

LENGTH PROFILE DEVICE

This invention relates to a long, hollow, multiple-sided profile device. More particularly it concerns a long, hollow, multiple-sided profile device where at least one of the sides
5 of the profile is provided with boltholes.

In the following the term bolthole is used for a through opening where a bolt is positioned in its position of use. The bolthole may for example have a circular, square or rectangular cross-section. The term bolt opening is used for
10 a through opening used for introducing a bolt into its position of use.

During building of support structures, for such as tubing and cableways, plate profiles in the form of open, angular profiles or U-shaped profiles are often used. The sides of
15 the profiles are provided with boltholes for making it easy to connect the profiles by means of bolts.

It is well known that open profiles, typically angular profiles have relatively low flexural rigidity, while closed profiles such as triangular profiles are appreciably better
20 suited as slender columns. Closed profiles also have greater torsion stiffness.

Closed profiles have however the drawback that the introduction of bolts for the boltholes may be difficult.

The object of the invention is to remedy or reduce at least one of the disadvantages of the prior art.

The object is achieved in accordance with the invention by the features disclosed in the below description and in the
5 subsequent claims.

There is provided a long, hollow, multiple sided profile where at least one of the sides is provided with a bolthole, and where the profile is characterised in that the at least one of the sides of the profile is provided with a bolt
10 opening.

A bolt may thus relatively easily be displaced in through the bolt opening whereafter the bolt body is displaced through the bolthole and further into another component, which is to be attached to the profile.

15 Advantageously the bolt opening may correspond with the bolthole, i.e. the bolt opening and the bolthole are close to each other along the profile.

It may be appropriate that the bolt opening corresponds with boltholes in more than one of the profile sides.

20 The bolt opening may be oval and have its largest length in the longitudinal direction of the profile. The bolt opening may thus fit rectangular boltholes where the position of use of the bolt in the longitudinal direction of the profile may be different, or multiple boltholes in an opposing profile
25 side.

The profile may be constituted by a plate profile where a longitudinal joint is cut by the bolt opening. The bolt opening is thus on both sides of the plate joint.

In a profile of this type boltholes and bolt openings may be punched out first, whereafter the profile by means of such as bending or rolling is given its shape.

Alternative production methods may be extrusion or pipe
5 expanding with following form rolling.

The plate joint may be made by such as welding or folding.

A profile according to the invention prepares for profiles having relatively high buckling stiffness and may be connected to other components in a simple and work efficient
10 manner. The invention renders the use of bolts running right through the hollow profile superfluous. This saves both work and cost.

In the following is described an example of a preferred embodiment illustrated in the accompanying drawings, wherein:

15 Fig. 1 shows a side view of a profile according to the invention where the profile is used as a column and connected to a cable tray;

Fig. 2 shows the profile in fig. 1 in perspective;

Fig. 3 shows a profile in an alternative embodiment in
20 perspective; and

Fig. 4 shows a profile in a further embodiment in perspective.

In the drawings the reference numeral 1 indicates a long, hollow, three-sided profile device in the form of a plate
25 profile wherein a number of boltholes 2 and cut-outs for bolt openings 4 are made by means of punching before the profile is given its shape by rolling.

The profile is as mentioned a three-sided profile comprising a first side 6, a second side 8 and a third side 10, the first side 6 and the second side 8 being provided with boltholes 2 having a rectangular cross-section where the
5 boltholes are in line in the longitudinal direction of the profile.

The bolt openings 4 are arranged in line in the third side 10 of the profile 1 and each bolt opening 4 corresponds to a bolthole 2 in each of the sides 6 and 8.

10 A plate joint 12 runs along the third side 10 and is cut by the bolt openings 4, which may be advantageous for technical production reasons.

In fig. 1 the profile is used as a column and connected to the side member 16 of a cable ladder 14 by means of bolts 18,
15 washers 20 and nuts 22.

In fig. 2 is shown a section of the profile 2 where a bolt 18 is being displaced in through the bolt opening 4 in the third side 10 and further into one of the boltholes 2 in the first side 6.

20 In fig. 3 the profile 1 is shown in an alternative somewhat larger embodiment wherein two rows of boltholes 2 are arranged in the first side 6 and the second side 8.

The bolt opening 4 is advantageously larger than the head of the bolt 18 and sufficiently large to a not shown operators
25 fingers to reach in to the bolt 18.

In fig. 4 the profile 1 is shown in a further embodiment wherein also two rows of bolt openings 4 are arranged in the third side 10 to further improve access. In fig. 4 the bolt

openings are given a more rectangular shape with rounded corners.

A m e n d e d c l a i m s

1. A long, hollow, multiple sided profile (1) for
building of support structures for tubing and
cableways, the profile having at least three sides (6,
5 8, 10), and where at least one of the sides (6, 8, 10)
of the profile (1) is provided with a bolthole (2) and
at least one of the sides (6, 8, 10) of the profile
(1) is provided with a bolt opening (4), c h a r -
a c t e r i s e d i n that two at substantially right
10 angle, adjacent sides (6, 8) have boltholes (2) that
are longer in the length direction of the profile (1)
than in the cross direction of the profile (1), and
where a third side (10) of the profile (1) has bolt
openings (4) that is designed to allow passing of a
15 bolt (18) through the bolt opening (4) and into the
boltholes in both of the two at substantially right
angle, adjacent sides (6, 8).
2. A device according to claim 1,
c h a r a c t e r i s e d i n that the bolt opening
20 (4) is oval with the largest length in the
longitudinal direction of the profile (1).
3. A device according to claim 1,
c h a r a c t e r i s e d i n that the bolt opening
(4) is rectangular with the largest length in the
25 longitudinal direction of the profile (1).
4. A device according to claim 1,
c h a r a c t e r i s e d i n that the profile (1)
is constituted by a plate profile with a longitudinal
plate joint (12), as the bolt opening (4) cuts the
30 plate joint (12).

5. A device according to claim 4,
c h a r a c t e r i s e d i n that the plate joint
(12) is interconnected.