

Electrical wiring duct

The invention concerns an electrical wiring duct, in particular a wall duct, consisting of a duct profile, open at one side and closable by means of a cover, having a base as the back wall, and having side walls that are equipped with front wall parts running parallel to the base and ending in channels for insertion of the cover.

A wiring duct of this kind used as a wall duct is known from DE 195 24 381 A1. It is produced from a one-piece sheet-metal or plastic profile, profiled in the manner of a C. Since in practice, the size of such wiring ducts must be adjusted, depending on the application, to the quantities of cables to be laid, it is therefore necessary to utilize a variety of duct profiles of different widths and distributions, all of which are kept in stock for possible use, which is very costly.

It is the object of the present invention to propose a possibility for avoiding the need to maintain such stocks.

The invention proposes to configure a wiring duct of the type cited initially in such a way that the duct profile is made up of at least two subprofiles, each of which has a side wall and one portion each of the back wall and the front wall. This configuration makes it possible to produce and stock only a few standard subprofiles, and then assemble the desired duct shape as necessary from said subprofiles.

In a development of the invention, the dimensions of the back wall and front wall regions are selected so that when subprofiles are fitted together, the channels arranged on the front wall regions always lie at the same distance from one another so that a uniform cover can be set in place. It has been found that it is sufficient for this feature if the base parts of the subprofiles are always a certain consistent dimension longer than the front wall parts. When the base parts are then fitted together with joining strips of consistent width, the channels of two assembled subprofiles, each arranged on the front wall parts, are then also always at the same distance.

Lastly, in a development of the invention, it is also possible, in order to form particularly wide double ducts, to provide a T-shaped spacer in addition to the subprofiles, which is also equipped with front wall parts ending in channels, a joining wall later serving as a partition, and base parts which can in turn be joined to the base parts of the subprofiles.

The invention is shown in the drawings with reference to exemplifying embodiments, and will be explained below. In the drawings:

Figs. 1 to 4

show subprofiles of wiring ducts according to the invention, having base and front wall parts of different widths;

Fig. 5 shows a double-T-shaped spacer for forming double ducts;

Fig. 6 shows a double duct made up of two subprofiles and a double-T profile as shown in Fig. 5;

Fig. 7 shows a wall duct with a partition inserted;

Fig. 8 shows a double duct similar to Fig. 6 but in which one of the two ducts is larger in cross-section than the other;

Fig. 9 shows a wide wiring duct with a cover arranged centeredly;

Fig. 10 shows a wide wiring duct with a cover arranged off-center;

Fig. 11 shows a wiring duct similar to Fig. 7, but with a greater width and a cover arranged centeredly;

Fig. 12 shows a wiring duct similar to Fig. 11, but with a cover arranged off-center and with a partition running off-center;

Fig. 13 shows a double duct similar to Fig. 6, but with substantially wider individual ducts; and

Fig. 14 shows a triple duct which is also composed of subprofiles according to the invention.

Figs. 1 to 4 show subprofiles 1, 2, 3, and 4, respectively, according to the invention, all approximately C-shaped and equipped with a center part 5 later serving as a side wall. Subprofile 1 shown in Fig. 1 possesses a front wall part 6, later to be equipped with a cover set in place, which stands off at a right angle from side wall 5 and has a length A. Said front wall part 6 then continues into an inwardly bent channel 7 which serves to receive the edge of a cover 8 as shown in Figs. 6 to 14. Base part 9 also stands off at right angles from side wall 5 and possesses a width A plus E. In the exemplifying embodiment, the entire subprofile 1 is produced from aluminum using the hot extrusion process.

Subprofile 2 as shown in Fig. 2 is of substantially the same configuration as subprofile 1, except that it has a greater width B for front wall part 6' and consequently also a greater width for base part 9', which here is B plus E. Subprofiles 3 and 4 shown in Figs. 3 and 4 are constructed analogously. They possess different widths C and D for front wall part 6'' and 6''', respectively. Base parts 9'' and 9''' then possess widths C plus E and D plus E, respectively.

