Claims

1.) Pallet container (10) for storing and for transporting fluid or flowable filling materials having a thin-walled rigid inner container (16) comprising thermoplastic plastics material, having a tubular grid frame (14) which tightly encloses the plastics inner container (16) as a support covering and which comprises horizontal and vertical tubular rods (18, 20) which are welded to each other in intersection regions, and having a rectangular base pallet (12) on which the plastics inner container (12) is positioned and to which the tubular grid frame (14) is securely connected,

wherein the vertical and/or horizontal tubular rods have, when considered in the longitudinal direction, a square-shaped or round hollow profile as the original basic profile and have, in certain regions, a tube profile that has been changed by mechanical shaping, characterised in that

the original basic profile of at least one horizontal and/or vertical tubular rod (18, 20) is constructed so as to be increased by a predeterminable amount via an intersection region (26) of the horizontal and vertical tubular rods (18, 20) which are welded to each other or is provided with an increased rear region (30), wherein the original basic profile is shaped in the region of the increased rear region (30) and comprises a substantially triangular hollow profile, wherein the increased rear region (30) is constructed by mechanical shaping from the original basic profile by means of a lateral pressing pressure action and has a narrow rear which extends in the longitudinal direction of the tubular rods.

2.) Pallet container according to claim 1,

characterised in that

the increased rear region (30) is arranged at an outwardly or inwardly directed side of the tubular rod (18, 20) with respect to the tubular grid frame (14).

3.) Pallet container according to claim 1 or 2,

characterised in that

the increased rear region (30) is constructed in a vertically extending tubular rod (20) at an inwardly directed side and/or is arranged in a horizontally extending tubular rod (18) at an outwardly directed side with respect to the tubular grid frame (14).

4.) Pallet container according to claim 1, 2 or 3,
characterised in that
the increased rear region (30) has a definitively delimited extent in the longitudinal direction of the tubular rods.

5.) Pallet container according to claim 1, 2, 3 or 4,
characterised in that
the extent of the increased rear region (30) in the longitudinal direction of the tubular rods is between twice and ten times, preferably five times, the width of the tubular rods or a diameter of the tubular rods.

6.) Pallet container according to any one of the preceding claims 1 to 5,
characterised in that
the basic profile is constructed as a square tubular profile.

7.) Pallet container according to any one of the preceding claims 1 to 6,
characterised in that
the increased rear region (30) is constructed in the intersection regions (26) only in the vertical tubular rods (20).

8.) Pallet container according to claim 6 or 7,
characterised in that
the square profile of the tubular rods (18, 20) has a wall thickness of from 0.8 mm to 1.0 mm.

9.) Pallet container according to claim 6, 7 or 8,
characterised in that
the square profile of the vertical tubular rods (20) has a wall thickness of 0.8 mm and the square profile of the horizontal tubular rods (18) has a wall thickness of 0.9 mm.

10.) Pallet container according to any one of the preceding claims 6 to 9,
characterised in that
the square profile has two opposing parallel straight side walls and two opposing parallel, slightly curved side walls, wherein one curved side wall is constructed to be slightly concave inwards and the other curved side wall is constructed to be slightly convex outwards.

11.) Pallet container according to any one of the preceding claims 1 to 5 or 7,
characterised in that
the original basic profile is constructed as a round tubular profile.

12.) Pallet container according to any one of the preceding claims 1 to 11,
characterised in that the

triangular hollow profile has a profile height of at least 20 mm in the region of the increased rear region (30).

13.) Pallet container according to any one of the preceding claims 1 to 12,
characterised in that
the increased rear region (30) is produced in the intersection regions (26) preferably in the region of the side walls of the tubular grid frame (14) with maximum convexity, that is in the central region of the second and third horizontal tubular rod (18) from the bottom in the tubular grid frame (14).

14.) Method for producing a triangular hollow profile from a square basic profile in a tubular grid rod of a tubular grid frame for a pallet container according to at least one of the preceding claims 6 to 10 or 11 to 13,

characterised in that,
in order to form the central rear piece for the intersection regions of the tubular rods by means of correspondingly formed pressing tools, a pressing pressure is applied to the provided region of the tubular basic profile in a direction parallel with the plane of the grid 5 walls at the same time from two opposing parallel side walls.

15.) Method according to claim 14,
characterised in that
the pressing pressure on the two opposing side walls which extend linearly in a parallel manner is applied substantially only in the region or portion of the square basic profile which adjoins or is adjacent to the slightly convexly outwardly curved side wall.

16.) Method according to claim 14 or 15,
characterised in that
the pressing pressure on the two opposite side walls which extend parallel is produced in such a manner that the tips, chamfered at the front, of the pressing tools which are moved towards each other produce in the end position a V-shaped gap between the tips of the pressing tools and a triangular tube cross-section with an increased tubular profile height is formed in the shaped region of the tubular rod.