIGN AND CONSTRUCTION VERIFICATION	27
10	ANNEXE C – FIFA BASIC STANDARD	28
10.1	INTRODUCTION	28
10.2	ELIGIBILITY FOR FIFA BASIC STANDARD FIELD TEST	28
10.3	PERIOD OF CERTIFICATION	28
10.4	PRODUCT LABORATORY TESTING	28
10.5	INFORMATION FOR CERTIFICATION APPLICANTS	28
10.6	MAINTENANCE EQUIPMENT	29
10.7	INITIAL CERTIFICATION	29
10.8	TEMPORARY CERTIFICATION	29
10.9	FIFA QUALITY CERTIFICATION EXTENSION	29
10.10	FIELD DIMENSIONS	29
10.11	FIELD MARKINGS AND ELIGIBILITY FOR INTERNATIONAL COMPETITIONS	29
10.12	FIELD TEST REQUIREMENTS	30

Whilst every effort has been made to ensure the accuracy of the information in this Test Manual, any party that uses any part of this Test Manual in the development of a football turf pitch (a “User”) does so at their own risk and shall indemnify FIFA, its officers, directors, service providers, consultants and agents against all claims, proceedings, actions, damages, costs, expenses and any other liabilities for loss of or damage to any property, or injury or death to any person that may be made against or incurred by FIFA arising from or in connection with the User’s use of this Test Manual.

Compliance with the requirements detailed in this Test Manual by a User does not of itself confer on that User immunity from legal obligations.

Compliance with the requirements detailed in this Test Manual by a User constitutes acceptance of the terms of this disclaimer by that User.

FIFA reserves the right to amend, update or delete sections of this Test Manual at any time, as it deems necessary.

1. Introduction

The development of artificial grass surfaces (designated “football turf” by FIFA) that replicate the playing characteristics of good-quality natural grass has led to rapid acceptance by the football world. Manufacturers are producing surfaces that provide a credible alternative solution in parts of the world where the climate or resources make the provision of good-quality natural grass pitches difficult or impossible. Similarly, the development of football turf has provided a potential solution for facility operators wishing to maximise the use of their facilities through community use and those struggling with stadium microclimates that make the maintenance and growth of natural grass difficult.

To ensure that these new forms of playing surface replicate the attributes of good-quality natural grass, provide a playing environment that will not increase the risk of injury to players, and are of adequate durability (provided that they are correctly maintained), FIFA has developed the FIFA Quality Programme for Football Turf. Launched in 2001, the Quality Programme is a rigorous test programme for football turf that assesses ball-surface interaction, player-surface interaction and the durability of products, and allows successful manufacturers to enter into a licensing programme for the use of the prestigious FIFA Quality (formerly FIFA Recommended) marks.

Football turf was endorsed for official competitive matches in July 2004. The International Football Association Board included the option of using artificial turf surfaces that meet the criteria in the FIFA Quality Programme for Football Turf in the Laws of the Game. To further meet the needs of professional clubs and international stadiums, FIFA has introduced a second category geared specifically towards the demands of the professional game (FIFA Quality Pro, formerly FIFA 2 Star). The broader category (FIFA Quality, formerly FIFA 1 Star) has wider bands of acceptability, as it is geared towards durability and safety for more intense use at community level. Both categories are entitled to host international matches, subject to the relevant competition rules.

The laboratory test programme that football turf must pass as part of the FIFA Quality Programme includes a schedule of simulated use to assess the ability of the surface to perform for a minimum period of time. The degree of simulated use undertaken on FIFA Quality Pro-compliant products is designed to replicate low to moderate levels of use often found on football-specific stadium pitches, whilst the degree of simulated use undertaken on FIFA Quality-compliant products is designed to replicate the higher levels of use found on training and community pitches (NB. pitches are also referred to in this Test Manual as “fields”). Potential installers of football turf pitches should note, however, that experience has shown that pitches subjected to excessively high-intensity use may not be able to meet the demanding performance criteria of the FIFA Quality Programme for the lifetime of the playing surface. Failure to undertake adequate maintenance will also reduce the period of time that a pitch may satisfy the requirements of the FIFA Quality Programme.

This edition of the Test Manual supersedes all previous editions with effect from 01 February 2022.

2. Field certification

The FIFA Quality Programme for Football Turf certifies fields that have been found to fully meet the requirements of the Quality Programme. **It does not comprise the approval of products.** To be certified, football turf fields must reach the established performance and quality criteria to provide the best possible playing conditions for either of the two specific quality levels. Consequently, each field must undergo four steps, highlighted below:



Figure 1: approval process steps and related documents/parties



The phases of testing are described below.

Step 1: thorough test of the product in the laboratory

- The manufacturer (an existing or potential licensee) submits the constituent components of a system to a FIFA-accredited test institute. A list of accredited test institutes is available on <https://www.fifa.com/technical/football-technology/resource-hub>.
- The FIFA-accredited test institute undertakes all of the tests laid out in the FIFA Quality Programme – Test Manual for Test Methods. If the sample fulfils all sections of the Test Manual for Requirements, a test report is submitted to FIFA confirming that the manufacturer’s product has met the requirements. *Note: this document is not a product certificate.*
- The manufacturer is informed that the product is available for installation and is eligible for the next stage of testing (subject to completion of the licence contract between FIFA and the manufacturer).

Step 2: installation of the product as declared, applying the outlined procedures

- The product must be installed using a similar composition of materials within the required manufacturing tolerances as previously tested in the laboratory and defined in the corresponding laboratory test report.
- Further documentation (method statement and product declaration) must be completed by the licensee to confirm the installation procedure.

Step 3: initial assessment

2.1. Test procedure and technical assessment of the playing surface

- Following the installation, licensees must request a field test by contacting an accredited field test institute listed in the FIFA online database (access is granted to each licensee upon signature of the agreement).
 - The licensee must appoint one of the FIFA-accredited field test institutes to undertake a field test (list available on <https://www.fifa.com/technical/football-technology/resource-hub>).
 - The request must contain the details of the product to be tested as well as the method statement and product declaration. In addition, the licensee must indicate which FIFA-accredited test institute it has appointed.
- The field must be tested in accordance with the procedures specified in Table 3 below.
- Samples of the artificial grass and any infill used to construct the football turf field must be taken from the site by the FIFA-accredited field test institute and tested using the procedures detailed in Table 4 below to ensure that they are within specification (subject to the tolerances specified in Table 4 below).
- The results of the field and quality control tests will be compiled in a FIFA field test report by the FIFA field test institute and sent to FIFA (via the online database) for review within three months of the date on which the field test was conducted.

Note: if a field fails the initial test, the FIFA field test institute is still required to prepare and submit a FIFA field test report informing FIFA of the failure. If a second test is required, the licensee must request a new field test report number from FIFA.

2.2. Field certification

If a field satisfies all aspects of the above steps within the FIFA Quality Programme, FIFA will grant the appropriate certification to the installation.

2.3. Period of certification

FIFA Quality Pro certification is valid for one year and FIFA Quality certification is valid for three years, unless:

- the field is subsequently found to no longer satisfy all aspects of the FIFA Quality Programme for Football Turf following a scheduled or random spot-check field test;
- or
- the football turf is removed or replaced. If the field is replaced, a new field test must take place to ensure that the field complies with the requirements.

