Claims

1. Analytical test tape, in particular for use in a test tape cassette (14) having a carrier tape that can be wound onto a spool and a plurality of test elements (24) that are distributed on the carrier tape in the tape longitudinal direction and have a spreading fabric (30) for applying body fluid and an underlying reagent layer (36) for detecting an analyte in the body fluid, wherein the spreading fabric (30) is formed from fabric threads (44, 46) that are crossed in a grid shape, **characterized in that** the bending stiffness of the spreading fabric (30) is sectionally modified.

2. Analytical test tape according to claim 1, **characterized in that** the bending stiffness of the spreading fabric (30) is adapted in order to reduce the gap between the spreading fabric (30) and the reagent layer (36) of a test field (20) provided for the application of body fluid.

3. Analytical test tape according to claim 1 or 2, **characterized in that** the fabric threads (44, 46) in parts have reduced thread cross-sections preferably by laser ablation or etching or mechanical removal of material.

4. Analytical test tape according to one of the claims 1 to 3, **characterized in that** the fabric threads (44, 46) have a non-uniform design due to different thread materials, thread sizes, coatings or filament structures in order to modify the bending stiffness.

5. Analytical test tape according to one of the claims 1 to 4, **characterized in that** the fabric geometry of the spreading fabric (30) is locally varied for example by detaching individual fabric threads (44, 46).

6. Analytical test tape according to one of the claims 1 to 5, **characterized in that** the spreading fabric (30) is wider than the reagent layer (36) and is supported flat on the test tape (20) by means of spacers (32) in the area of its protruding side edges.

7. Analytical test tape according to one of the claims 1 to 6, **characterized in that** the spreading fabric (30) has a thickness of less than 150, preferably less than 110 µm.

8. Test tape cassette for insertion into a hand-held device (10), in particular for blood sugar tests, comprising a cassette housing (50) for storing tape spools (54, 58), an analytical test tape (20) in particular according to one of the previous claims that can be wound forwards by means of the tape spools (54, 58), a plurality of analytical test elements (24) stored on the test tape (20) which have a spreading fabric (30) for applying body fluid and an underlying reagent layer (36) for detecting an analyte in the body fluid, wherein the cassette housing (50) has an application tip (18) that deflects the test tape (20) in order to provide the test elements (24), **characterized in that** the application tip (18) has a guide path (68) which extends in an arch shape longitudinally to the test tape (20) and is uncurved at right angles thereto for supporting the test tape in a kink-free manner, and that the apex area of the guide path (68) delimits a central opening as a measuring window (70) for an optical measurement on the test elements (24).

9. Test tape cassette according to claim 8, **characterized in that** the arc-shaped guide path (68) has a fixed radius of curvature preferably in the range of 3 to 5 mm.

10. Test tape cassette according to claim 8 or 9, **characterized in that** that the guide path (68) has a longitudinal extension in the direction of tape transport in the range of 5 to 8 mm.

11. Test tape cassette according to one of the claims 8 to 10, **characterized in that** the longitudinal extension of the guide path (68) is the same or less than the length of the test elements (24) which is preferably in the range of 5 to 15 mm.

12. Test tape cassette according to one of the claims 8 to 11, **characterized in that** the test tape (20) under tension is supported in a planar fashion on the guide path (68) such that the spreading fabric (30) lies essentially gap-free on the reagent layer (36).

13. Test tape cassette according to one of the claims 8 to 12, **characterized in that** the reagent layer (36) viewed in the tape transverse direction is narrower than the test tape (20) and wider than the measuring window (70).

14. Test tape cassette according to one of the claims 8 to 13, **characterized in that** a housing wall (76) of the application tip (18) forming the guide path (68) is bevelled on the rear side towards the measuring window (70).

15. Test tape cassette according to one of the claims 8 to 14, **characterized in that** the application tip (18) is moulded in one piece preferably as an injection moulded part on the cassette housing (50) and projects from the hand-held device (10) in the operating state in order to punctually apply body fluid.

Claims

1. Test tape cassette for insertion into a hand-held device, in particular for blood sugar tests, comprising a cassette housing for storing tape spools, an analytical test tape that can be wound forwards by means of the tape spools, a plurality of analytical test elements stored on the test tape which have a spreading fabric for applying body fluid and an underlying reagent layer for detecting an analyte in the body fluid, wherein the cassette housing has an application tip that deflects the test tape in order to provide the test elements, wherein the application tip has a guide path which extends in an arch shape longitudinally to the test tape and is uncurved at right angles thereto for supporting the test tape in a kink-free manner, that the apex area of the guide path delimits a central opening as a measuring window for an optical measurement on the test elements and that the test tape under tension is supported in a planar fashion on the guide path such that the spreading fabric lies gap-free on the reagent layer.

2. Test tape cassette according to claim 1, wherein the arc-shaped guide path has a fixed radius of curvature preferably in the range of 3 to 5 mm.

3. Test tape cassette according to claim 1 or 2, wherein the guide path has a longitudinal extension in the direction of tape transport in the range of 5 to 8 mm.

4. Test tape cassette according to one of the claims 1 to 3, wherein the longitudinal extension of the guide path is the same or less than the length of the test elements which is preferably in the range of 5 to 15 mm.

5. Test tape cassette according to one of the claims 1 to 4, wherein the reagent layer viewed in the tape transverse direction is narrower than the test tape and wider than the measuring window.

6. Test tape cassette according to one of the claims 1 to 5, wherein a housing wall of the application tip forming the guide path is bevelled on the rear side towards the measuring window.

7. Test tape cassette according to one of the claims 1 to 6, wherein the application tip is moulded in one piece preferably as an injection moulded part on the cassette housing and projects from the hand-held device in the operating state in order to punctually apply body fluid.

5