

## GROUNDING ELEMENTS

### Grounding clamp ZSA 16

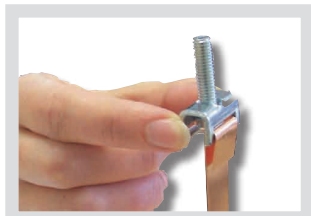
Using this clamp, it is possible to connect the protective conductor to metallic objects and structures of circular shape (e.g. pipes). The product consists of the actual clamp (internal and external part), two liners, and one screw (these parts are made of steel and galvanic surfaced with ZnCr). Parts of the product are also two nuts M6 for fastening a conductor between the clamp liners.

Perfect contact with the bonded structure, free of paints and corrosion, is guaranteed by wrapping copper or stainless tape and tightening it in the clamp. The clamp is not recommended to be cast with concrete or another material.

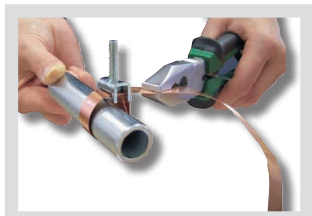
The copper or stainless tape is not a part of the grounding terminal ZSA 16 but it is supplied in a length of 50 cm, in rolls of 10 m or 50 m.

The product is tested according to ČSN EN 60998-2-1 and ČSN 33 0360.

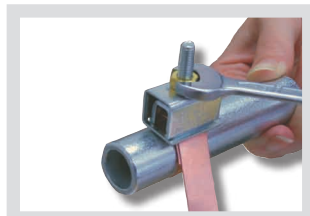
### Assembly procedure of the grounding clamp ZSA 16



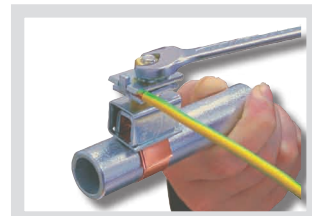
1. Pull the copper tape through the insert and bend



2. With the other end of the tape, wrap the pipe and pull through the insert according to the picture.



3. The copper tape must be pre-tensioned, the clamp shell pulled on the screw. By tightening the nut, the copper tape will be tightened around the pipe.



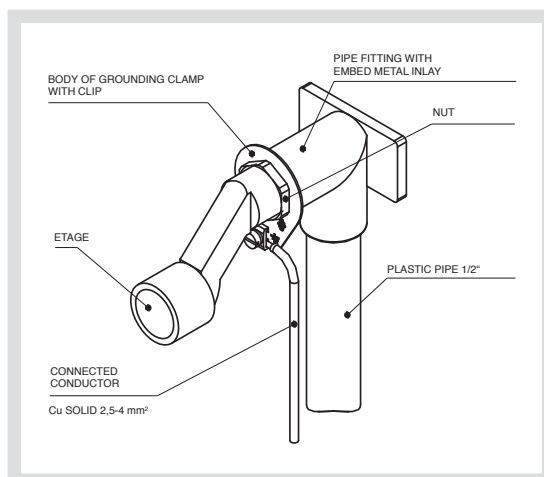
4. Between the liner and the shape pad, it is possible to subsequently fasten a conductor.

### Grounding clamp ZS 4

This clamp was developed based on the need for connecting metallic water faucets and similar objects in premises where it is necessary to perform complementary local bonding and water distributions are made of plastic. The clamp consists of a steel body with a screw and a liner (these parts are galvanic surfaced with ZnCr) and brass 1/2" nut (this nut is a part of the product – in case of need, it is possible to supply a separate clamp without a nut). The brass nut is screwed onto the metallic part of the bonded faucet 1/2", on it the clamp body is pulled with the connected conductor and the battery is installed into the water mains system.

A reliable connection with the bonded object is achieved by tightening the brass nut.

The product is tested according to the ČSN EN 60998-2-1 and ČSN 33 0360.