2.4. Retesting

- A retest can be requested for any field that has previously been tested and not been modified since. If a field has been resurfaced, an initial test should be performed.
- A field should be retested according to the standard to which it was first tested, but it can, on request, be tested to the latest version of the standard.
- Retesting a field may be requested by the licensee, the field owner/operator or a FIFA-accredited test institute for football turf contacted by a field stakeholder, a national association/confederation or FIFA. The licensee must request a field test through the online database. All other requesters should do so by sending an email to the FIFA Quality Programme (quality@fifa.org).
- Testing must be undertaken by a FIFA-accredited field test technician in accordance with the above procedure and in full accordance with the procedures specified in Table 3 below.
- Retesting may be undertaken up to three months in advance of the renewal date without the subsequent renewal date changing. Fields may only be tested more than three months before the

expiry of the certification in exceptional cases, for example, if there are requirements under national competition rules to test at more frequent intervals.

- The results of the field and quality control tests will be compiled in a FIFA field test report by the FIFA field test technician and sent to FIFA (via the online database) for review.

2.5. Certification following retests

- If a field is found to fully comply with tables 3 and 5 below, as well as the Laws of the Game with regard to line marking and other marks on the field, as detailed below, it will be recertified for a further 12 months.
- If a field fails to satisfy the requirements for the FIFA Quality Pro category, it will lose its FIFA certification. FIFA Quality recertification is not possible. Certification to FIFA Quality level can only be obtained by carrying out a new initial test in accordance with step one above.
- If a field fails to satisfy the requirements for the FIFA Quality category, it will lose its FIFA certification.
- There is no limit on the number of retests on any given field provided that the procedure in this section 2.5 is followed.

3. Test methods

The test methods used to assess football turf and installed fields are described in either the FIFA Test Manual for Test Methods for Football Turf 2015 edition, International Standards (ISO) or European Standards (EN). Where a test method is given a dated reference, subsequent amendments to or revisions of the method will apply to this Test Manual for Requirements only when incorporated into it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

Note: *fields submitted for initial testing in accordance with the 2015 Test Manual may only be those that meet the 2015 edition of the FIFA Test Manual for Requirements for Football Turf.*

4. Laboratory test requirements

4.1 General

When tested in the laboratory for initial approval, the football turf must fully satisfy the requirements in Table 1 below using the test methods specified.

Coloured yarn filaments must be tested in the exact same manner as green yarn filaments (thickness, dtex, DSC characterisation, resistance to artificial weathering, colour change, peak breakage force).

The football turf's components must be identified using the test methods specified in Table 2 below and the results compared against the data supplied by the licensees (cf. Section 3 of the FQP Laboratory Report Form). The differences between the product identification tests and licensee's data must be within the tolerances specified in Table 2 below.

4.2 Uncertainty of results

The uncertainty of the test method should not be taken into account to determine whether a field passes the test or fails to meet the requirements.

4.3 Resistance to artificial weathering

If a football turf yarn is manufactured from a yarn that has been previously tested by a FIFA test laboratory for resistance to artificial weathering, the results may be used for the new football turf, provided that:

- a pile yarn characterisation (DSC) shows the yarn to be within normal manufacturing tolerances of that previously tested;
- the tested pile yarn thickness is no less than 90% of the declared value. For clarification: for a group of otherwise identical yarns with different thicknesses, only the thinnest must be tested;
- the profile of the pile yarn is the same as the yarn previously tested; and
- the colour (RAL classic) of the yarn is within the normal manufacturing tolerances of the yarn previously tested.

4.4 Use of existing shockpads/elastic layers

If an existing artificial turf pitch is to be converted to football turf or if an existing football turf surface is to be replaced, any existing shockpad or elastic layer may be incorporated into the new surfacing system, provided that:

- the shock absorption of the existing shockpad is between 90% and 110% of the shock absorption value declared by the manufacturer when the football turf system incorporating this type of shockpad was initially approved;
- the deformation of the existing shockpad is ± 2 mm of the deformation declared by the manufacturer when the football turf system incorporating this type of shockpad was initially approved; and
- the water permeability of the shockpad is greater than 180mm/h when tested in accordance with EN 12616. If the football turf system is to be installed at an indoor venue, this criterion does not apply.

The installed shockpad should be tested for each property detailed above in the positions in the FIFA Test Manual for Test Methods for Football Turf (section 4) by a FIFA-accredited field test technician. Despite practical implications when a turf has not yet been replaced, it is not acceptable to determine the suitability

based on the values obtained from testing the corner areas only. Tests shall be made no sooner than 12 months before the initial test after resurfacing. The results of the shockpad tests must be appended to the FIFA field test report and submitted to FIFA following the initial field test. Compliance with the above requirements does not supersede the need for the field to fully satisfy the field test requirements in the FIFA Quality Programme for Football Turf.

4.2 Use of existing infills

If an existing artificial turf pitch is to be converted to football turf or if an existing football turf surface is to be replaced, any existing infill may be incorporated into the new surfacing system, provided that the characteristics particle size, particle shape, bulk density and composition are compliant with the infill identification requirements.

A more comprehensive analysis of the infill suitability to perform properly through the next football turf installation lifetime can be performed following the EN15330-5 §11 –Assessment of reclaimed infills to determine suitability for reuse.

4.3 Calculation of variations

Unless explicitly stated, variations are to be calculated as a percentage of the manufacturer's declared value and not of the site sample.

4.4 Order of testing

To increase the consistency of test results between laboratories, all test institutes should carry out the procedures in the same order. The five samples should therefore be used as listed below. Where laboratory conditions allow, the tests performed under dry conditions may be carried out on samples 2a or 2b instead of samples 1 or 3:

Sample 1 NEW	Sample 2a LISPORT XL 3000	Sample 2b LISPORT XL 6000	Sample 3 NEW
Size: 1x1m	Size: 4x1m	Size: 4x1m	Size: 1x1m
Preparation of sample	Preparation of sample	Preparation of sample	Preparation of sample
Conditioning	FIFA 17 reduced ball roll dry FIFA 18 non-elongated free pile height & FIFA 21 infill depth	FIFA 17 reduced ball roll dry	FIFA 08 surface friction and abrasion
FIFA 02 angle ball rebound – dry	FIFA 15 mechanical abrasion	FIFA 15 mechanical abrasion	Reconditioning
Reconditioning	FIFA 17 reduced ball roll dry	FIFA 17 reduced ball roll dry	
Wetting	Redistribute infill manually	Redistribute infill manually	FIFA 16 infill splash
	FIFA 01 ball rebound dry	FIFA 01 ball rebound dry	
	Redistribute infill manually	Redistribute infill manually	
FIFA 01 ball rebound wet	FIFA 04a shock absorption dry FIFA 05a vertical deformation dry FIFA 13 energy restitution	FIFA 04a shock absorption dry FIFA 05a vertical deformation dry FIFA 13 energy restitution	
Redistribute infill manually	Redistribute infill manually	Redistribute infill manually	
FIFA 04a shock absorption wet FIFA 05a vertical deformation wet FIFA 13 energy restitution wet	FIFA 06 & 06a rotational resistance dry	FIFA 06 & 06a rotational resistance dry	Sample 4 & 5 NEW
Redistribute infill manually	Reconditioning	Reconditioning	Size: 0.4x0.4m (2x)
FIFA 06 & 06a rotational resistance wet	FIFA 08 surface friction and abrasion	FIFA 08 surface friction and abrasion	FIFA 04a -5°C & +50°C tests
	Reconditioning	Reconditioning	
	Wetting	Wetting	End of tests
	FIFA 17 reduced ball roll wet	FIFA 17 reduced ball roll wet	
Redistribute infill manually			
FIFA 02 angle ball rebound wet			Sample 6 NEW
			Size: 0.4x0.4m
			FIFA 14 heat test
End of tests			End of tests

