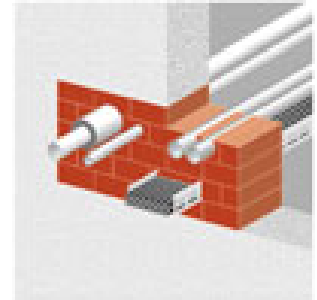


S90 combination penetration seal ZZ-Steine 200 BDS-N foam blocks

Type approval No. Z-19.15-1182

Applications

- / Temporary or permanent penetration seals for electrical cables of all types and diameters and for combustible and non-combustible pipes
- / Due to an extensive type approval, suited, in particular, for mixed installations of all types. Apart from that, no additional collars need to be provided when combustible pipes are passed through the penetration seal.
- / Tested for S90 fire resistance rating. For details, please refer to the type approval.

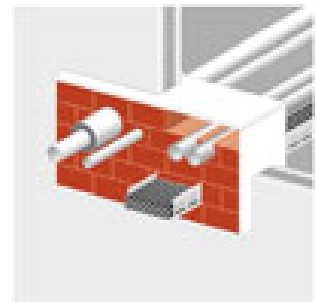


Application in connection with structural members of fire-resistance class F90

- / Walls made from masonry according to DIN 1053-1, concrete and/or reinforced concrete according to DIN 1045, or aerated-concrete building boards according to DIN 4166 - from 100 mm
- / Floors made from concrete and/or reinforced concrete according to DIN 1045, or aerated concrete according to DIN 4223 - from 150 mm
- / Lightweight stud partitions with steel sub-structure, inside mineral-wool insulation (construction material class DIN 4102-A; melting point higher than 1000 °C), boarded with non-combustible building boards according to DIN 18180 on both sides - from 100 mm
- / Non-loadbearing, separating gypsum walls made from wallboards as specified in DIN 4102-4, as from 80 mm

maximum measurements of sealing system [mm]

fireproof wall	(W x H) 1000 x 1000
fireproof floor	(W x H) 700 x unlimited length
lightweight partition	(W x H) 570 x 840 and 840 x 570
Dimensions penetration seal in gypsum walls	(W x H) 1000 x 1000



Minimum installation depth (penetration thickness)

200 mm



Scope of type approval

- / Any type and diameter of electrical cables (including optical fibres), except for waveguide cables
- / Individual conduits made from steel or plastic pipes for control purposes, up to outside pipe diameters of 15 mm.

- / Cable support structures (cable channels, cable trays, cable ladders) made from steel, aluminium or plastic profiles.
- / Wiring conduits made from plastic, up to outside pipe diameters of 20 mm.
- / Combustible pipes (without additional collar) with outside pipe diameters of up to 110 mm and pipe wall thicknesses between 1.8 mm and 11.2 mm (for pipe diagrams, see type approval Z-19.15-1182).
- / Combustible and non-combustible pipes for piping installations handling non-flammable liquids and non-flammable gases (except for ventilation pipes), for pneumatic tube systems (transmission tubes) or for dust extraction pipes.
- / Non-combustible pipes made from steel, stainless steel and cast steel with outside pipe diameters of up to 168.3 mm and pipe wall thicknesses between 1.0 mm and 14.2 mm; and pipes made from copper with outside pipe diameters of up to 88.9 mm and pipe wall thicknesses between 1.0 mm and 3.0 mm (for pipe diagrams, see type approval Z-19.15-1182).
- / Non-combustible pipes intended for piping systems for flammable liquids and flammable gases.
- / Section insulation made from mineral-fibre mats or shells, and rubber insulation (AF/Armaflex, SH/Armaflex, NH/Armaflex or Kaiflex-KK) may be passed through the penetration seal or may end with the penetration seal surface (for applications, insulation lengths and thicknesses, and pipe diagrams, see type approval Z-19.15-1182).
- / Multi-layer composite pipes (without additional collar) with outside pipe diameters of up to 63 mm in fireproof walls, lightweight partitions, and fireproof floors without the need to install any additional section insulation (for pipe diagrams, see type approval).
- / Hydraulic pipes of type Aeroquip GH 793, up to outside pipe diameters of 38.1 mm (DN 25)
- / The sum total of the cross sections of all cables and pipes may come to a maximum of 60 % of the rough member opening.

system components

- / "ZZ-Brandschutzstein 200 BDS-N" foam block
- / "ZZ-Brandschutzstein 200 BDS-N" foam block, vacuum packed
- / "ZZ-Brandschutzmasse BDS-N (1K)" single-component mastic
- / "ZZ-Nachinstallationskeil Set" wedge set
- / "ZZ-Brandschutzstein 200 BDS-N" foam block, silicone coated
- / "ZZ-Matte 200 BDS-N" large foam block
- / Identification plate
- / "ZZ-DokuStreifen" documentation strip