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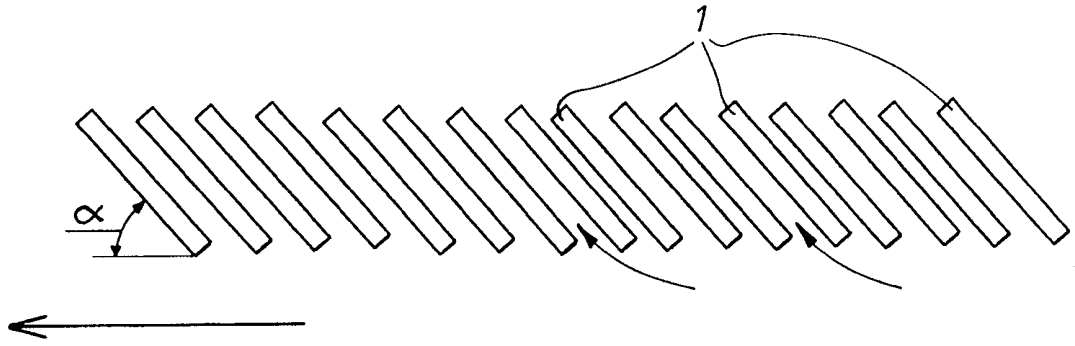
(54) Title: A ROAD MARKING COMPRISING MUTUALLY SPACED RIBS



(57) Abstract

The present invention relates to a road marking in the form of mutually spaced ribs (1) arranged substantially across the direction of the road. The road marking is characterized in that the ribs (1) form an angle α in relation to the road of 25-65°.

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TITLE:

A road marking comprising mutually spaced ribs.

TECHNICAL FIELD:

The present invention relates to road markings in the shape of mutually based ribs arranged substantially across the direction of the road. These ribs consist of a plastic material and are mixed with and especially on the surface provided with glass beads so that the markings shall reflect light and to be clearly visible in darkness.

PRIOR ART:

Road edges markings in shape of ribs that extend across the longitudinal direction of the road are known since some decade ago. These ribs have a length of about 6-8 cm and they are spaced from each other by approximately 10-12 cm and they have themselves a width of about 3 cm. They have a maximal height of 4 mm and they are produced by a thermoplastic material with mixed and/or on the surface arranged glass beads. Besides the fact that the road edge markings are fairly well visible they also bring about a humming noise if a car comes too far out on the edge and drives on the ribs. The road edge is consequently marked in a good way.

In for example the Nordic countries where a cold climate exists and snow can be expected in winter-time these ribs are at the inner side provided with a longitudinal strip in the direction of the road by the same material as the one in the ribs. The reason that this strip has been arranged by the ribs is that when a snow-plough which moves forward on the road it will be lifted up the strip adjacent to the ribs so that the ribs are not damaged. If the strips were not there the ribs could easily be damaged or completely scraped of by the snow-plough.

TECHNICAL PROBLEM:

The strip adjacent to the ribs protect these properly but since the road is cambered and consequently slopes down toward the edge this strip will be a low dam for water, which consequently will be gathered on the inner-side of this strip. Depending on the duration or the intensity of the rain the water will however flow over this bank and partly drown the ribs. Such a water-film or a water-layer will cause the reflected light from a car to decrease sharply in intensity and to be partly reflected in the wrong direction. This strip accordingly brings about a large problem for the visibility of the ribs. Even worse is the problem at left edge of the motorways since the water pools will be on the rib-side of the strip and drown this completely.

To solve these water problems so-called rain-cuts have been made, which means that cuts in the strip at approximately each tenth meter have been made so that the water can flow through the strip, but during heavy rains this will not be sufficiently. It has therefore long been a desire to remove these protecting strips from the ribs so that the water can flow unobstructed out between them and at the same time making it possible to drive a snow-plough over the ribs without scraping them away or damaging them substantially.

THE SOLUTION:

According to the present invention the above problem has been solved by bringing about a road-marking comprising mutually shaped ribs arranged substantially across the direction of the road which is characterized in that the ribs for preventing abrading by a snow-plough and allowing free water-passage between them form an angle in relation to the road of 25-65°.

It is, according to the invention, suitable that the angle is the one that is formed between the longitudinal direction of the road and the distal side of the rib seen in the driving direction of the road.