Table 1 – Laboratory test requirements

Property	Test Method	Test conditions			Requirements	
		Preparation	Temperature	Condition	FIFA Quality Pro	FIFA Quality
Vertical ball rebound	FIFA Test Method 01 & FIFA Test Method 15	Pre-conditioning	23°C	Dry	0.60m-0.85m	0.60m-1.0m
		Simulated wear – 3,000 cycles		Wet		
		Simulated wear – 6,000 cycles		Dry	0.60m-0.85m	N/A
Angle ball rebound	FIFA Test Method 02	Pre-conditioning	23°C	Dry	45%-60%	45%-70%
				Wet	45%-80% ¹	
Reduced ball roll	FIFA Test Method 17 & FIFA Test Method 15	Pre-conditioning	23°C	Dry	4-8m	4-10m
		Simulated wear – 3,000 cycles		Dry	4-8m	N/A
		Simulated wear – 6,000 cycles		Wet	4-8m	N/A
		Simulated wear – 6,000 cycles		Dry	N/A	4-12m
Shock absorption	FIFA Test Method 04a & FIFA Test Method 15	Pre-conditioning	23°C	Dry	62%-68%	57%-68%
		Simulated wear – 3,000 cycles		Wet		
		Simulated wear – 6,000 cycles		Dry	62%-68%	N/A
		Pre-conditioning	50°C	Dry	N/A	57%-68%
	FIFA Test Method 04a 1 st impact	-	-5°C	Frozen	62%-68%	57%-68%

¹ There should be no more than a relative 40% increase between the values of the dry test and the wet test.

Property	Test Method	Test conditions			Requirements	
		Preparation	Temperature	Condition	FIFA Quality Pro	FIFA Quality
Vertical deformation	FIFA Test Method 05a & FIFA Test Method 15	Pre-conditioning	23°C	Dry	4mm-10mm	4mm-11mm
		Pre-conditioning		Wet		
		Simulated wear – 3,000 cycles		Dry	4mm-10mm	N/A
		Simulated wear – 6,000 cycles		Dry	N/A	4mm-11mm
		Pre-conditioning	50°C	Dry	4mm-10mm	4mm-11mm
	FIFA 05a 1 st impact		-5°C	Frozen	4mm-10mm	4mm-11mm
Rotational resistance	FIFA Test Method 06 or 06a & FIFA Test Method 15	Pre-conditioning	23°C	Dry	32Nm-43Nm	27Nm-48Nm
		Pre-conditioning		Wet		
		Simulated wear – 3,000 cycles		Dry	32Nm-43Nm	N/A
		Simulated wear – 6,000 cycles		Dry	N/A	27Nm-48Nm
Skin/surface friction	FIFA Test Method 08	Pre-conditioning	23°C	Dry	0.35-0.75	0.35-0.75
		Simulated wear – 3,000 cycles	23°C	Dry	0.35-0.75	
		Simulated wear – 6,000 cycles	23°C	Dry		0.35-0.75
Skin abrasion	FIFA Test Method 08	Pre-conditioning	23°C	Dry	±30%	±30%
		Simulated wear – 3,000 cycles	23°C	Dry	±30%	
		Simulated wear – 6,000 cycles	23°C	Dry		±30%
Heat determination	FIFA Test Method 14	Pre-conditioning	N/A	Dry	For information	Optional information
Infill splash	FIFA Test Method 16	Pre-conditioning	23°C	Dry	Note <1.5% or ≥1.5%	N/A
Artificial weathering (FIFA Test Method 10)						

Component	Property and test method		Requirement
Artificial turf – all colours	Colour change	EN ISO 20105-A02	≥ Grey scale 3
Pile yarn(s) – all colours	Peak breakage force	EN 13864	Percentage change from the green reference unaged yarn filament to be no more than 25%. In case of more than one green yarn, the highest peak breakage force has to be used as reference.
Polymeric infill	Colour change	EN ISO 20105-A02	≥ Grey scale 3, no change in shape
Joint strength – stitched seams	Joint strength – unaged	EN 12228 Method 1	1,000N/100mm
	Joint strength – after immersion in hot water	EN 13744 & EN 12228 Method 1	
Joint strength – bonded seams	Joint strength – unaged	EN 12228 Method 2	75N/100mm
	Joint strength – after immersion in hot water	EN 13744 & EN 12228 Method 2	

Component	Property	Test Method	Condition	Requirement
Artificial turf – green	Tuft withdrawal	FIFA Test Method 26	Unaged	≥40N average
		EN 13744 & FIFA Test Method 26	After immersion in hot water	≥40N average
	Water permeability ¹ – using a single ring infiltrometer in which the artificial turf carpet is sealed prior to infilling and testing	FIFA Test Method 24	Unaged	≥180mm/h ⁽²⁾

1 Not applicable to surfaces designed specifically for indoor use

2 To ensure adequate drainage of a field, all individual elements of the football turf should satisfy this requirement. Any value above 2,000mm/h will be recorded as “>2,000mm/h”

Table 2 – Laboratory test requirements for shockpads

If a shockpad, defined as a layer of at least 20% shock absorption, is part of the artificial turf system, it must comply with the EN15330-4 requirements.

Component	Property and test method		Requirement
Shockpad	Shock absorption	FIFA Test Method 04a	≥20%
	Vertical deformation	FIFA Test Method 05a	±2mm from PD
	Vertical water infiltration	EN12616	≥500mm/h
	Horizontal water flow capacity	-	>0.1L/s*m
	Tensile properties	EN12230	≥0.05MPa or ≥0.08MPa or ≥0.15MPa
	Dimensional stability	EN17326	≤5mm
	Resistance to dynamic fatigue	EN17324	SA change ≤5% and thickness ≤15%
	Resistance to permanent deformation after short-term loading	EN15330-4 Appendix C	≤1.00mm after 72 hours
	Resistance to permanent deformation after static loading	EN15330-4 Appendix D	≤1.50mm after 72 hours
	Thermal conductivity	EN12664	For information
	Thickness	Pr EN1969 method A	For information
	Mass per unit area	ISO8543	For information
	Rubber content	ISO1407 (only for in situ laid)	For information
	Binder component/content	EN ISO3541-1 and ISO11909 (only for in situ laid)	For information
	Chemical composition	ISO11357 (only for prefabricated)	For information
Volume weight	ISO8543 (only for prefabricated)	For information	

