Sports Labs Ltd

Inspection and Testing Of a Sportcrete Bound Base

for

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England

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FOREWORD

1. This report has been prepared by Sports Labs Ltd, with all reasonable skill, care and diligence within the terms of the contract with the Client and within the limitations of the resources devoted to it by agreement with the Client.

2. This report is confidential to the Client and Sports Labs Ltd., accepts no responsibility whatsoever to third parties to whom this report or any part thereof, is made know. Any such party relies upon the report at their won risk.

3. This report shall not be used for engineering or contractual purposes unless signed above by the author and the approver, and unless the reports status is "Final".

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1.0 Introduction

1.1 We refer to our visit made to the kick about installation of Cheltenham Bournside School. The purpose of the visit was to carry out an inspection and testing of the installed Sportcrete surface. The visit was made on the 26 May 2004 in bright, sunny conditions with only a light breeze present. The ground temperature during the visit was measured at 14 C.

1.2 Sports Labs were asked to carry out an inspection and some testing of the installed Sportcrete system at the school in order to determine the condition and suitability of the base with regards to use with Third Generation football turfs.

2.0 Existing System

2.1 The area inspected is an 18m x 30m kick around area installed approximately 7 months ago. The base consists of a Sportcrete silicone bound aggregate surface overlaid with a 50mm rubber in filled turf.

2.2 The area has been used at a reasonably high level by the school with the users ranging from 12-18 years of age.

3.0 Testing

3.1 Testing of the surface was carried out using standard test methods.

3.2 Tests were carried out to indicate the performance of the installed surface against that of a full engineered base.

3.3 The tests carried our were:

Force Reduction (Impact Response) using the Berlin Artificial Athlete.
Ball Rebound Resilience

3.4 The testing was carried out on the carpet/base combination and also on the exposed base only. Test results are given in appendix 1 in tabular format.

4.0 Methodology

4.1 To inspect the surface an area was exposed below the carpet, this was approximately 5m x7m in area and was deemed as being an area that had been well trafficked underfoot.

4.2 Exposure of the bound base found it to be in very good condition after the winter, the surface showed no signs of cracking or and little or no spalling of the surface materials.

4.3 The tests were carried out on the exposed base material, and also on the carpet overlying the base as it would be in use.

4.4 The surface was examined after the impact response testing to ensure that there had been no damage caused by the testing which might indicate possible future problems with the surface.

5.0 Discussion and Conclusion

5.1 The surface was found to be in good condition when exposed with only an occasional loose aggregate which would be expected from this type of material. The bas was of level and even construction with no visible signs of damage or failure.

5.2 The test results show that whilst the surface is hard to the touch and obviously of sufficient strength to withstand the rigours of carpet laying and play over winter period, there is still an inherent resilience within the surface compared to an engineered concrete or bituminous base. The results for Impact response show that there is a Force Reduction of 20% within the base.

5.3 The 20% reduction would indicate that there is flexibility within the surface even though at the time of testing the surface was not necessarily “warm” and may even flex to a greater degree when the surface is warmer.

5.4 Football rebound resilience was found to be within an acceptable range when tested on the playing surface of the carpet. When Football Rebound was measured directly on the surface of the Sportcrete the result was found to be 65%, this was compared to rebound resilience on some adjacent concrete of 75% when dropped from 2.00m.

5.5 Where the jointing tape for the carpet had "squeezed" out onto the surface this had adhered to the Sportcrete, on pulling back the carpet this excess glue ripped the surface but left the underlying materials in a solid state. This would indicate that there is good penetration of the binder through the stone matrix and not just a cursory overspray of loose particles leaving an inherent strength in the material.

5.6 The surface as tested and inspected shows a good stability and no weather or play damage. There is no rutting or puddling of the material and it is unlikely that the material will break down during the playing life of a carpet.

5.7 What may be an important part of the laying of this material would be the conditions in which it is laid, as with any synthetic material it is likely that inclement weather may discourage the binder from curing or may cause "foaming" of the material in damp conditions.

5.8 In our opinion the Sportcrete installed at Cheltenham Bournside is in satisfactory condition and is providing a good base to lay a third generation turf on. Provided that this method of construction is cost effective to the client then we would have no hesitation in using the system

APPENDIX 1 TEST RESULTS

Force Reduction (Impact Response)

Test No	Test Result	Criteria
Sportcrete		
1	**21%**	
2	**17%**	
3	**22%**	
Synthetic		
4	**54%**	
5	**56%**	**50-70&**
6	**51%**	

FOOTBALL REBOUND RESILIENCE

Test No	Test Result	Criteria
Sportcrete		
1	**61%**	
2	**66%**	
3	**65%**	
Concrete		
4	**73%**	
5	**79%**	
6	**75%**	

APPENDIX 2 PHOTOGRAPHS