

CLAIMS

1. A sheet metal part for use in a housing for accommodating devices such as electrical,
electronic and optical devices, the sheet metal part comprising a penetrable opening that
5 comprises an area in the metal sheet part that has been weakened by having weakened
boundaries, through which penetrable opening the shank of a screw may be provided to
bring the penetrable opening from an unpenetrated state to a penetrated state in order to
mechanically and/or electrically connect a device or other part to the sheet metal part,
wherein the penetrable opening in the unpenetrated state is covered by an airtight coating
10 layer, has a central area configured to accommodate a threaded shank of the screw and a lug
extending radially outward from the central area over some distance, and the lug of the
penetrable opening is configured to bent back around its connection with the sheet metal part
together with the central area without coming loose from the sheet metal part when the
penetrable opening is brought in the penetrated state by the shank of the screw.
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2. Sheet metal part according to claim 1, wherein the airtight coating layer is provided
at a side of the sheet metal part from which the screw should be provided.
3. Sheet metal part according to claim 1 or 2, wherein the airtight coating layer is
20 provided at a side of the sheet metal part that is opposite to the side from which the screw
should be provided.
4. Sheet metal part according to any one of the preceding claims, wherein the central
area is circular.
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5. Sheet metal part according to any one of the preceding claims, wherein the
penetrable opening extends over part of a thickness of the sheet metal part.
6. Sheet metal part according to any one of the preceding claims, wherein the
30 penetrable opening extends over the complete thickness of the sheet metal part.
7. Sheet metal part according to any one of the preceding claims, wherein the airtight
coating layer has a thickness and the penetrable opening in the unpenetrated state extends

over the thickness of the sheet metal part and over, optionally part of, the thickness of the airtight coating layer.

8. Sheet metal part according to any one of the preceding claims, wherein the airtight
5 coating layer comprises a coating layer selected from a powder coating layer, a wet paint coating layer, a low-emissivity coating (E-coating) layer, a hot dipped galvanizing layer, a zinc coating layer, and/or a plastic dip coating layer.
9. Sheet metal part according to any one of the preceding claims, wherein the lug
10 extends radially outward from the central area over a distance of at least the diameter of the central area of the penetrable opening, more preferably of at least 1.5 the diameter of the central area of the penetrable opening.
10. Sheet metal part according to any one of the preceding claims, wherein the
15 penetrable opening comprises one lug only.
11. Sheet metal part according to any one of the preceding claims, wherein the lug has rounded edges.
- 20 12. Sheet metal part according to any one of the preceding claims, wherein the lug is shaped such that the penetrable opening has a shape of a tennis racket.
13. Sheet metal part according to any one of the preceding claims, wherein the lug is shaped such that the penetrable opening has a drop-like shape.
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14. Sheet metal part according to any one of the preceding claims, wherein the penetrable opening has been provided in the sheet metal part by laser cutting the boundaries of the weakened area and/or by punching the weakened area with a punching tool.
- 30 15. Sheet metal part according to any one of the preceding claims, wherein the sheet metal part comprises a protective electrically insulating layer on a side facing a head of the screw to be provided through the penetrable opening, and the head is at a shank side thereof provided with a cutting edge that cuts through the electrically insulating layer when

tightening the screw, thereby providing an electrical connection between the screw and the sheet metal part to bring them to the same voltage level or for grounding purposes, wherein, preferably, the airtight layer comprises or is the protective electrically insulating layer.

- 5 16. Sheet metal part according to any one of the preceding claims, wherein the lug of the penetrable opening is configured to be bent back plastically upon tightening the screw.

17. Sheet metal part according to any one of the preceding claims, wherein the sheet metal part comprises a plurality of the penetrable openings arranged along a side edge of the
10 sheet metal part.

18. Sheet metal part according to one of the preceding claims, wherein the wall thickness of the sheet metal part does not exceed 3 mm, and more preferably does not exceed 1.1 mm.

- 15 19. Assembly of a sheet metal part according to any one of the preceding claims and a device or other part connected thereto, the connection being provided by a screw with a head from which a shank emanates that is provided through the penetrable opening.

- 20 20. Assembly according to claim 19, wherein the shank is received and tightened in a cavity of the device or other part.

21. Housing for accommodating devices such as electrical, electronic and optical devices, comprising at least one sheet metal part according to any one of claims 1-18 and/or an assembly in accordance with any one of claims 19-20.

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22. Housing according to claim 21, wherein the sheet metal part comprises a wall of the housing, selected from an upstanding front, back or corridor wall, a floor wall or a roof wall of the housing.

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