Table 3 – Product identification tests

Component	Characteristic	Test method	Permitted variation between laboratory component and manufacturer's declaration
Artificial turf – all colours	Total mass per unit area	ISO 8543	≤ ±10%
	Tufts per unit area Knots per unit area (woven carpets) ²	ISO 1763	≤ ±10%
	Tuft withdrawal force ³	FIFA Test Method 26	≥90% of manufacturer's declaration ≥40N average
	Pile length above backing	ISO 2549	≤ ±5%
	Non-elongated free pile height	FIFA Test Method 18	-
	Total pile weight Pile weight above backing (woven carpets) ⁴	ISO 8543	≤ ±10%
	Water permeability	FIFA Test Method 24	≥180mm/h ⁵
Pile yarn(s) – all colours	Thickness of yarn	FIFA Test Method 25	≥ 90%
	Yarn characterisation	FIFA Test Method 22	Same polymer
	Yarn dtex	FIFA Test Method 23	≤ ±10%
Performance infill (if supplied as part of system)	Particle size	FIFA Test Method 20	Maximum one sieve difference, 60% between d and D
	Particle shape	EN 14955 procedure 6.3	Similar shape
	Bulk density	EN 1097-3	≤ ±15%
	Composition	TGA	-
	Infill depth	FIFA Test Method 21	-
Stabilising infill (if supplied as part of system)	Particle size	FIFA Test Method 20	Maximum one sieve difference, 60% between d and D
	Particle shape	EN 14955 procedure 6.3	Similar shape
	Bulk density	EN 1097-3	≤ ±15%
Shockpads / e-layers (if supplied as part of system)	Shock absorption	FIFA Test Method 04a	≤ ±5% absolute force reduction
	Thickness	EN 1969	≥ 90% of manufacturer's declaration
	Tensile strength of shockpads and e-layers	EN 12230	≥ 0.15MPa
Unbound sub-bases (if tested as part of system)	Composition	-	Similar composition
	Particle size range (attach particle size grading to test report)	FIFA Test Method 20	≤ ±20%
	Particle shape	EN 14955 procedure 6.3	Similar shape

² A lot of woven carpets use W bindings. Pay attention to counting the complete Ws as one knot. It may be easier to count the number of knots by splitting warp and weft yarns or shearing off the pile yarns

³ If all yarns are breaking, the tuft withdrawal force is greater than the breaking force. Report the mean of the broken results

⁴ Try to split the warp and weft of the carpet. If the coating that is applied makes this impossible, shear off the piles following the procedure in ISO 8543. This is the pile weight above the backing

⁵ Not applicable to surfaces designed specifically for indoor use

5 Field test requirements

5.1 Field test procedures

When tested, a field must fully satisfy the requirements in Table 3 in any position on the field using the test methods specified. The field must be tested in the positions specified in the FIFA Test Manual for Test Methods for Football Turf. Field tests should not be carried out on joints or inlaid lines, other than ball roll that will traverse them. Maintenance must not be undertaken during a field test.

If a field fails to satisfy the requirements in Table 3 above, the report must be completed and submitted to FIFA indicating how it failed. It may be tested again at a later stage.

Meteorological conditions during the field tests must be as specified in the FIFA Test Manual for Test Methods for Football Turf.

5.2 Video footage of field (site) tests

Field tests must be recorded in accordance with to the video footage test method. The accredited technician can be supported by another person from the same test institute who may not be accredited. Any additional people from third-party organisations (club, community, installer, etc.) should not be present on the field during testing.

5.3 Visual inspection

During the test, the FIFA-accredited field test technician should conduct a visual inspection to ensure that the field has been installed properly and that there are no significant defects that they consider to be hazardous to players. Specifically, there should be no:

- product defect;
- improper installation;
- failed or excessively open joints (greater than 3mm);
- looped piles;
- excessive fibres trapped under the infill;
- excessively uneven distribution of infill: the difference in infill height between the lowest and highest spots should not exceed 10mm;
- exposed irrigation sprinkler heads within the playing area;
- exposed goalpost sockets; or
- hazards within three metres of the perimeter of the field of play.

Checks will also be carried out to ensure that all line markings are straight. Comment on significant deviations.

If unacceptable joints, looped piles, meandering lines or any other defect considered hazardous to play are found, they should be reported to the licensee who will rectify the defects to the satisfaction of the FIFA-accredited field test technician prior to the FIFA field test technician submitting the field test report to FIFA. The FIFA-accredited field test technician should supply visual confirmation of the rectification work in the report.

Additionally, the FIFA-accredited field test technician should note the following characteristics:

- Presence of logos on the field of play or the run-off area (within three metres of the field of play or in accordance with the local definition of the run-off area)
- Presence of alternative line markings on the field

Important note: *the visual inspection undertaken by the test laboratory does not constitute a formal site audit and does not remove the legal responsibility of the installation company and/or the facility operator to ensure that the field is safe and fit for purpose. Neither FIFA nor accredited test institutes accept any liability for any defects or other issues that subsequently result in an injury to a player or any other user.*

5.4 Material identification – first field test

To ensure that the components of football turf are within tolerance when compared with those previously tested in the laboratory, the first field test should include the identification tests of samples taken from the site as detailed in Table 4 below. The maximum variation between the installed materials and the manufacturer's declaration, as explained in the FIFA Quality Programme Laboratory Report, should be as specified in Table 4.

The samples of artificial turf and infill should be collected on site by the laboratory when they undertake the field test. **Where alternative suppliers of infill materials to those detailed in the original laboratory test report are to be used, infill samples should also be submitted in advance of construction so that compliance of these materials with the requirements in the FIFA Test Manual can be determined prior to installation.** Irrespective of which supplier is used, the name of the supplier must be noted. Samples should be submitted in adequate time so that if it is found that they do not comply with the requirements in the FIFA Test Manual, a new laboratory test using new materials can be conducted prior to installation of the football turf and subsequent field tests.

Each field may only consist of one product (defined by a system with a fully compliant laboratory test report). The use of two different coloured yarns in alternating rolls (to create visual patterns) is not permitted.

Only one specific product may be used per field. Combinations of different products (different colours other than those for lines or logos, yarn compositions or other) may not be used on one single field.

5.5 Material identification – field retests

To confirm that football turf has not been materially altered from the turf tested in the FIFA laboratory test report, any retest should include the identification tests detailed in Table 5 below. The football turf must comply with the requirements in Table 5 below.

5.6 Maintenance equipment

The FIFA field test technician must verify that the end user has received both the product declaration and method statement in accordance with the FIFA licensee agreement.

The FIFA field test technician must verify that the maintenance equipment recommended by the licensee is on site or that an appropriate maintenance contract (evidence needed) is in place.

For a field to be certified under the FIFA Quality Programme for Football Turf, the facility operator must ensure that all equipment specified by the surface manufacturer for the installed product is available to maintain the field in accordance with the manufacturer's instructions. This may either be achieved by the facility operator purchasing the equipment, entering into a service agreement with a specialist maintenance contractor, or a combination of both. In the case of maintenance being outsourced, the manufacturer must present written evidence of such an agreement to maintain the field in accordance with the manufacturer's guidelines.

Maintenance equipment on site must at least include a tractor unit, a drag brush and/or a drag mat, additional infill to top up the field, the maintenance log and a ball-roll ramp. If these are absent, the test institute should note this on the field test report and indicate that the field has failed.

The facility operator must ensure that all required maintenance equipment is available for inspection by the test institute during the field test.

5.7 Sprinklers

FIFA does not encourage the use of sprinklers within the playing area of a field. However, FIFA does acknowledge that sprinkler systems occasionally have to be installed within the playing area, primarily due to a lack of water pressure available to project water from outside the playing area onto the central part of the field. Such systems have been installed on both natural and artificial turf pitches.

One of the primary aims of the FIFA Quality Programme for Football Turf is to take into consideration the comfort and safety of players. Therefore, if a sprinkler system is installed within the playing area, there will be an additional test requirement to check that the sprinklers do not present an additional hazard to players. The field test institute will undertake a shock absorption and vertical deformation evaluation, in accordance with this manual, on two separate sprinklers (on either side of the field). The values obtained must be within

the requirements for the specified performance level that the field has been constructed to meet. Neither FIFA nor the field test institute may be held liable for any damage to the sprinklers due to these tests. In requesting/allowing a FIFA field test, the facility operator is deemed to have accepted this condition of testing.

