

2.0 Press fitting systems

2.1 Connection technique - M profil

The press connection is made by inserting the pipe into the press fitting as far as the marked insertion depth. The connection is created by pressing, using an approved pressing tool (see point 2.13 Pressing tools).

Press fittings in dimensions 12–35 mm must be pressed with jaws, 42–108 mm must be pressed with pressing collars/chains.

The longitudinal and compression closing character of the connection is clearly illustrated in figures 4 and 5. During the pressing process a deformation takes place on two planes. The first plane creates a permanent connection and provides mechanical strength through the mechanical deformation of the press fitting and the pipe. On the second plane the seal ring is deformed in its cross section and through its elastic properties creates the permanently tight joint.

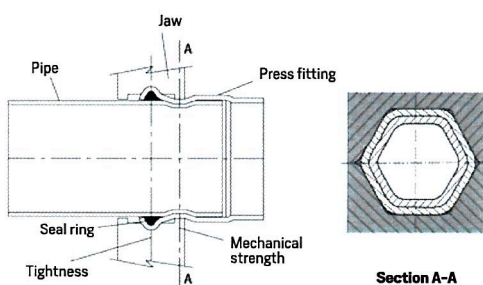


Figure 4 - Section through an **inoxPRES / steelPRES / aesPRES / marinePRES** connection with jaw still in position. Dimensions of 12–35 mm produce a hexagonal pressing profile.

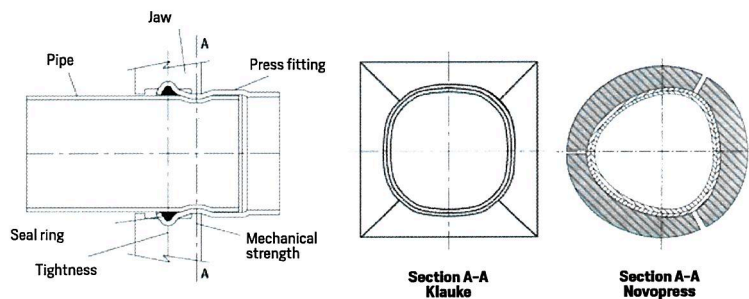


Figure 5 - Section through an **inoxPRES / steelPRES / aesPRES / marinePRES** connection with collar still in position. Dimensions of 42–108 mm produce a defined profile.

The complete range of the press fitting systems **inoxPRES**, **steelPRES**, **aesPRES** and **marinePRES** is described in the relevant „Product range“ catalogue.

2.2 inoxPRES press fittings

inoxPRES press fittings are manufactured using high-alloyed austenitic stainless Cr-Ni-Mo steel with the material number 1.4404 (AISI 316L).

The press fittings are indelibly marked with laser reporting the manufacturer name, diameter, DVGW test symbol and internal code. The formed ends of the press fittings are fitted with a black EPDM seal ring as standard for potable water applications.



Figure 6 - **inoxPRES** press fitting

2.3 inoxPRES GAS press fittings

inoxPRES GAS press fittings 15 - 108 mm outside diameter are tested in accordance with the requirements of the DVGW G 5614 guidelines and in Austria according to PG 500 and PG 314.

They differ from **inoxPRES** for potable water installations in that they have a factory-fitted yellow NBR/HNBR seal ring and are also indelibly marked **inoxPRES** in black and indelibly yellow marked with 'RM' and the pressure range 'PN 5 /GT 1'.



Figure 7 - inoxPRES GAS press fitting

Please verify the local laws/regulations regarding the use of **inoxPRES GAS** for gas applications in UK.

2.4 inoxPRES piping

inoxPRES pipes are longitudinally welded thin-walled tubes made of high alloyed austenitic stainless Cr-Ni- Mo steel with material number 1.4404 (AISI 316L), as well as tubes made of ferritic («nickel free») stainless steel with material number 1.4521 (AISI 444).

The tubes correspond to worksheet GW 541 of the German Association for Gas and Water, EN 10217-7 (DIN 17455) and EN 10312 and are therefore approved for:

- > drinking water and gas (14404 AISI 316L);
- > only for drinking water (1.4521 AISI 444);
- > compressed air only for pipes with the material number 1.4301 (AISI 304). On request, is available the series 1 (light tubes with thinner wall thickness).

Inner and outer surfaces are bare metal and free of annealing colours and corrosion-promoting substances.

inoxPRES pipes are classified as non-combustible pipes according to material class A; they are supplied in lengths of 6 meters and are closed with plastic plugs/caps at the ends.

TABLE 1: INOXPRES PIPES - DIMENSIONS AND CHARACTERISTICS

| Pipe outside diameter x wall thickness in mm | Nominal width DN | Pipe inside diameter in mm | Mass in kg/m | Water volume in l/m |
|--|------------------|----------------------------|--------------|---------------------|
| 15 x 1 | 12 | 13 | 0,351 | 0,133 |
| 18 x 1 | 15 | 16 | 0,426 | 0,201 |
| 22 x 1,2 | 20 | 19,6 | 0,625 | 0,302 |
| 28 x 1,2 | 25 | 25,6 | 0,805 | 0,514 |
| 35 x 1,5 | 32 | 32 | 1,258 | 0,804 |
| 42 x 1,5 | 40 | 39 | 1,521 | 1,194 |
| 54 x 1,5 | 50 | 51 | 1,972 | 2,042 |
| 76,1 x 2 | 65 | 72,1 | 3,711 | 4,080 |
| 88,9 x 2 | 80 | 84,9 | 4,352 | 5,660 |
| 108 x 2 | 100 | 104 | 5,308 | 8,490 |