

(12) **UK Patent Application** (19) **GB** (11) **2 142 353 A**

(43) Application published 16 Jan 1985

(21) Application No **8317509**  
(22) Date of filing **28 Jun 1983**

(51) INT CL<sup>3</sup>  
**A63C 19/04**

(52) Domestic classification  
**D1R 105 161 310 316 455 562 603 654 DE**  
**U1S 1166 D1R**

(71) Applicant  
**Norman Wharton,**  
**1 Church Walk, Little Gransden, Sandy, Beds**  
**SG19 3DY**

(56) Documents cited  
**GB A 2087959 EP 0064140 WO 8000649**  
**GB 1544330**  
**GB 1533180**  
**GB 1258621**  
**GB 0921107**  
**GB 0574605**

(72) Inventor  
**Norman Wharton**

(74) Agent and/or Address for Service  
**Reddie & Grose,**  
**16 Theobalds Road, London WC1X 8PL**

(58) Field of search  
**D1R**

(54) **Shock pad for synthetic sports turf**

(57) This invention provides a shock pad suitable for use as an underlay for synthetic sports turf and comprising a substantially uniform resiliently compressible porous matt of an open tangle of substantially randomly extending fibres bonded at at least some points of contact, and sand filling the matt.

**GB 2 142 353 A**

## SPECIFICATION

### Shock pad for synthetic sports turf

5 The present invention relates to a shock pad for use as an underlay for synthetic sports turf.

10 There remains a need for an all weather such underlay which is durable and stable in use and which exhibits the required nature and degree of shock absorption to promote in the overlaid synthetic turf desirable playing characteristics both from the point of view of the users and as regards the behaviour of any

15 equipment (e.g. ball) used. Despite the expenditure of much time, effort and resources on the problem, shock pad underlays available or proposed to date have failed to meet one or more of these requirements.

20 According to the present invention, a shock pad suitable for the mentioned purposes comprises a substantially uniform resiliently compressible porous matt comprising an open tangle of substantially randomly extending

25 fibres bonded at at least some points of contact, and sand filling the matt. The shock pad underlay according to the invention is suitable for use with either filled (usually with sand) or non-filled synthetic sports turfs.

30 Various parameters of the shock pad underlay according to the invention can be varied to suit the underlay/synthetic turf combination for particular different uses – e.g. American football or soccer or golf etc. Important parameters in this respect are the thickness of the

35 matt (which may for example be from 0.5 cm to 4 cm), the packing density of the fibre (which may for example be from 30 to 160 kg. per cubic metre, and the granularity of the

40 sand fill. By appropriate selection of these parameters it is possible to tailor the end product to provide the optimum shock absorption and other characteristics for walking, running and falling and for the ball rebound

45 characteristics required.

The shock pad underlay according to the invention preferably has at its underface a porous backing which allows the drainage of water therethrough but restricts sand loss and

50 settlement.

The fibres of the matt may be of animal or vegetable origin, of synthetic material, or a mixture of any of these. Polypropylene fibre is especially suitable.

55 One commercially available product suitable for use as the matt to be filled with sand according to the invention is rubberised hair, an open tangle of animal hair bonded with rubbery adhesive and available in sheet form;

60 one such sheet product is available under the name "Hairlok" from Hairlok Limited of Bedford, England. Such rubberised hair meeting Ministry of Defence Specification UK/AID/919/2 is widely used as protective

65 cushioning for the transport and storage of

military components and equipment. Similar products are commercially available from other sources. The animal hair may be replaced wholly or in part by vegetable fibre and/or plastics (e.g. polypropylene) fibre.

70 Synthetic plastics fibre may not require a separate adhesive for the fibre bonding.

Installation of the shock pad according to the invention is simple. The porous bonded

75 fibrous matt is simply laid (e.g. from the roll) on the prepared site, with the porous backing (if any) face downwards, and sand is then deposited thereon and brushed or otherwise worked in until the matt is fully sand filled;

80 the synthetic sports turf is then laid over the finished shock pad. The granularity of the sand employed is selected to help provide the required playing characteristics of the turf, to avoid panning, to give good drainage and

85 correct water swelling characteristics.

Whilst reference is made above to a sand fill for the bonded fibrous matt, and whilst sand is the most readily available material for use as such filler, sand substitutes could of

90 course be employed within the scope of the invention.

Additives may be incorporated in the shock pad according to the invention (in the sand and/or in the fibrous matt) to combat biodegradation of the shock pad and/or to deter

95 attack on it by animals such as rodents, insects etc.

## CLAIMS

100 1. A shock pad suitable for use as an underlay for synthetic sports turf and comprising a substantially uniform resiliently compressible porous matt of an open tangle of substantially randomly extending fibres bonded at

105 at least some points of contact, and sand filling the matt.

2. A shock pad for synthetic sports turf, the shock pad being substantially as hereinbefore described.

Printed in the United Kingdom for  
Her Majesty's Stationery Office, Dd 8818935, 1985, 4235.  
Published at The Patent Office, 25 Southampton Buildings,  
London, WC2A 1AY, from which copies may be obtained.