It should be clearly stated by the contractor responsible for installing the football turf whether additional maintenance work is required to ensure the consistency of the infill after the sprinkler has been elevated and returned to its lowered position. If an additional maintenance procedure is required, the test institute must undertake a further test of shock absorption and vertical deformation after the maintenance procedure to ensure that the area above the sprinkler satisfies the requirements. To achieve this, the sprinkler system must be activated, and the maintenance procedure carried out before the tests can take place.

5.8 Maintenance during field tests

Maintenance of the field must not be undertaken during a field test.

Table 4 – Field test requirements for FIFA Quality Pro and FIFA Quality

Characteristic	Test Method	Requirements					
		FIFA Quality Pro		Consistency ⁶	FIFA Quality		Consistency ⁷
Vertical ball rebound	FIFA 01	60cm-85cm		± 5% relative	60cm-100cm		±10% relative
Ball roll	FIFA 03	Initial	4m-8m	±10% relative	Initial	4m-10m	±15% relative
		Retests	4m-8m	±10% relative	Retests	4m-12m	±15% relative
Shock absorption	FIFA 04a	60%-70%		± 5% relative	55%-70%		±10% relative
Vertical deformation	FIFA 05a	4mm-10mm		±10% relative	4mm-11mm		±15% relative
Rotational resistance	FIFA 06 & 06a	30Nm-45Nm		± 6% relative	25Nm-50Nm		±10% relative
Surface regularity of playing surface	FIFA 12	<10mm		-	<10mm		-
Non-elongated free pile height	FIFA 18	For information		-	For information		-
Infill depth	FIFA 21	For information		-	For information		-
Minimising infill migration into the environment – field design	FIFA 27	For information		-	For information		-

⁶ No result from any defined position may vary from the average of the set of results within the field test.

⁷ No result from any defined position may vary from the average of the set of results within the field test.

Table 6 – Material identification for first site test – FIFA Quality Pro and FIFA Quality

Component	Characteristic	Test method	Permitted variation between manufacturer's declaration and installed materials
Artificial turf – all colours including line markings	Mass per unit area	ISO 8543	≤ ±10%
	Tufts per unit area	ISO 1763	≤ ±10%
	Tuft withdrawal force	FIFA Test Method 26	≥90% of manufacturer's declaration ≥40N average
	Pile length above backing	ISO 2549	≤ ±5%
	Total pile weight	ISO 8543	≤ ±10%
	Water permeability of carpet (non-infill) ⁸	FIFA Test Method 24	≥180mm/h and greater than 75% of laboratory result ⁹
Pile yarn(s) – all colours include line markings	Thickness of yarn	FIFA Test Method 25	≥ 90%
	Pile yarn characterisation	FIFA Test Method 22	Same polymer
	Yarn dtex	FIFA Test Method 23	≤ ±10%
	UV stabiliser	FIFA Test Method 19	Report for every masterbatch
Performance infill (if supplied as part of system)	Particle size	FIFA Test Method 20	Maximum one sieve difference, 60% between d and D
	Particle shape	EN 14955 procedure 6.3	Similar shape
	Bulk density	EN 1097-3	≤ ±15%
	Composition	FIFA Test Method 11	≤ ± 15% relative
	PAH(8) content (recommended)	AfPS 2019:01 PAK or ASTM F3496	≤20mg/kg (recommended)
Stabilising infill (if supplied as part of system)	Particle size	FIFA Test Method 20	Maximum one sieve difference, 60% between d and D
	Particle shape	EN 14955 procedure 6.3	Similar shape
	Bulk density	EN 1097-3	≤ ±15%
Shockpads/e-layers ¹⁰ (if supplied as part of system)	Shock absorption	FIFA Test Method 4a	≤ ± 5% force reduction
	Thickness	EN 1969	≥90% of manufacturer's declaration
	Type	Visual	Similar as product declaration

⁸ Outdoor pitches only. Compliance with this requirement may also be waived by FIFA for pitches located indoors or in arid parts of the world. Such waivers will be granted on a case-by-case basis and permission should be sought from FIFA at the design stage of a pitch's construction

⁹ If the result exceeds 2,000mm/h, denote ">2,000mm/h"

¹⁰ Measured on-site in at least four locations if possible. If not possible, a shockpad sample and photographic evidence of the shockpad installation must be provided to the test institute

Table 7 – Material identification for site retests – FIFA Quality Pro and FIFA Quality

Component	Characteristic	Requirement	Sampling procedure
Artificial turf ¹¹	Pile height (above primary backing)	≤±5% of the value measured on the site sample tested during the initial site test	Measurements should be made in four different areas of the field not subjected to high areas of wear or usage The number of tufts per m ² must be calculated by multiplying the number of stitches per 100mm by the stitch gauge
	Number of stitches per 100mm	The number of tufts per m ² must not differ by more than ±10% from the manufacturer's declaration	
	Stitch spacing (mm)		
Performance infill ¹²	Particle grading	The largest sieve retaining at least 10% by mass of the infill must be within the range detailed in the manufacturer's declaration forming Section 4 of the product's FIFA laboratory test report	A minimum sample of 250g must be taken from the performance infill (20mm) on each of the six test positions detailed in the FIFA Test Manual for Test Methods for Football Turf The infill must be graded according to the FIFA Test Method 20 and the largest sieve retaining at least 10% by mass of the infill determined

6 Field dimensions and markings

6.1 Field dimensions

Dimensions must be in accordance with the Laws of the Game. The field of play must be rectangular. The length of the touch line must be greater than the length of the goal line. **Special dispensation may be granted for FIFA Quality Pro pitches that do not meet the requirements subject to a request by a FIFA member association.**

	FIFA Quality	FIFA Quality Pro
Length	Min. 90.0m, max. 120.0m	Min. 100.0m, max. 110.0m
Width	Min. 45.0m, max. 90.0m	Min. 64.0m, max. 75.0m

Run-offs shall be in accordance with national and or competition rules. In the absence of any such rules, a minimum of 3m per boundary is recommended. Provision of adequate run-offs does not form part of the FIFA Quality Programme.

Note: international matches may only be played on pitches with the following dimensions

	International matches	
Length	Min. 100.0m	Max. 110.0m
Width	Min. 64.0m	Max. 75.0m

6.2 Field markings and eligibility for international competitions

¹¹ These measurements are made to check the carpet has not been replaced

¹² This test is carried out to ensure that coarser infill material has not been installed on the pitch

The field shall be marked in accordance with Law 1 – The Field of Play as detailed in the Laws of the Game. The goal posts must also have the same width as the goal line.

The Laws of the Game allow international matches to be played on fields with several sets of lines. The IFAB ruling on Law 1 states: “Where artificial surfaces are used, other lines are permitted provided that they are of a different colour and clearly distinguishable from the lines used for football”. Tournament organisers may, however, have stricter rules on the use of additional lines.

The test institute shall take note of any additional markings (logos, writing, adverts, etc.) other than those specified in the Laws of the Game.

- As the professional standard, **FIFA Quality Pro** installations must meet the requirements for international match dimensions as indicated in Law 1 and may not display additional markings (such as logos) other than those stipulated in the Laws of the Game. In addition, field equipment (goals, corner flags, etc.) shall be in the correct position and of the correct dimensions.
- **FIFA Quality** installations may lose their eligibility to host competitive matches in accordance with the Laws of the Game if additional markings (logos etc.) are present on the field. The certificate is awarded to confirm technical compliance with the requirements only.

Note: if a FIFA-certified field is to be used for competition matches, it must meet the conditions laid down in the competition regulations and be checked by the relevant local authorities.

