

(19)



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(11)

EP 0 864 693 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
16.09.1998 Bulletin 1998/38

(51) Int. Cl.⁶: **E01C 13/06**

(21) Application number: **98200756.9**

(22) Date of filing: **10.03.1998**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **10.03.1997 NL 1005481**

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(54) Soil profile for sport pitches

(57) The invention relates to a ground surface for a sports pitch for arranging on a base, comprising a top layer and at least one intermediate layer arranged between the base and the top layer, wherein the intermediate layer comprises fired clay granules.

With such clay granules, which are also known under the name Argex, a considerable weight saving is obtained, while further good properties for the water management are retained.

The clay granules moreover provide a certain measure of mechanical stabilization and a reduction in the height of the whole ground surface is obtained.

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Description

The invention relates to a ground surface for a sport pitch arranged on a base, comprising a top layer and at least one intermediate layer arranged between the base and the top layer.

Such ground surfaces are generally known.

Such ground surfaces are heavy.

The object of the present invention is to provide such a ground surface which is lighter.

A lighter ground surface is desirable, for instance in the case of sport pitches which are placed in a movable tray. A lighter ground surface can also be important in other applications, for instance in the case of a base designed only for a light load.

This object is achieved in that the intermediate layer comprises fired clay granules.

With such clay granules, which are also known under the name Argex, a considerable weight saving is obtained, while further good properties for the water management are retained.

The clay granules moreover provide a certain measure of mechanical stabilization and a reduction in the height of the whole ground surface is obtained.

It is noted herein that it is generally intended to sow the ground surface with a crop such as grass or cover it with turf; other crops are in no way excluded. Furthermore, another top layer can be arranged, such as gravel or plastic or combinations thereof.

According to a preferred embodiment a stabilization layer is arranged between the top layer and the intermediate layer. This stabilization layer results in a further improvement of the mechanical stabilization.

According to another preferred embodiment a drainage layer is arranged between the intermediate layer and the base. This results in an effective drainage, wherein the water management properties of the layer of fired clay granules shows to best effect.

It is pointed out here that the hygroscopic properties of the clay granules are of the greatest importance for the water management properties.

The measures according to claim 4 also result in an improvement of these effects.

According to the measures of claims 5 and 6, a gradual transition of pore size, and thereby of water-retaining capacity, is obtained. Discontinuities and the problems associated therewith of drying-out or an excess of water in discontinuous layers are hereby avoided.

The method of claim 7 results in a simple method requiring few operations; pre-mixing of large quantities of materials is hereby avoided.

The method of claim 8 results in an easy manner of obtaining a profile structure without great discontinuities in the granule size.

The invention will be elucidated hereinbelow with reference to the accompanying table which shows an example of a profile structure according to the invention.

top layer	soil	120 mm
stab. layer	soil/lava (1:1 w%)	80 mm
mixed layer	soil/lava/Argex	40 mm
interm. layer	soil/Argex (1:1 vol%)	10 mm
mixed layer	soil/Argex/Argex	40 mm
Argex layer	Argex	40 mm
drainage layer	gravel	50 mm

A layer of gravel with a thickness of 50 mm is initially arranged on the base, which is formed for instance by a concrete, plastic or steel, water-impermeable tray or plate. This layer serves as drainage layer. This layer provides drainage to a drainage system not forming part of the invention in the form of for instance drainage pipes or holes in the tray.

A layer of fired clay granules is subsequently arranged with a thickness of 40 mm. This layer serves to improve the water management in the profile.

A mixed layer is then arranged with a thickness of 40 mm. This layer is preferably arranged by first arranging a layer of clay granules of 60 mm thickness, arranging hereon an intermediate layer of 20 mm and mixing this with the upper 20 mm of the underlying layer of clay granules, for instance with a tilling implement.

The intermediate layer is formed by a mixture of soil and clay granules in equal volume parts.

An unadulterated intermediate layer is then arranged of the mixture of soil and clay granules.

Laid thereon is another mixed layer of the intermediate layer and a stabilization layer of lava and soil. This mixed layer is also made by arranging the intermediate layer in a thickness of 30 mm, subsequently arranging the stabilization layer in a thickness of 20 mm and then mixing the upper 20 mm of the intermediate layer with the stabilization layer.

An unadulterated stabilization layer as a mixture of soil and lava in equal volume parts is subsequently arranged with a thickness of 80 mm.

The thus resulting profile is covered with a top layer of soil with a thickness of 120 mm on which the grass is sown.

It will be apparent that the thickness of the layers can vary without deviating from the invention; it is thus particularly possible to reduce the thickness of the layers in order to reduce the mass and height of the profile. It is for instance possible to increase the height of the separate layers by 10, 20 or 30 mm or reduce it by 10, 20 or 30 mm.

Additional layers can moreover be added or layers can be omitted. It is furthermore possible to alter the composition or the mixing ratio of the layers; what is

essential is that the function of the most important layers is retained.

Claims

1. Ground surface for a sports pitch for arranging on a base, comprising a top layer and at least one intermediate layer arranged between the base and the top layer, **characterized in that** the intermediate layer comprises fired clay granules.
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2. Ground surface for a sports pitch as claimed in claim 1, **characterized in that** a stabilization layer is arranged between the top layer and the intermediate layer.
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3. Ground surface for a sports pitch as claimed in claim 1 or 2, **characterized in that** a drainage layer is arranged between the intermediate layer and the base.
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4. Ground surface as claimed in claim 1, 2 or 3, **characterized in that** a layer formed substantially by fired clay granules is arranged between the intermediate layer and the drainage layer.
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5. Ground surface as claimed in any of the foregoing claims, **characterized in that** at least some of the layers are mutually separated by a dividing layer which is formed by a mixture of the layers between which the dividing layer forms the separation.
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6. Ground surface as claimed in any of the foregoing claims, **characterized in that** the difference between the average granule size of the constituents of mutually adjacent layers is smaller than the difference between the average granule size of layers separated by a dividing layer.
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7. Method for arranging a ground surface on a base, comprising of successively arranging the layers, **characterized in that** after arranging a layer a part of a following layer is arranged and the arranged part is subsequently mixed with a part of the already arranged layer.
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8. Method as claimed in claim 7, **characterized in that** the thickness of the arranged part of the following layer is the same as that of the part of the previous layer which is mixed therewith.
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EUROPEAN SEARCH REPORT

Application Number
EP 97 20 0756

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	PATENT ABSTRACTS OF JAPAN vol. 14, no. 295 (M-0990), 26 June 1990 & JP 02 093113 A (NIPPON CABLE SYSTEM INC.) * abstract *	1	D07B1/16 F16C1/20
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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			D07B F16C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25 July 1997	Examiner Goodall, C
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EPO FORM 1503 03.82 (P04C01)