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Comparison of IRB Performance Specification for Artificial Surfaces for Rugby and the FA Performance Standard for Artificial Grass Pitches for Community Use

Property	IRB requirement	FA requirement	Comment
Player / surface interaction			
Force Reduction / Shock Absorbency	60 to 75%	≥55%	The IRB requires a higher level of shock absorbency than the FA; this will be to accommodate the greater impact forces encountered in rugby. The IRB requirements are more in line with those of the FIFA Two Standard (March 2005). To obtain and maintain, these requirements many surfaces will require a shockpad, which has cost implications for football. The use of shockpad for both sports is considered advantageous by many as they help prevent longer compaction and loss in performance.
HIC	125G	No requirement	This test simulates a head impact with the surface. It is a more severe test than that used by football, which replicate players running on the surface. To comply increases the need of many surfacing systems to include a shockpad and also increases the disadvantage of using an engineered base in construction (due to increased rigidity of the base).
Vertical Deformation	4 – 10mm	4mm – 12mm	The IRB requirements are a little harder for a surface achieve than the FA's they are in line with the FIFA One Star category. This should not have an adverse affect on either sport or the types of surface used.

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Traction	30 – 50 Nm	30 – 50 Nm	The test and requirements are the same.
Slip Resistance	0.6 –1.0µ	No requirement	The FA selected an alternative means of measuring the linear friction of surfaces. The test specified by the IRB is unlikely to cause problems for football surfaces. FIFA have adopted a new test and it is possible that the IRB may amend their standard to incorporate this test. If the FA decides in the future to follow the new harmonised FIFA / UEFA tests methods they would then also use the new FIFA test.
Abrasiveness	No scratches on film	No requirement	The new FIFA Two Star standard includes this test. As many football surfaces can achieve the requirements it is not considered a problem for dual use surfaces, indeed its inclusion helps overcome concerns about skin abrasion / friction burns on artificial surfaces.
Energy Restitution	30 – 50%	No requirement	The FA / FIFA do not have any requirement for this property. Based on our knowledge of this type of test no significant conflict is envisaged.
Ball Surface interaction			
Vertical ball rebound	30 – 50%	60cm (30%) – 100cm (50%)	The requirements are the same for both ports.
Angle ball (pace)	50% - 70%	45% - 80%	The requirements are the similar.
Ball roll	Not applicable	4m to 10m	The increased pile length required by rugby (see bellow) will reduce the distance a ball rolls. As most artificial surfaces struggle to achieve and maintain the distance specified by the FA this should be advantageous.

Durability etc			
Abrasion resistance / durability	No change for: shock absorbency, deformation, traction, Abrasiveness	Small reductions allowed to reflect hardening of pitch as result of compaction	To remain within the requirements of newly installed surface a product will require initial results to be at the softer end of scale and probably require a shockpad.
Joint strength	25N/mm tension	15N/mm tension or 0.25N/mm peel	IRB standard requires a much high levels of joint strength than football. This reflects the increases stresses placed on the surface by the game.
Product stability	25 N/mm	No requirement	The increased stresses placed on a rugby surface require a stronger carpet backing. Whilst increasing costs this will not have an adverse affect on the performance of football surfaces
Pile height	>65mm	No requirement	The IRB requirement for a minimum pile height is based on the need to prevent studs penetrating the primary backing of the artificial grass carpet, presumably in the scrum and ruck. Football has no such requirement. Many football surfaces will not satisfy this requirement meaning that a joint use facility would have to be surfaced with a rugby grade of carpet or this requirement be ignored. If a surface satisfies the joint strength and product stability requirements this should remove the need for the minimum pile height (or allow a reduced value (e.g. 55mm).

To summarise, there does not appear to be any great conflict between the demands of *IRB Rule 22* and the FA *Performance Standard for Artificial Grass Surfaces for Community Use*. The standards are likely to be used in the event of player injury and subsequent litigation as a means of assessing whether a pitch was 'fit for use'. In terms of joint use player safety should always be the first priority so compliance with the relevant sections of the IRB Rule 22 should take precedence over the FA standard

whenever rugby is envisaged. The IRB standard does not define the types of rugby it covers. It is therefore assumed it applies to all aspects of the game and no allowance for reduced performance or safety criteria for pitches that all only used for training or junior use is made, even when pitches all less than full size.

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