FIFA Quality Pro fields are designed to meet the criteria for international competitions. FIFA Quality fields may have varying dimensions or markings but must still meet the minimum requirements of the Laws of the Game. A field may only host competitive matches if it complies with the Laws of the Game as well as national or local competition regulations. While a FIFA Quality Programme certificate is essential for this eligibility, the pitch markings and dimensions need to be verified.

In accordance with the decisions of The International Football Association Board (Law 1.12 and 1.13):

Law 1.12: 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, the technical area or the referee review area (RRA), or on the ground within 1 m (1 yd) of the boundary lines 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. 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.

In addition, upright advertising must be at least:

1m (1 yd) from the touchlines

the same distance from the goal line as the depth of the goal net

1 m (1 yd) from the goal net

Law 1.13: The reproduction, whether real or virtual, of representative logos or emblems of FIFA, confederations, national football associations, competitions, clubs or other bodies is forbidden on the field of play, the goal nets and the areas they enclose, the goals, and the flagposts during playing time. They are permitted on the flags on the flagposts.

7 Run-off area

If a natural turf pitch uses artificial turf within the run-off area (starting directly on the outer limit of the touch lines and goal lines), the quality must be in line with the high standard of the FIFA Quality Programme for Football Turf as it is an area that players and match officials interact on and with. Due to the use of artificial turf surfaces in the run-off areas around both natural and artificial turf pitches, a simplified testing protocol based on the testing of football turf pitches has been developed to ensure minimum quality for these areas.

The definition of the dimensions and surface quality of run-off areas is subject to the competition organiser’s regulations. FIFA defines a run-off area as being a minimum of metres, starting at the outer edge of the goal lines and the touch lines.

7.1 Football turf fields

For artificial turf surfaces, the run-off areas shall be made of the same product and tested at four different locations (one on each of the four sides) around the pitch, including the area most likely to be used by the assistant referees. The product used in the run-off area should be of the same specification as the product used for the pitch itself.

Characteristic	Test Method	Requirement	
		FIFA Quality Pro	FIFA Quality
Vertical ball rebound	FIFA 01	60cm-85cm	60cm-100cm
Shock absorption	FIFA 04a	60%-70%	55%-70%
Vertical deformation	FIFA 05a	4mm-10mm	4mm-11mm
Rotational resistance	FIFA 06 & 06a	30Nm-45Nm	25Nm-50Nm
Surface regularity of playing surface	FIFA 12	<10mm	<10mm
Product identification	-	Same as pitch	Same as pitch

7.2 Natural turf fields

For natural turf surfaces, the run-off areas shall be tested at ten representative locations (at the test institute's discretion) around the pitch, including at least two spots within the touch line areas most used by the assistant referees.

Characteristic	Test Method	Requirement	
		FIFA Quality Pro	FIFA Quality
Vertical ball rebound	FIFA 01	60cm-85cm	60cm-100cm
Shock absorption	FIFA 04a	60%-70%	55%-70%
Vertical deformation	FIFA 05a	4mm-10mm	4mm-11mm
Rotational resistance	FIFA 06 & 06a	30Nm-45Nm	25Nm-50Nm
Surface regularity of playing surface	FIFA 12	<10mm	<10mm

Due to the diverse nature of natural turf surfaces, it is strongly recommended that the surface of the run-off area has similar characteristics to those of the pitch itself. This should be taken into consideration when selecting the product.

For the avoidance of doubt, sub-sections 7.1 and 7.2 do not constitute part of the FIFA Quality Programme for Football Turf testing requirements but they may have an impact on the pitch's eligibility to host competitive matches in accordance with the Laws of the Game and the regulations of the tournament organiser.

All run-off areas shall be maintained to ensure that they continue to perform to the required standard. Maintenance vehicles will inevitably traverse the run-off area to access the pitch. Assistant referees will also continually run along the same areas on the touch lines, which leads to consolidation of the infill and flattening of the fibres. Therefore, it is important that all maintenance operatives have the appropriate maintenance equipment to ensure that all run-off areas are kept in peak condition.

The test institute technician employed to assess the run-off areas should check that either the correct maintenance equipment as recommended by the manufacturer is on site or that a maintenance contract is in place to ensure that all run-off areas are maintained in accordance with the manufacturer's recommendations.

7.3 Maintenance requirements

At the time of submitting a football turf for laboratory testing, the licensee shall provide the FIFA-accredited test institute with a fully descriptive list (including photographs) of all equipment required for routine maintenance of the surface. This list shall form part of the FIFA laboratory test report.

For each field test (initial and retests), the FIFA-accredited field test technician will compare the licensee's list of equipment to the equipment on site with supportive photographic evidence. If the maintenance equipment is supplied and operated by a third party, the licensee shall supply a copy of the maintenance contract to the test institute.

Upon handover of the pitch, the licensee shall provide the owner/operator with a maintenance log with instructions for the owner/operator to complete in accordance with the maintenance instructions.

When requesting a FIFA field test report number from FIFA in advance of a field retest, the licensee shall provide a copy of the maintenance log (in electronic format, i.e. a scanned copy of the original) for the preceding 12 months. If required by FIFA, the licensee shall translate the maintenance log into English.

When requesting a FIFA field test report number from FIFA in advance of an initial test or a field retest, the licensee shall also confirm in writing that the ground staff responsible for maintaining the field have been appropriately trained. This shall include details of all training (including dates) undertaken. For the FIFA-accredited field test technician to verify this, the maintenance operative shall be able to demonstrate the correct operation of the maintenance equipment and the ball-roll equipment. The maintenance operative should be asked to confirm the frequency of maintenance operations. The FIFA-accredited field test technician should then be in a position to verify the competency of the maintenance operative by comparing the actions of the individual with the maintenance instructions in the manufacturer's maintenance manual.

8 ANNEXE A – general requirements

8.1 Glare

It is not acceptable to incorporate any material or construction that will cause excessive glare from the reflection of sunlight or artificial lighting to players.

8.2 Bearing capacity

The formation and sub-soil must have sufficient bearing capacity to support the playing surface and any machinery used to maintain the surface. The bearing capacity can be assessed using methods described by EN/TC 250/SC7. No responsibility shall be accepted for any damage caused to the surface by the use of equipment or structures (e.g. collapsible seating) that the surface was not intentionally designed for.

8.3 Staining

Every effort should be employed to use non-staining materials where practicable.

8.4 Toxicology

The manufacturer should be asked to provide the purchaser with assurances that the final surface, together with its supporting layers, does not contain any substance known to be toxic, mutagenic, teratogenic or carcinogenic when in contact with the skin, or that no such substances will be released as vapour or dust during normal use.

8.5 Environmental compatibility

The manufacturer and purchaser shall abide by all local relevant environmental legislation during the construction, utilisation, operation and disposal of the surface and its supporting layers. Where no local relevant environmental legislation exists, the manufacturer and purchaser should, during the construction, material utilisation, operation and disposal phases, act as if there were accepted levels of legislation operating.

8.6 Climatic conditions

The manufacturer and purchaser shall take into consideration the prevailing climatic conditions when designing the surface specification.

8.7 Resistance to fire

When installing an artificial turf surface, the manufacturer/supplier shall ensure that the completed installation complies with all relevant local building and fire safety regulations.

9 ANNEXE B – factory quality control procedures

9.1 Introduction

This annexe specifies a factory production control system for constituent components to ensure that they conform with the relevant requirements of this standard.

The performance of the factory production control system shall be assessed according to the principles used in this document.