Fig. 5 shows a spacer 10 that is configured in the manner of a double-T and possesses a wall part 11 whose height corresponds to the height of side walls 5. Base parts 12 are provided at the foot of wall part 11 symmetrically with respect to the center plane of wall 11, while a front wall part 13 extends out from the upper side of wall 11, also symmetrically with respect to wall 11, and continues externally into respective channels 7. Width F of front wall part 13 is extended at each of the two foot parts 12 by a dimension $2E$. Base parts 12, like base parts 9, 9', 9'', and 9''', have a bend 14 in the region of the free edge, the significance of which is yet to be discussed. It is nevertheless evident from Figs. 1 to 5 that in the case of all the subprofiles and also spacer 10, front wall parts 6 and 13 correspond to a base part 9 and 12, respectively, which is in each case wider by a magnitude E than the associated front wall part.

Fig. 6 shows that two subprofiles 1 and spacer 10 can in each case be assembled, by introducing clips 15 into the bent part 14, into a double duct that can then, for example by the placement of mounting screws 16, be mounted in known fashion to a wall as a wall duct. It is evident that the width of clips 15, the edges of each of which rest against bend 14 of base parts 9 and 12, is dimensioned such that distance 17 remaining between the free ends of base parts 9 and 12 is just large enough so that channels 7 of subprofiles 1 and of spacer 10 have a spacing G - measured in each case from the inner wall of the channel - which corresponds to the ordinarily standardized width of cover 8, which can be snapped in known fashion into said channels 7.

Figs. 7 to 14 show further potential variations for wall ducts. Other wiring ducts can of course also be produced in analogous fashion if such should be desired.

Fig. 7 shows a further particular embodiment such that here a partition 18 with a correspondingly configured foot 19 is inserted into gap 17 between the free ends of base parts 9 of two subprofiles 1 arranged in mirror-symmetrical fashion with respect to one another. Said partition 18 is retained in its position shown in Fig. 7 by a bracket part 20, which is slid elastically over

corresponding snap edges 21 of cover 8. Particular fastening of partition 18 is thus not necessary, since its foot 19 is held positively in gap 17.

The remaining Figs. 8 to 14 show possible embodiments of wiring ducts that can be alternatively constructed with the individual parts shown in Figs. 1 to 5. In all the variants, joining clip 15 is joined in known fashion to the base parts, for example by means of rivets 22.

Claims:

1. Electrical wiring duct, in particular a wall duct, consisting of a duct profile, open at one side and closable by means of a cover (8), having a base as the back wall, and having side walls that are equipped with front wall parts running parallel to the base and ending in channels (7) for insertion of the cover, wherein the duct profile is made up of at least two subprofiles (1, 2, 3, 4), each of which has a side wall (5) as well as one portion (9, 9', 9'', 9''') of the back wall and one portion (6, 6', 6'', 6''') of the front wall.
2. Electrical wiring duct as defined in Claim 1, wherein the dimensions (A, B, C, D) of the back wall (9), configured as the base, and of the associated front wall regions (6) are selected so that when two subprofiles (1 and 2, 3, or 4) are fitted together, the channels (7) constituted on the front wall parts (6, 6', 6'', 6''') are always arranged at the same distance (G) from one another.
3. Electrical wiring duct as defined in Claim 2, wherein each back wall part (9) is wider, by a specific dimension (E), than the associated front wall part (6) in the region in front of the channels (7).
4. Electrical wiring duct as defined in one of Claims 1 to 3, wherein the back wall parts (9, 9', 9'', 9''') are fitted together by means of clip-like joining strips (15).
5. Electrical wiring duct as defined in Claim 4, wherein the joining strips (15) are held in bends (14) of the back wall parts (9, 9', 9'', 9''') and are mounted in the bends.



6. Electrical wiring duct as defined in one of Claims 1 to 5, wherein a double-T-shaped spacer (10) is provided, which possesses a dividing wall (11) of the same height as the side walls (5) and a front wall part (13), ending respectively in channels (7), opposite which is a back wall part (12) which is configured symmetrically with respect to the dividing wall (11) and is on each side wider than the associated front wall part by the magnitude (E), by which the back wall parts (9, 9', 9", 9''') of the subprofiles (1, 2, 3, and 4) are also wider than their front wall parts (6, 6', 6", 6''').
7. Electrical wiring duct as defined in one of Claims 1 to 6, wherein the joining strips (15) have a width such that there still remains between the free ends of the back wall parts (9, 9', 12) a gap (17) which can be utilized for insertion of the foot (19) of a partition (18).
8. Electrical wiring duct as defined in Claim 7, wherein the partition (18) is held positively with its foot (19) in the gap (17) by means of a spring bracket (20) that rests against the cover (8).