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Does artificial football turf require field certification? The Spanish case

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Introduction

Football evolution has been closely linked to sports surfaces. Third-generation artificial football turf represents a quantum leap over previous generations (Foster, 2007) with the addition of rubber and sand to the synthetic surface. Artificial turf has become a priority option in many towns, which begins to move toward a sport management based on greater social sustainability, business, sports, and environmental aspects (Dumlop, 2001; FIFA, 2007). However, the quality certification proposals of field properties (FIFA Quality Concept for Football Turf or EN 15330-1) in most of the Spanish artificial turf fields (third generation) are not carried out, so it remains unknown whether these are safe and functional surfaces for sports users.

Aims and Methods

The aim of this study was to evaluate compliance with European and FIFA rules on the artificial turf in the football fields of the Spanish amateur league. Quantitative methodology was established by conducting 7 field tests on a sample of 20 artificial turf fields, which analyze the security and functionality specifications following the protocols of certification of EN 15330-1 and FIFA Football Turf (1 and 2 star). The proposed field tests were ball rebound, ball roll, shock absorption, vertical deformation, rotational resistance, surface regularity, and ground defibrillation.

Results

None of the 20 artificial turf football fields analyzed have passed the entire field test according to mandatory specifications set for each proof. The average compliance with regulatory requirements in the fields is only 2 of the 7 proposed tests. The best results are those related to the constructive aspects of the surface: surface regularity and defibrillation. By contrast, the worst results are those related to the safety of the surface: shock absorption and vertical deformation. There are significant differences in the mechanical properties of the fields depending on the age of the facility, specific maintenance, hours of use, type of pile, rubber type, the existence of elastic layer (shock pad), and the free pile height.

Discussion and Conclusions

The artificial turf football fields of the study are found to be inadequate in some conditions relating to the security and functionality sport, according to the protocols of certification EN 15330-1 and FIFA Football Turf (1 and 2 stars). The lack of control in the field installation and the little information or misinformation of sport managers, together with a low budget investment in quality materials and artificial turf, may be the causes of low mechanical properties of the fields. So it is possible that the life span of these surfaces has been reduced to only 5 years (Burillo, 2009). In any case, with the imminent increase of artificial turf around the sports field, there is a need to implement controls on fields by the sports authorities to ensure quality, safety, and functionality, thus stimulating innovation in the industry.

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