

A NOSE PAD FOR SPECTACLES

The invention relates to a nose pad for spectacles.

It has become known from US patent 4 243 306 to use
5 for such pads materials within the hardness range of 10 -
30 Shore-D, measured according to DIN 53 505. It is
furthermore known therefrom that silicone rubber is
suitable for this purpose.

10 In principle, there are in existence different kinds
of pads, viz.:-

- a) Pads which are fastened to a pad lever by means of
retention pins, these pads being supported not only
by the retention pins but also by the pad lever
15 which, for its part, carries the retention pins and
which extends along a step in the pad as shown, for
example, in Figures 3 and 4 of US PS 4 243 306.
- b) Another kind of pad comprises, cast-in, a sleeve in
a somewhat harder material and provided with a blind
20 hole, into which the pad lever is inserted. US patent
4 235 530 shows such a solution.
- c) Another kind of pad is kidney-shaped, consisting of
an elastic pad base material and comprises, cast-in,
a flat anchoring plate in a hard material, for example

metal. This plate is connected to a lug which projects from the surface which is directed away from the skin contact surface of the pad. The lug has a cross bore and forms part of a semi-cardanic or fully cardanic suspension on the pad mounting. Such a solution is known from DE OS 27 50 910.

d) Finally, there are in existence further pads which are connected directly to the spectacle frame, as known from US PS 4 142 784.

It is an object of the invention to provide a nose pad similar to the type c) above which consists of a soft material, such as is known from US PS 4 243 306, and which comprises an anchoring plate which is undetachably connected to this material and which makes it possible to collect the forces introduced into the soft material from a relatively large surface and then to introduce these forces into the reception device.

According to the invention there is provided a nose pad for angularly movable fastening to pad mountings of spectacle frames, comprising an elongate pad body of which the front surface contacting the skin merges into the opposite rear surface of the pad, said pad body consisting of glass-clear silicone rubber having a Shore-D hardness of 10 - 30 according to DIN 53 305, an elongate anchoring plate, around which the pad body has been cast, extending longitudinally of the pad body, said plate being

substantially thinner than the pad body and being in the form of portions or strips which enclose openings extending entirely through the plate, and a lug which projects substantially perpendicularly from the anchoring plate and which passes through the rear surface of the pad body and in its distal end zone has a mounting hole which extends transversely to the longitudinal dimension of the pad body, the anchoring plate and the lug being of a transparent plastics material that is harder compared to the material of the pad body.

The bearing forces are introduced into the anchoring plate from the tip of the pad, so that the pad is not divided into a supported upper zone and a completely unsupported lower zone, which would result in a kink in the zone transition during wear.

Due to the features of Claim 3, there is ensured a satisfactory anchoring of the anchoring plate in the pad body and allows the area of this plate to be made relatively large without stiffening the pad in a disturbing manner.

Due to the features of Claim 4, there is ensured that the pad body adapts more to the nose contour of the person wearing the spectacles in the zone of its rear edge (considered in the position assumed by the pad on the wearer's nose) than in the front zone, which improves the wear characteristics of the spectacle frame.

The stiffness of the anchoring plate is preferably the same as the stiffness of the pad body to ensure that the anchoring plate does not disturbingly affect the advantageous characteristics of the pad body in its zone.

Due to the features of Claim 6, one obtains a sufficient anchoring area and takes into account that, during wear of the spectacles, those forces which seek to displace the anchoring plate relative to the pad body extend in the longitudinal direction.

A dimensioning according to the features of Claim 7 has been well proven in practice.

The invention will now be described with the aid of preferred exemplified embodiments. In the drawing:-

FIGURE 1 shows the rear view of a pad, scaled up by the factor 12, and
FIGURE 2 shows a view according to the arrow A in Fig. 1.

In the top view of Fig. 1, a pad body 11 has that shape which is called a "kidney shape" in pad technology. When worn, the substantially straight side edge 12 is to the front. The side edge 13, which is slightly curved, is at the rear, the lower tongue-shaped edge 14 points downwardly and the upper edge 16, which has a medium-sized

curvature, points upwardly. The pad body consists of silicone rubber having a Shore-D hardness of 10 - 12. In the side view of Figure 2, one sees that the pad body 11, on its edges, runs up to the centre plane 17. In a central zone 19, the front 21 and the rear 22 extend approximately parallel to each other. Towards the top, there occurs as from 23 a small taper and right at the top there is present a radius 24 which practically corresponds to the distance between the front 21 and the rear 22. The zone 19 ends approximately at half the height of the pad body 11, and as from 26 this latter then tapers gradually and, becoming thinner and thinner, extends to a tip 27 which, as shown in Figure 2, terminates fairly thinly.

