

WORLD MINIFOOTBALL FEDERATION

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**Home is where your hearts beats.
Our beats in 144 countries.
Welcome home!**

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1. INTRODUCTION

In the last 20 years we have been able to witness a huge increase of artificial turf for all the main sports. Minifootball is one of these.

In order to guarantee overall the safety of players but also the “ quality of the game “ WMF (as well as the most important sports federations in the world) presents in the following pages the specific Technical Manual for all the pitches in artificial turf.

The regulation studied for the Installations in artificial turf (both for those already completed and for those to be done) is today necessary to guarantee a homogeneity of the play all over the world with a right management.

Last but not least is the aspect of the sustainability of the needed important investment to realize a Minifootball pitch in artificial turf (in terms of financial, environmental and social aspects).

In the following pages we could evaluate all the parameters that a Minifootball pitch in artificial turf will have to reach in order to be certified by the WMF.

Evidently, since there are different types of competitions and having to test different solutions (already installed and not), this Manual deals with regulating these situations as follows:

TOP LEVEL COMPETITIONS (International and National competitions as WMF World Cup or EMF MiniEuro, for exemple);

STANDARD COMPETITIONS:

- Specific parameters for the pitches already installed (valid exclusively up to the year 2030);
- Specific parameters for the “ new “ Installations.

2. DIFFERENT LEVELS OF CERTIFICATION

A. TOP LEVEL COMPETITIONS

For the “ TOP LEVEL “ competitions, in consideration that the different pitches would be installed in a temporary mode, the installation of a NO-INFILL system will be mandatory.

Following the parameters to be respected in order to obtain the Certification.

I. Artificial Turf identification

PRODUCT IDENTIFICATION – ARTIFICIAL TURF	
System technology	NO-INFILL
Pile height	25mm (± 1mm)
Composition	100% PE
Number of stitches x sqm	> 28.000 (± 5%)
Minimum fiber weight	2.400 g/m ²
Dtex	> 21.000 in total (± 5%) x tue combinaAon of straight and TXT yarns
Structure	Product must contain of a minimum of 3 different types of fibers of which minimum 2 must be curled yarns (texturized and kdek)
Product identification	Dtex Thickness (μ) Pile height (extended yarns) Colour Stitches x sqm Pile weight Total weight of the turf

II. Yarn – Minimum technical parameters and characteristics

<i>YARN – Minimum technical parameters and characteristics</i>	
UV-A Test	EN ISO 4892-3
Chemical analysis	Compliant to EU REACH Regulation
If the Turf Producer has already tested the used yarn for other applications/sports in any approved laboratory, the tests are considered valid.	
Dtex	> 21.000 in total ($\pm 5\%$) x tue combinaAon of straight and curled yarns
Structure	>21.000 in total in one bundle ($\pm 5\%$) Product must contain of a minimum of 3 different types of fibers of which minimum 2 must be curled yarns (texturized and kdek) Product must contain of a minimum of 3 different types of fibers of which minimum 2 must be curled yarns (texturized and kdek)

III. Shock-pad - minimum technical parameters and characteristics

<i>SHOCK-PAD – Minimum technical parameters and characteristics</i>	
Identification	Weight x sqm Thickness Density where applicable
Chemical analysis	Compliant to EU REACH Regulation
<i>The installation of the shock-pad is mandatory for all the NO-INFILL systems.</i>	

IV. Performance tests on the system

<i>PERFORMANCE TESTS ON THE SYSTEM</i>	
Shock-Absorption	50%-70% EN 14808
Vertical deformation	4-12 mm EN 14809
Ball roll	4-12 mm EN 12234 – carried out using the specific MINIFOOTBALL ball “ Officially approved “ by WMF
Ball rebound	0.60 – 1.00m EN 12235 – carried out using the specific MINIFOOTBALL ball “ Officially approved “ by WMF

STANDARD COMPETITIONS

B1. Existing pitches

Being this Certification related to the existing pitches and with a consequent impossibility to evaluate the installed systems, the Certification will consist exclusively in an identification of what is installed.

In order to maintain a minimum quality standard but above all to safeguard the safety of the athletes, the basic parameters that these fields must guarantee are listed below.

It is understood that this possibility of Certification will be valid only in relation to the pitches already installed and could be done only up to the year 2030.

Starting from the issue of these regulations, the newly built pitches will have to comply with the new parameters of this Manual.

I. Artificial Turf identification

<i>PRODUCT IDENTIFICATION – ARTIFICIAL TURF</i>	
System technology	INFILLED TURF (sand or sand + performance infill)
Pile height	≥ 30mm (+/- 10%)
Composition	PP/PE/PA
Number of stitches x sqm	to be identified
Dtex	≥ 8.000
<i>In order to certify the pitch it will be necessary to take a sample from the pitch of at least 30x30cm to identify it in the laboratory (dtex).</i>	

B2. New installations

I. Artificial Turf identification

<i>PRODUCT IDENTIFICATION - TURF</i>	
System technology	INFILLED TURF
Pile height	$\geq 40\text{mm (+/- 10\%)}$ $\leq 60\text{mm (+/- 10\%)}$
Composition	100% PE
Number of stitches x sqm	$\geq 7.875 (+/- 10\%)$
Dtex	$\geq 14.000 (+/- 10\%)$
Thickness	$\geq 400\mu (+/- 10\%)$
As these systems are installed for Standard competitions and having to bear extremely heavy workloads, the yarn used will have to be subjected to the LISPORT STD test with a high number of cycles (to ensure extreme wear resistance). It is understood that the LISPORT test will be done on the fibre not on the specific system. It means that if a fibre has been successfully tested, it could be used in different systems (different pile height and number of stitches x sqm).	
LISPORT STD	≥ 200.000 cycles Rif. EN 15306