However, it is according to the invention possible that the angle is the one that is formed between the longitudinal direction of the road and the front side of the rib seen in the driving direction of the road.

The ribs should according to the invention have a length of 10-50 cm and a distance from each other of 1-6 cm, preferably 3 cm.

According to the invention it is important that the ribs overlap each other seen in the cross-direction of the road.

According to the invention the ribs are made of a plastic material and comprise glass beads, at least on the surface.

It is according to the invention suitable that preferably an elastic material is arranged between the ribs.

The ribs should according to the invention have a width of approximately 3 cm and a height of maximal 4 mm whereas the material which has a shape similar to cones between the ribs should have a maximal thickness of about 0,5-10 mm.

FIGURE DESCRIPTION:

The invention will in the following be described more in detail in connection with the drawings where:

Fig. 1 shows a road-edge marking according to prior art and where

Figs. 2 & 3 show two embodiment examples of the road-edge markings according to the present invention.

DETAILED DESCRIPTION:

Figure 1 shows the present road-edge marking having ribs 1 and a protecting strip 2 at that side of the ribs 1 which faces inwards to the road. The direction of traffic on the road is shown by the arrow. Since the road is cambered water 3 will be collected towards the protecting strip 2 and finally flow over said strip and flow off between the ribs 1. Thereby the ribs 1 will be partly drowned in water and the light which is intended to be reflected from the ribs 1 will be strongly weakened.

Figure 2 shows the ribs 1 according to the present invention which ribs are obliquely arranged in relation to the longitudinal direction of the road with an angle α which can be between 25 and 65° preferably about 42°. In this way the ribs 1 will overlap each other in the cross-direction of the road so that when a snow-plough is moved forward in the direction of the travel it will rest on at least two ribs 1 whereby abrading of the ribs will be prevented. The water which streams towards the road-edge will, as appears from the small arrows, flow out between the ribs 1.

The figure 3 shows the same direction on the ribs 1 as in figure 2 but there an intermediate material has been arranged between the ribs 1. This material which has a shape comparable to cones, comprises preferably reflecting glass beads 4 which also are present on the surface of the ribs 1.

The angle α in figure 2 may also be the angle between the front side of the ribs 1 and the road whereby the ribs thereby will be turned to the right in the figure.

By the present invention the problems of the decreased reflection through the influence of the water has been solved and at the same time measures have been taken so that the ribs will not be torn off or abraded by a snow-plough.

The invention is not limited to the embodiment examples shown and it can be varied in different ways in the scope of the claims.

CLAIMS

1. A road marking comprising mutually spaced ribs (1) arranged substantially across the direction of the road, characterized in that the ribs (1) for preventing abrading from snow-ploughs and allowing free water passage between the ribs form an angle α in relation to the road of 25-65°.

2. A road marking according to claim 1, characterized in that the angle α is the angle which is formed between the longitudinal direction of the road and the distal side of the rib (1) seen in the driving direction of the road.

3. A road marking according to claim 1, characterized in that the angle α is the angle which is formed between the longitudinal direction of the road and the front side of the rib (1) seen in the driving direction of the road.

4. A road marking according to any of the claims 1-3, characterized in that the ribs have a length of 10-70 cm and a distance from each other of 1-40 cm preferably 3 cm.

5. A road marking according to any of the claims 1-4, characterized in that the ribs (1) overlap each other in the cross-direction of the road.

6. A road marking according to any of the claims 1-5, characterized in that the ribs (1) are made of a plastic material and comprise glass beads on the surface and/or in the material itself.

7. A road marking according to any of the claims 1-6, characterized in that a preferably plastic material is arranged between the ribs (1).

8. A road marking according to any of the claims 1-7, c h a r a c t e r i z e d i n that the ribs (1) have a width of approximately 3 cm and a height of maximally 4 mm and that the material between them which has a shape comparable to cones, has a thickness of approximately 0,5-100 mm.