The pad has a thickness of between 2 to 3.5 mm, preferably 2.7 mm.

The above-mentioned Shore-D hardness of 10 - 12 has been measured on the pad. This softness, together with the configuration, allows the pad body 11 to cling in an optimum manner even to curved nose portions or to a very soft skin.

According to Figure 1, it would appear that the centroid of the pad body 11 is at 27. Considerably displaced to the left relative thereto, according to Figure 1, there is provided in the pad body 11 an anchoring plate 28. This plate consists of an injection-moulded acetate plastics material and is consequently substantially harder than the pad body 11. Both the anchoring plate 28 and

the pad body 11 are glass clear, for which reason one sees the anchoring plate 28 only at refraction points from the outside. This is furthermore due to the fact that the pad body 11 has been cast around the anchoring plate 28 and partly around a lug 29 which is integral with the anchoring plate 28. The anchoring plate 28 is however only 0.7 mm thick and is weakened in a manner that will be described hereinafter so that it practically does not exert any restoring force whatsoever on the pad body. The anchoring plate is 12 mm long, between 0.5mm and 1.2 mm, preferably 0.7 mm thick, and 4.2 mm wide. A curved opening 31 is provided at the top and an opening 32 of the same kind is provided at the bottom. There are thus left U-shaped narrow portions or strips 33, 34. Above the opening 32 there is provided a small cross portion 36. Above the small cross portion 36 there follows a larger, approximately rectangular opening 37, into which there project, inclinedly and parallel to each other, two small portions 38, 39 which are connected at one of their ends to outwardly located small longitudinal portions 41, 42.

20 The area of the open portion of the lattice amounts to a proportion of the area of the anchoring plate that is in excess of 30%.

Between the opening 37 and the opening 31 there is provided a lamina 43 which is rectangular horizontally. From this lamina there extends upwardly the lug 29. This lug 25 is embedded in the pad body 11 over the major part of its length and projects, with an eye provided with a cross hole 44, beyond the rear 22.

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Considered from the front 21, the pad body 11 behaves, despite the anchoring plate 28, as if this plate were virtually not present, so that the entire material of the pad body 11 contributes to the softness utilisation, and this includes that which according to Fig. 2 is located to the right of the anchoring plate 28.

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CLAIMS:

1. A nose pad for angularly movable fastening to pad mountings of spectacle frames, comprising

a) an elongate pad body of which the front surface contacting the skin merges into the opposite rear surface of the pad, said pad body consisting of glass-clear silicon rubber having a Shore-D hardness of 10 - 30 according to DIN 53 305,

b) an elongate anchoring plate, around which the pad body has been cast, extending longitudinally of the pad body, said plate being substantially thinner than the pad body and being in the form of portions or strips which enclose openings extending entirely through the plate, and

c) a lug which projects substantially perpendicularly from the anchoring plate and which passes through the rear surface of the pad body and in its distal end zone has a mounting hole which extends transversely to the longitudinal dimension of the pad body, the anchoring plate and the lug being of a transparent plastics material that is harder compared to the material of the pad body.

2. A pad as claimed in Claim 1, characterised in that the pad comprises a central zone in which the front and rear surfaces are substantially parallel and a tapered end zone contiguous with said central zone, said anchoring plate located substantially in said central zone and having a



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major portion extending from said lug towards said tapered end zone and a minor portion extending from said lug away from said tapered end zone.

3. A pad as claimed in Claim 2, characterised in that the distance of one side edge of the anchoring plate from one side edge of the pad body is less than that of the other side edge the plate from the other side edge of the pad body.

4. A pad as claimed in Claim 1, characterised in that the area of the openings amounts to a proportion of the area of the anchoring plate that is in excess of 30%.

5. A pad as claimed in Claim 1, characterised in that the stiffness of the anchoring plate is substantially the same as the stiffness of the pad body.

6. A pad as claimed in Claim 1, characterised in that the length of the anchoring plate is 2 - 3 times more than its width.

7. A pad as claimed in Claim 1, characterised in that the thickness of the anchoring plate is between 1.2 and 0.5 mm, preferably 0.7 mm, with a total thickness of the pad between 2 to 3.5 mm, preferably 2.7 mm.

8. A nose pad for spectacles substantially as described with reference to Figures 1 and 2 of the accompanying drawings.