II. Yarn identification

PRODUCT IDENTIFICATION - YARN	
Yarn	DSC before and after the UVB tests No changes allowed The DSC test must be done on every single different yarn composing the carpet: means all the different green colours and the white and yellow for the lines.
UVB tests	4896 KJ $\pm$ 125 KJ of total energy with irradiance of 0,80 W/m ² with UVB lamps 313 nm (4h 0,80 W/m ² 55°C and 2h 45°C with off lamps for a total of 2550 hours). Maximum variation allowed $\geq$ 3 Grey Scale Ref. EN ISO 4892-3
Chemical analysis	Compliant to EU REACH Regulation in terms of IPA and PHTHALATES
<i>If the Turf Producer has already tested the used yarn for other applications/sports in any approved laboratory, the tests are considered valid.</i>	
Dtex	> 14.000 in total ($\pm$ 10%)
Composition	PE
Product identification	Dtex Thickness (μ) Colour Stitches x sqm Pile weight Total weight of the turf

III. Shock-pad identification (if present in the system)

SHOCK-PAD – TECHNICAL PARAMETERS AND CHARACTERISTICS	
Identification	Weight x sqm Thickness Density where applicable
Chemical analysis	Compliant to EU REACH Regulation in terms of IPA and PHTHALATES

IV. Sand identification

<i>PRODUCT IDENTIFICATION - SAND</i>	
Particle size distribution	$d \geq 0,4\text{mm} - D \leq 1,5\text{mm}$ Maximum allowed below "d": 5% Maximum allowed above "D": 10% Values calculated on a minimum of 500 gr of product EN 933-1
Spectrometry	Minimum silica content in the product $\geq 85\%$

V. Performance infill identification

<i>PERFORMANCE INFILL IDENTIFICATION</i>	
Particle size distribution	$d \geq 0,5\text{mm} - D \leq 3,15\text{mm}$ EN 933-1
Bulk density	Declared $\pm 15\%$ EN 1097-3
UVB tests	4896 KJ $\pm$ 125 KJ of total energy with irradiance of 0,80 W/ m ² with UVB lamps 313 nm (4h 0,80 W/m ² 55°C and 2h 45°C with off lamps for a total of 2550 hours). Maximum variation allowed ≥ 3 Grey Scale Ref. EN ISO 4892-3
Chemical analysis	Compliant to EU REACH Regulation in terms of IPA and PHTHALATES

VI. Performance tests on the system

<i>PERFORMANCE TESTS ON THE SYSTEM</i>	
Shock-Absorption	50%-70% Ref. EN 12234 – carried out using the specific MINIFOOTBALL ball “Officially approved “ by WMF
Vertical deformation	4-12 mm Ref. EN 12234- carried out using the specific MINIFOOTBALL ball “Officially approved “ by WMF
Ball roll	4-12m Ref. EN 12234 - carried out using the specific MINIFOOTBALL ball “Officially approved “ by WMF
Ball rebound	0,60-1,00m Ref. EN 12234 - carried out using the specific MINIFOOTBALL ball “Officially approved “ by WMF
<i>Tests must be carried out using the specific MINIFOOTBALL ball “ Officially approved “ by WMF</i>	

For standard competitions could be also used turf, specified in point 1 of this document with the name "TOP LEVEL COMPETITIONS", i.e. the so-called non-infilled turf.

3. CERTIFICATION PROCESS

Laboratory tests

All the different single components must be tested following the requested parameters :

- Eventual shock-pad
- Artificial turf
- Sand
- Eventual performance fill



The WMF approved laboratory will emit the report for every single component.

The system, as it will be installed on the pitch, must be tested in order to reach the performance parameters.

- Eventual shock-pad
- Artificial turf
- Sand
- Eventual performance fill



The WMF approved laboratory will emit the report for the whole system.

In situ test

The WMF approved laboratory will test the installed pitch verifying the following parameters:

- Correspondence of the installed materials to those tested in the laboratory. Verification of the same performance on the installed pitch.



The WMF approved laboratory will emit the report for the performance tests carried out on the pitch.

Once it has been verified that the results of the tests carried out in the pitch comply with those of the laboratory and meet the minimum necessary parameters, WMF will issue the Certificate of approval for the pitch with the following validity:

- 1 year for TOP competitions
- 3 years for STANDARD competitions

CERTIFIED



The WMF Certificate would be emitted following a fee payment to the Federation.

It is understood that any test has to be carried out on every single component of the system both in the WMF approved Laboratory and on the installed pitch.

The results obtained on the pitch tests must correspond (with the permitted tolerances) to what has already been tested in the laboratory.

WMF has agreed specific particularly advantageous rates for the realization of the needed tests with the approved laboratory.

A specific communication in this regard will be issued separately with an official press release.

Once verified that the parameters of the different materials, systems and performance comply to the needed criteria and having received the fee payment, WMF will emit the Official Pitch Certificate for the tested pitch.

Consequently the infrastructure could host all the official matches according to the tested level.

Concerning the Certificate validity and consequently the testing period following the different categories:

- WMF TOP LEVEL COMPETITIONS -> “ Top Certification “ – 1 year validity
- WMF STANDARD LEVEL COMPETITIONS -> “ Standard Certification “ – 3 years validity

The target of the WMF QUALITY PROGRAMME INNOVATION is:

- To preserve and guarantee high qualities for the ball dynamics during the match and thereby increase the attractiveness of the sport;
- To eliminate any bad investment by public institutions and private companies in the construction and reconstruction of minifootball pitches;
- To eliminate the low-quality on the surfaces in artificial turf;
- To ensure high-quality surface for the top minifootball competitions.

WMF QUALITY PROGRAMME INNOVATION Team