Note: the overall quality of the surface remains the responsibility of the licensee.

9.2 Organisation

1.1.1. Responsibility and authority

It will be necessary to produce a quality assurance line management diagram outlining the individuals responsible for quality. One individual shall be highlighted as the contact person in cases of quality disputes. These individuals should have the capability to:

- initiate action to prevent the occurrence of product non-conformity;
- identify record and deal with any product quality deviations.

1.1.2. Management representative for factory production control

For every manufacturing plant, the licensee must make sure that a qualified person with appropriate authority ensures that the requirements of this document are implemented and maintained.

1.1.3. Management review

The factory production control system adopted to satisfy the requirements of this document shall be audited and reviewed at appropriate intervals to ensure its continuing suitability and effectiveness. Records of such reviews shall be maintained. It is assumed that, for most manufacturers, this would be covered within an ISO 9000 scheme.

9.3 Control procedures

The licensee shall establish and maintain a factory production control manual setting out the procedures by which the requirements for factory production control are satisfied for all products directly produced by the licensee. Furthermore, they should establish similar procedures for all suppliers of products that are part of their systems.

9.4 Document and data control

Document and data control shall include all documents and data relevant to the requirements of this standard covering purchasing, processing, inspection of materials and the factory production control system documents.

A procedure for the management of documents and data shall be laid down in the production control manual covering procedures and responsibilities for the approval, issuance, distribution and administration of internal and external documentation and data, as well as the preparation, issuance and recording of changes to documentation.

9.5 Sub-contract services

If any part of the operation is sub-contracted by the producer, a means of control shall be established. The producer shall retain overall responsibility for all components sub-contracted.

9.6 Knowledge of raw material

There shall be documentation detailing the nature of all constituent parts specified in the licensee's technical data sheets.

It is the licensee's responsibility to ensure that, if any dangerous substances are identified, their content does not exceed the limits in force.

Note: see EU Council Directive 76/769/EEC.

9.7 Management of production

The factory production control system shall fulfil the following requirements:

- There shall be procedures to identify and control the materials.

Note: these can include procedures for maintaining and adjusting processing equipment, inspection or testing material sampled during processing, etc.

- There shall be procedures to identify and control any hazardous materials identified above to ensure that they do not exceed the limits.
- There shall be procedures to ensure that material is put into storage in a controlled manner and that the storage conditions are appropriate for the materials being stored.
- Certain materials are known to deteriorate in storage. There shall be procedures to ensure that material taken from storage has not deteriorated in such a way that its conformity is compromised.
- The product shall be identifiable up to the point of sale as regards source and type.

9.8 Inspection and test

1.1.4. General

The licensee shall ensure that they have all necessary facilities, equipment and trained personnel to carry out the required inspections and tests.

1.1.5. Equipment

The licensee shall be responsible for the control, calibration and maintenance of inspection, measuring and test equipment.

Accuracy and frequency of calibration shall be in accordance with the appropriate standards.

Equipment shall be used in accordance with documented procedures.

Equipment shall be uniquely identified.

Calibration records shall be retained.

1.1.6. Frequency and location of inspection, sampling and tests

The production control document shall describe the frequency and nature of inspections.

1.1.7. Records

The results of factory production control shall be recorded, including sampling locations, dates and times and product tested with any other relevant information.

If the product inspected or tested does not satisfy the requirements laid down in the specification, or if there is an indication that it will not do so, a note shall be made in the records of the steps taken to deal with the situation (e.g. carrying out of a new test and/or measures to correct the production process).

The records required by all clauses of this standard shall be included.

The records shall be kept for at least the statutory period.

Note: "statutory period" is the period of time for which records are required to be kept in accordance with regulations applying at the place of production.

9.9 Control of non-conforming products

Following any inspection or test that indicates that a product does not conform, the affected material shall be:

- reprocessed; or
- diverted to another application for which it is suitable; or
- rejected and marked as non-conforming.

All cases of non-conformity shall be recorded and investigated by the producer and, if necessary, corrective action shall be taken.

Note: corrective actions may include:

Investigation of the cause of non-conformity, including an examination of the testing procedure and making any necessary adjustments;

Analysis of processes, operations, quality records, service reports and customer complaints to detect and eliminate potential causes of non-conformity;

Initiating preventive actions to deal with problems to a level corresponding to the risks encountered;

Applying controls to ensure that effective corrective actions are taken;

Implementing and recording changes in procedures resulting from corrective action.

9.10 Handling, storage and conditioning in production areas

The manufacturer shall make the necessary arrangements to maintain the quality of the product during handling and storage. This is of particular importance to any materials that may deteriorate in storage.

9.11 Transport and packaging

The manufacturer's factory production control system shall identify the extent of the manufacturer's responsibility in relation to storage and delivery.

Products should be packaged appropriately to prevent any damage of the materials in transit. Any precautions necessary to achieve this during the handling and storage of the packaged goods shall be marked on the packaging or accompanying documents.

9.12 Training of personnel

The manufacturer shall establish and maintain procedures for the training of all personnel involved in the factory production system. Appropriate training records shall be maintained.

9.13 Minimum test frequencies for general properties

The manufacturer shall be asked to give details of the frequency under which the products are tested for compliance with the product data sheet. If it is felt that these are inadequate, extra testing and/or third-party attestation may be requested.

9.14 Communication

Before any goods leave the factory for site installation, the product quality assurance sheets should be signed and dispatched to a third party for attestation. These documents should unequivocally state the testing that has taken place and the frequency of testing.

The minimum testing that is acceptable is statistically verifiable to ensure full compliance with the technical data sheet for that product. If the data sheet is deemed to be inadequate, a new data sheet should be produced to ensure that it meets the needs of the quality assurance programme.

Only when the goods have undertaken all relevant quality control checks in accordance with the quality assurance manual should the goods be dispatched. The quality assurance of the product, dispatch (including its constituent parts) and installation is the sole responsibility of the licensee.

A third party will take site samples (FIFA-accredited field test technician or FIFA's appointed representatives) in accordance with the requirements of the FIFA Quality Programme for Football Turf. The above quality assurance measures are additional to the provisions outlined in the FIFA Quality Programme for Football Turf Manual.

9.15 Design and construction verification

As requested by FIFA, the FIFA licensee shall make available all design drawings and bills of quantities for any field submitted for FIFA certification together with the details of materials actually used during the construction. This shall include the following:

- I. Depth of sub-base materials, density of sub-base materials (when compacted), tonnage of material delivered to site (checked against delivery notes)
- II. Length and type of drainage pipes delivered to site (checked against delivery notes)
- III. Quantity and quality of drainage aggregate delivered to site (checked against delivery notes)
- IV. Quantity and quality of synthetic grass delivered to site (checked against delivery notes)
- V. Quantity and quality of infill sand delivered to site (checked against delivery notes)
- VI. Quantity and quality of infill rubber/elastomer/organic infill delivered to site (checked against delivery notes)
- VII. Quantity and quality and usable date of adhesive delivered to site (checked against delivery notes)
- VIII. Quantity and quality of seaming tape delivered to site (checked against delivery notes)
- IX. Quantity and quality of sewing thread delivered to site (checked against delivery notes)
- X. Quantity and quality of sports equipment delivered to site (checked against delivery notes)
- XI. Quantity and quality of maintenance equipment delivered to site (checked against delivery notes)
- XII. Quantity and quality of edging kerbs delivered to site (checked against delivery notes)
- XIII. Quantity and quality of haunching materials delivered to site (checked against delivery notes)
- XIV. Quantity and quality of additional contract materials delivered to site, for example perimeter paths (checked against delivery notes)
- XV. Confirmation of maintenance manual, training and maintenance log delivered

10 ANNEXE C – FIFA Basic standard

10.1 Introduction

In July 2021, The International Football Association Board (The IFAB) decided to integrate the new FIFA Basic standard into the Laws of the Game, replacing the previous International Match Standard (IMS). The FIFA Basic standard has been developed to identify products, technologies and playing surfaces that are cost-efficient and offer a viable alternative to FIFA Quality or FIFA Quality Pro products for member associations, competition organisers and clubs with limited budgets.

