Claims

[Claim 1] System for paying out and folding (15) a metal sheet to produce a metal strake (10) intended for the construction of a seal-tight membrane of a fluid storage tank; the paying-out and folding system (15) comprising:

- a chassis (16);

- at least one driving roller (23) mounted to be rotationally mobile on the chassis (16) about a first horizontal axis in order to ensure the advance of the metal sheet in a direction of advance; and

- a plurality of forming members (25, 26) supported by the chassis and comprising at least one first forming member and one second forming member respectively conformed to fold a first lateral edge and a second lateral edge of the metal sheet according to a determined angle relative to the first axis; the paying-out and folding system (15) further comprising a protection film and a protection film deposition device (27) which is mounted on the chassis (16) and is configured to deposit the protection film (14) on the metal sheet, the protection film deposition device (27) being arranged to deposit the protection film (14) on a flat central band (12) of the metal sheet (10), the flat central band (12) being formed between the first lateral edge and the second lateral edge (13).

[Claim 2] Paying-out and folding system (15) according to Claim 1, wherein the protection film deposition device (27) is positioned downstream of the forming members (25, 26) in the direction of advance.

[Claim 3] Paying-out and folding system (15) according to Claim 1 or 2 wherein the protection film deposition device (27) comprises:

- a reel (29) on which the protection film (14) is wound, said reel (29) being mounted to be rotationally mobile on the chassis (16); and

- a top roller (31) mounted to be rotationally mobile about a second axis of rotation, the first and the second forming members (25, 26) being positioned laterally on either side of the top roller (31) when said first and second forming members (25, 26) are considered in projection according to the direction of advance in a plane which is orthogonal to the direction of advance and which passes through the second axis, such that the top roller (31) can press the protection film (14) against the flat central band (12).

[Claim 4] Paying-out and folding system (15) according to Claim 3, wherein the protection film deposition device (27) also comprises a bottom roller (30) mounted to be rotationally mobile about a third axis of rotation parallel to the second axis of rotation, the bottom roller (30) being positioned below the top roller (31) and being

arranged so as to allow the passage of the flat central band (12) and of the protection film (14) between the bottom roller (30) and the top roller (31).

[Claim 5] Paying-out and folding system (15) according to Claim 3 or 4, wherein at least one out of the top roller (31) and the bottom roller (30) is mounted to be vertically mobile on the chassis and a strain member exerts on said top roller (31) or bottom roller (30) a force having a vertical component directed toward the other of the top roller (31) or bottom roller (30).

[Claim 6] Paying-out and folding system (15) according to any one of Claims 1 to 5, wherein the protection film (14) is produced in a material chosen from among the polyolefins, the polyesters and the polyvinyl materials.

[Claim 7] Paying-out and folding system (15) according to any one of Claims 1 to 6, wherein the protection film (14) is electrostatically charged or has a face coated with an adhesive.

[Claim 8] Method for paying out and folding a metal sheet to produce a strake intended for the construction of a seal-tight membrane of a fluid storage tank, the method comprising:

- paying out a metal sheet on a reel (29) and ensuring the advance of the metal sheet in a direction of advance by means of at least one driving roller (23) that is rotationally mobile according to a first horizontal axis;

- folding a first lateral edge and a second lateral edge (13) of the metal sheet according to a determined angle relative to the first axis;

- depositing a protection film (14) on the metal sheet as the metal sheet is paid out, the protection film (14) being deposited on a flat central band of the metal strake, the flat central band being formed between the first lateral edge and the second lateral edge (13).

[Claim 9] Paying-out and folding method according to Claim 8, wherein the protection film (14) is deposited at a distance of between 2 and 7 cm from the first lateral edge and from the second lateral edge (13).

[Claim 10] Paying-out and folding method according to Claim 8 or 9, wherein the protection film (14) is produced in a material chosen from among polyethylene and the polyvinyl materials.

[Claim 11] Paying-out and folding method according to any one of Claims 8 to 10, wherein the protection film (14) is electrostatically charged or has a face, intended to be pressed against the metal sheet, which is coated with an adhesive.

[Claim 12] Paying-out and folding method according to any one of Claims 8 to 11, wherein the paying out of the metal sheet, the folding of the first lateral edge and of

the second lateral edge (13) of the metal sheet and the deposition of the protection film are performed inside the storage tank.