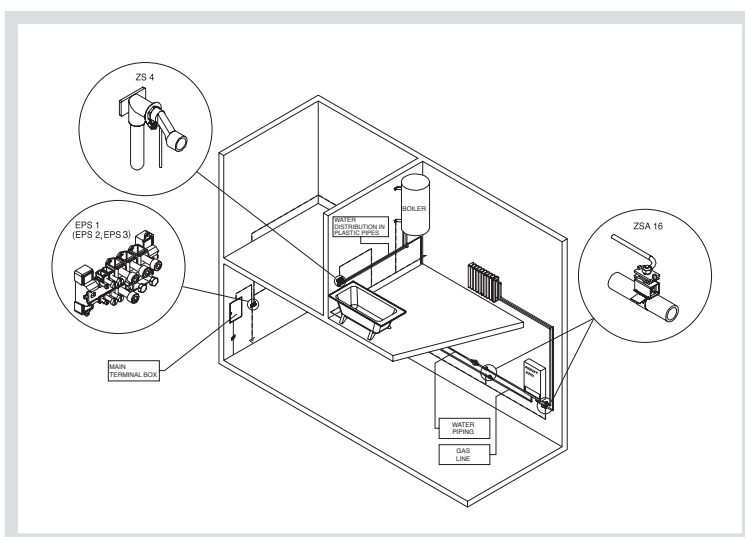


### Equipotential terminal boards EPS 1, EPS 2, and EPS 3

They are designed for application in house and industrial distributions as terminal boards of main bonding. EPS 1 and EPS 2 are offered either with a cover (with the possibility of sealing) or without a cover. EPS 3 is offered only without a cover. The terminal board can be fastened using screws M5 (not a part of the product) on the wall, switchboard, etc. The fastening screws are not insulated from the terminal board bridge. The terminal boards without cover can also be placed into installation boxes (for EPS 1 and EPS 2, the recommended types are boxes sizes 125 mm or 250 mm, for type EPS 3, the recommended type is size 100 mm). The connecting and branching part of the terminal board consists of a connecting brass bridge (galvanic nickel surfaced) and fastening brackets of steel (galvanic surfaced with ZnCoCr). Types EPS 1 and EPS 2 are dimensionally equal, but differ in the number of brackets of various sizes (EPS 1 has more brackets for fastening conductors of larger sections, EPS 2 has, on the contrary, more smaller brackets for conductors of smaller sections). Both types have a special bracket for fastening a grounding tape conductor. Type EPS 3 is dimensionally smaller and the fastening sections are limited compared to the previous two types. **The connecting bridge is designed with EPS 3 so that the bracket falling out from the actual bridge upon loosening of the screw is prevented** (this design is protected as an industrial design). The number or type of brackets cannot be changed. The insulating material of the footers and covers of terminal boards is polyamide PA 6, flammability V0 according to UL 94. Plastic color: EPS 1 grey, EPS 2 beige, EPS 3 dark grey.

Product testing:

The terminal boards comply with the requirements of standards ČSN EN 60998-1:05 ed.2, ČSN EN 60998-2-1:05 ed.2, ČSN EN 609947-1:05 ed.3, ČSN EN 60947-7-1:03 ed. 2, ČSN 33 2000-3. EPS 3 is designed for temperatures -25 °C to +55 °C; Design MWD<sub>r</sub>/WD<sub>aE</sub> for environment AF1 to AF2, AG2, AH2.



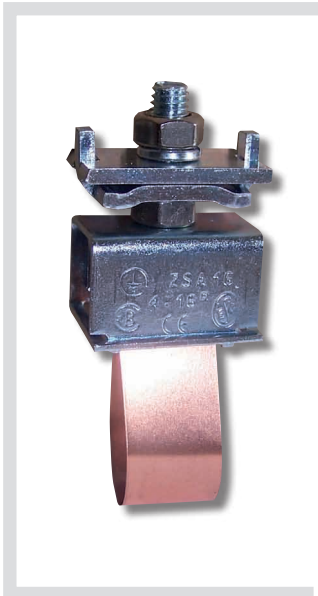
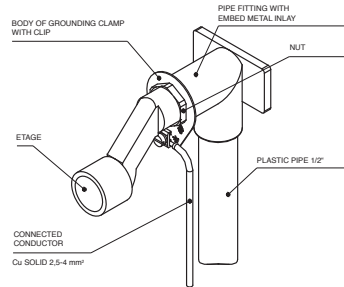


## Grounding clamp ZS 4

Application to pipes with the screw

Js 1/2"

Conductor cross section (Cu solid) - min/max [mm <sup>2</sup> ]	2,5 ÷ 4
Conductor cross section (Cu stranded) - min/max [mm <sup>2</sup> ]	2,5 ÷ 4
Tightening torque [Nm]	1,2
Weight [g]	16
Packing (pc)	10
Order No. (clamp + nut)	I 132707
Order No. (only clamp)	I 132706

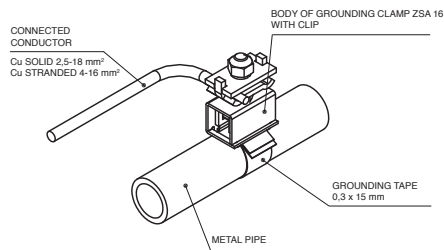
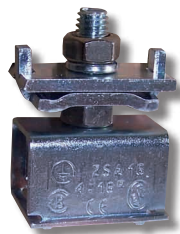


## Grounding clamp ZSA 16

Application to metallic objects (e.g. pipes)

Js 1/2" ÷ 2"

Conductor cross section (Cu solid) - min/max [mm <sup>2</sup> ]	2,5 ÷ 16
Conductor cross section (Cu stranded) - min/max [mm <sup>2</sup> ]	4 ÷ 16
Tightening torque [Nm]	3
Weight [g]	46
Packing (pc)	300
Order No.	I 131307



## Grounding tape

Application:  
for fastening of grounding clamp  
ZSA 16

**Material Cu**  
(0,3 x 15 mm)  
Order No.

**Material stainless**  
(0,3 x 15 mm)  
Order No.

Packing (pc)

Strip 0,5 m	I 142708	I 141368	100
Roll 10 m	I 142709	I 141379	1
Roll 50 m	I 142719	I 141369	1

**Recommended tape length:**

Length [mm]	Nominal bore of pipe	Outside diameter of pipe [mm]
120	1/2"	min. 21
140	3/4"	27
160	1"	34
190	1 1/4"	42
210	1 1/2"	48
250	2"	max. 61