Official testing to the FIFA Basic standard shall only be carried out by independent test institutes accredited by FIFA.

The FIFA Basic standard is not a product approval scheme but is the certification that individual football pitches have the required playing characteristics and have been constructed from materials of known quality.

10.2 Eligibility for FIFA Basic standard field test

All artificial surfaces installed by Preferred Providers and standard licensees of the Quality Programme are eligible for the FIFA Basic standard.

Artificial surfaces installed by a non-licensee of the Quality Programme can be certified under the FIFA Basic standard if the applicant company meets the following requirements:

- The company is an artificial turf manufacturer.
- The company has a valid WFSGI pledge for their manufacturing plant.
- The company has valid product liability insurance.
- The company signs a non-commercial agreement with FIFA.

Applications should be sent to FootballTurf@fifa.org

10.3 Period of certification

Unless the field is subsequently found to no longer satisfy all aspects of the FIFA Quality Programme for Football Turf following a scheduled or random spot-check field test:

- Initial FIFA Basic certification is valid for three years.
- A retest FIFA Basic certification is valid for one year.
- Temporary certifications are valid for the duration of the competition and for a maximum period of three months.

10.4 Product laboratory testing

The FIFA Basic requirements for product approval were still under development and not available at the time of the publication of this document.

10.5 Information for certification applicants

A field test may be requested by the manufacturer that supplied the football turf surface.

To request a field test, the applicant must send the following information to the FIFA-accredited test institute that is appointed to carry out the FIFA Basic test:

- Stadium or site name and address
- Product name and code of the installed football turf (including the FIFA Basic laboratory report for the product)
- Proposed date of the field test
- Names of the ground staff responsible for maintaining the field

10.6 Maintenance equipment

During all field tests, the test institute is required to audit the equipment provided to maintain the surface. A tractor unit and a brush must be on-site. If the equipment is not available for inspection, the pitch will not be certified by FIFA, irrespective of its performance. If the maintenance is undertaken by a specialist company, a copy of the maintenance contract and photographic evidence of the equipment to be used shall be provided to the field test institute.

10.7 Initial certification

As the FIFA Basic requirements for product approval are still under development, the initial certification was not available at the time of the publication of this document.

10.8 Temporary certification

An existing artificial surface can be certified on the condition that it will be used for a competition and the request is officially made by the competition organiser.

Official temporary certification requests shall be sent to FootballTurf@fifa.org

The request must include the following information:

- Stadium or site name and address
- Product name and manufacturer of the installed football turf
- Proposed date of the field test
- Start date of the competition

10.9 FIFA Quality certification extension

Existing pitches that have been certified to FIFA Quality standard can be retested under the FIFA Basic standard (retest).

10.10 Field dimensions

Dimensions should be in accordance with the Laws of the Game. The field of play must be rectangular. The length of the touch line must be greater than the length of the goal line.

	FIFA Basic
Length	Min. 90.0m, max. 120.0m
Width	Min 45.0m, max. 90.0m

10.11 Field markings and eligibility for international competitions

Field markings shall be in accordance with Law 1 – The Field of Play in the Laws of the Game. The goal posts must also have the same width as the line.

The Laws of the Game allow international matches to be played on pitches with several sets of lines. Law 1 states: “Where artificial surfaces are used, other lines are permitted provided that they are of a different colour and clearly distinguishable from the lines used for football.” Tournament organisers may, however, have stricter rules on the use of additional linage.

The test institute shall take note of any additional markings (logos, writing, adverts, etc.) other than those specified in the Laws of the Game.

FIFA Basic installations may lose their eligibility to host competitive matches in accordance with the Laws of the Game if additional markings (logos etc.) are present on the field. The certificate is awarded to confirm technical compliance with the requirements only.

Note: if a FIFA-certified pitch is to be used for competition matches, it must meet the conditions laid down in the competition regulations and be checked by the relevant local authorities.

10.12 Field test requirements

Field tests should be recorded in accordance with sub-section 5.2 – Video footage of field (site) tests.

FIFA Basic initial test requirements are applicable for fields installed within the past three years as well as for temporary certifications.

FIFA Basic retest requirements are applicable for fields installed more than three years before the field test.

Characteristic	Test Method	Requirements			
		FIFA Basic for temporary and initial installations	Consistency	FIFA Basic for certification extension	Consistency
Vertical ball rebound	FIFA 01	60cm-105cm	± 15cm absolute	60cm-115cm	±10% relative
Ball roll	FIFA 03	4m-12m	±3m absolute	4m-15m	±3m absolute
Shock absorption	FIFA 04a	55%-70%	± 5% absolute	50%-70%	± 5% absolute
Vertical deformation	FIFA 05a	4mm-11mm	±2mm absolute	4mm-11mm	±2mm absolute
Rotational resistance	FIFA 06 & 06a	25Nm-50Nm	±5Nm absolute	25Nm-50Nm	±5Nm absolute
Surface regularity of playing surface	FIFA 12	<10mm	-	<10mm	-
Non-elongated free pile height	FIFA 18	For information	-	For information	-
Infill depth	FIFA 21	For information	-	For information	-
Minimising infill migration into the environment – field design	FIFA 27	For information	-	For information	-

Temporary certification – product identification requirements

Component	Characteristic	Test Method	FIFA Basic
Artificial turf – green	Tufts per unit area	ISO 1763	≤ ± 10% of product declaration
	Tuft withdrawal*	Visual inspection	Fibres not easily torn off the surface
	Pile length above backing (all colours)	ISO 2549	≤ ± 5% of product declaration
	Total pile weight	ISO 8543	≤ ± 10%*
Pile yarn(s) – All colours including line markings	Thickness of yarn	FIFA Test Method 25	≥ 90%
	Pile yarn characterisation	FIFA Test Method 22	Same polymer
	Yarn dtex	FIFA Test Method 23	≤ ±10%
Performance infill (if supplied as part of system)	Particle size	FIFA Test Method 20	The largest sieve retaining at least 10% by mass of the infill shall be within the range detailed in the manufacturer's declaration
	Particle shape	EN 14955 procedure 6.3	Similar shape

	Composition (TAG)	FIFA Test Method 11	$\leq \pm 15\%$ relative
	PAH(8) content (recommended)	AfPS 2019:01 PAK or ASTM F3496	$\leq 20\text{mg/kg}$ (recommended)
Stabilising infill (if supplied as part of system)	Particle size	FIFA Test Method 20	$d > 0.315$ Maximum two sieves difference
	Particle shape	EN 14955 procedure 6.3	Similar shape
	Bulk density	EN 1097-3	$\leq \pm 20\%$
Shockpads/e-layers (if supplied as part of system)	Shock absorption	FIFA Test Method 4a	$< \pm 5\%$ force reduction
	Thickness	EN 1969	$\geq 90\%$ of manufacturer's declaration
	Shockpad type	Visual	Similar to product declaration