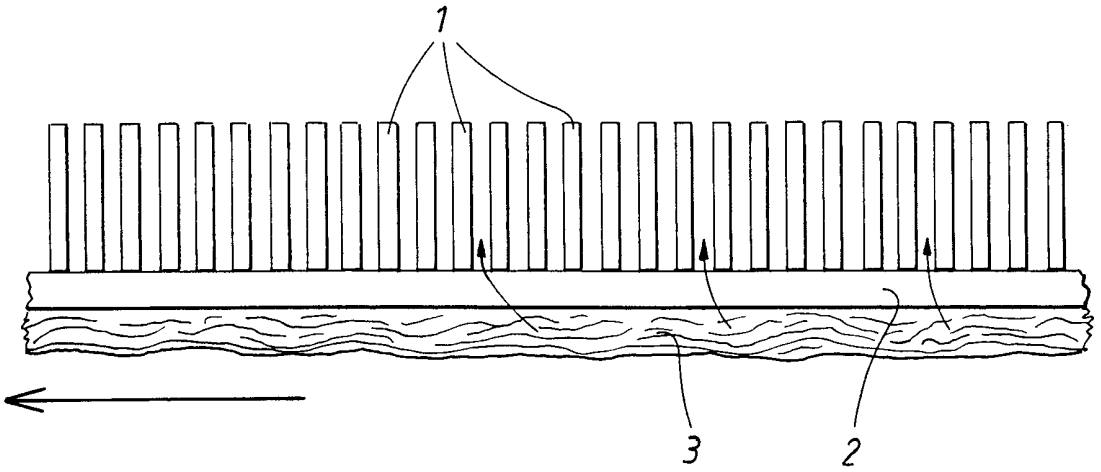

FIG. 1

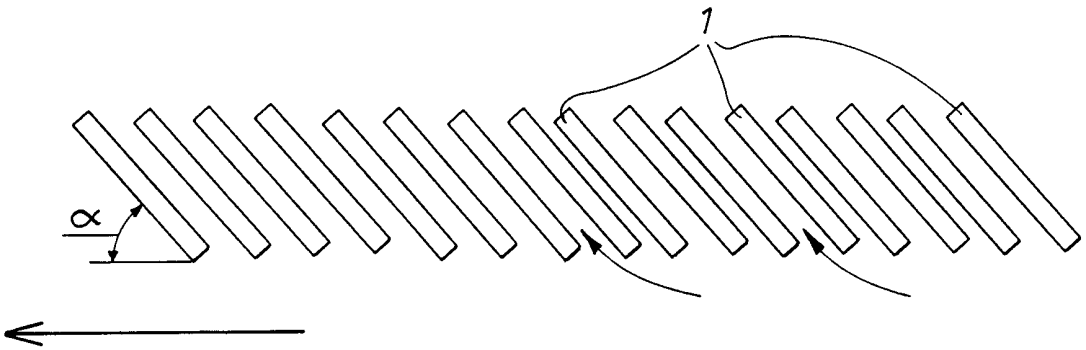

FIG. 2

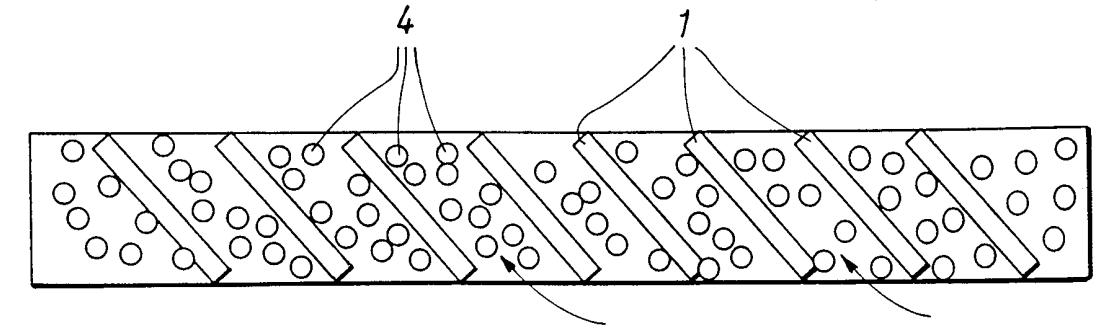

FIG. 3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 99/01364

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: E02F 9/08
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: E01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2185020 A (V. VOSTREZ), 26 December 1939 (26.12.39) --	1-8
A	US 2574090 A (F.J. DOFSEN), 6 November 1951 (06.11.51) --	1-8
A	US 2579467 A (A.E. BRICKMAN), 25 December 1951 (25.12.51) --	1-8
A	US 4135839 A (B. ENGWALL), 23 January 1979 (23.01.79) --	1-8

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

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2 November 1999	13 -12- 1999
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Information on patent family members

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