

Claims

1. A penetration device (1) for cable(s), wire(s) or pipe(s) that pass through an opening arranged to a wall, a ceiling or a floor, **characterized** in that the penetration device (1) comprises
- 5 - an insert, which comprises an intumescent material (2, 2') and heat resistant flexible material layers (3, 3'), wherein the intumescent material has arranged between the heat resistant flexible material layers, the insert comprises at least one penetrating opening (4) for a cable, a wire or a pipe
- 10 elongated through the width direction of the insert, and
- a housing, which comprises an outer casing (5) surrounding the insert, which outer casing (5) is at least partly perforated, and the outer casing (5) comprises a first end and a second end in the length direction of the housing, which first end comprises inward bent edges (6) and/or a structural element
- 15 (7, 10) to make an area of the opening of the first end smaller, and which second end comprises inward bent edges (6) and/or a structural element (7, 10) to make an area of the opening of the second end smaller.
2. The penetration device according to claim 1, **characterised** in that the intumescent material (2, 2') and the heat resistant flexible material layers (3, 3') have arranged substantially perpendicularly with respect to the length direction of the cable(s), wires(s) or pipe(s).
- 20 3. The penetration device according to claim 1 or 2, **characterised** in that the outer casing (5) comprises openings (8, 8') substantially in the whole circumference of the outer casing.
- 25 4. The penetration device according to any of the preceding claims, **characterised** in that the intumescent material (2, 2') is in a form of a sheet.
- 30 5. The penetration device according to any of the preceding claims, **characterised** in that the heat resistant flexible material layers (3, 3') comprise the layers formed from the silicone, silicone rubber and/or PU based fire-resistant material.

6. The penetration device according to any of the preceding claims, **characterised** in that the housing comprises a fixing flange (9) at the second end of the outer casing.
- 5 7. The penetration device according to any of the preceding claims, **characterised** in that the inward bent edges and/or the structural element have arranged at the edge of the first end and the second end by covering at least 50 % length of the outer perimeter of said end, preferably the inward bent edges and/or the structural element have arranged to the whole length
10 of the outer perimeter of said end.
8. The penetration device according to any of the preceding claims, **characterised** in that the structural element arranged to the second end of the outer casing comprises a cover plate (7) having an opening.
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9. The penetration device according to any of the preceding claims, **characterised** in that the device further comprises a gasket (10) between the cover plate (7) and the fixing flange (9).
- 20 10. The penetration device according to any of the preceding claims, **characterised** in that the heat resistant flexible material layers (3, 3') have colour that differentiate from the colour of the intumescent material (2, 2').
- 25 11. The penetration device according to any of the preceding claims, **characterised** in that the housing has formed from two or more interconnected parts.
- 30 12. The penetration device according to any of the preceding claims, **characterised** in that the outer diameter of the heat resistant flexible material layers (3, 3') is greater than the outer diameter of the intumescent material sheet(s) (2, 2') and/or greater than the inner diameter of the outer casing (5).
- 35 13. A sealing system for cable(s), wire(s) or pipe(s) that pass through an opening arranged to a wall, a ceiling or a floor, **characterized** in that the sealing system comprises
- at least two heat resistant flexible material layers (3, 3'),
 - an intumescent material (2, 2'), and

- 5 - a housing, which comprises an outer casing (5) having a first end and a second end in the length direction of the housing, wherein the first end comprises inward bent edges (6) and/or a structural element (7, 10) to make an area of the opening of the first end smaller, and wherein the second end comprises inward bent edges (6) and/or a structural element (7, 10) to make an area of the opening of the second end smaller, and the outer casing (5) is at least partly perforated.

14. The sealing system according to claim 13, **characterized** in that the heat resistant flexible material layers (3, 3') and the intumescent material (2, 2') form an insert arrangeable inside the outer casing of the housing, wherein the insert comprises two separate part, each of the part comprises at least one sheet of intumescent material and at least one heat resistant flexible material layer attached to the sheet of intumescent material.

15. The sealing system according to claim 14, **characterized** in that the insert comprises at least one penetrating opening (4) elongated through the width direction of the insert and a cutting (11) arranged between the penetration opening and the outer edge of the sheet materials of the insert.