

General type approval

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Authorisation and approval body for construction products and types of construction

Date: Reference number.

14.02.2024 III 38-1.19.21-240/21

Number:

Z-19.21-2693

Applicant:

KAISER GmbH & Co. KG

Ramsloh 4

58579 Schalksmühle, Germany

Period of validity:

from: **14. February 2024**

until: **17. August 2028**

Subject of this notice:

Type approvals for closing electrical installation openings in fire-resistant components

The above-mentioned subject of regulation is hereby approved by the general building authorities.

This decision comprises seven pages and ten annexes.

DIBt

I GENERAL PROVISIONS

- 1 With the general type approval, the applicability of the subject of regulation in terms of the German regional building codes is proven.
- 2 This notice does not replace the permits, consents and certificates required by law for the implementation of construction projects.
- 3 This notice is issued without prejudice to the rights of third parties, in particular private property rights.
- 4 The user of the subject matter of the regulation shall be provided with copies of this notice, without prejudice to further provisions in the "Special Provisions". In addition, the user of the subject of regulation must be informed that this notice must be available at the point of application. Copies shall also be made available to the participating authorities involved upon request.
- 5 This notice may only be reproduced in full. Publication in extracts requires the consent of Deutsches Institut für Bautechnik. Texts and drawings of promotional literature must not contradict this notice, translations must contain the notice "Translation of the original German version not verified by Deutsches Institut für Bautechnik".
- 6 This notice is issued revocably. The provisions may be subsequently supplemented and amended, in particular if this is required by new technical knowledge.
- 7 This notice refers to the information provided and documents submitted by the applicant in the approval procedure regarding the subject of regulation. Any change in these approval bases shall not be covered by this notice and shall be disclosed to Deutsches Institut für Bautechnik without delay.

II SPECIAL PROVISIONS

1 Subject matter and scope of application

1.1 Subject of regulation

This general type approval applies to the design for closing electrical installation openings in fire-resistant¹ walls using special cavity wall boxes of the type

- one-gang boxes "HWD 68+" (Ø 68 mm, depth 49 mm) and/or
- one-gang junction boxes "HWD 68+" (Ø 68 mm, depth 62 mm) as well as, where applicable, covers of type "HWD 30-120".

The subject of regulation is hereinafter referred to as electrical installation opening closure.

1.2 Area of application

1.2.1 This general type approval applies in accordance with the building regulations for electrical installation opening closures in the following inner walls, taking into account the specifications in Section 2.1.2 and the respective permissible designs in accordance with Annex 10:

- in classified fire-resistant¹, non-load-bearing walls of fire resistance class F 30-A, F 60-A or F 90-A in accordance with DIN 4102-2² with a substructure made of non-combustible¹ building materials and boarding made of non-combustible¹ gypsum or cement-bonded structural panels
- in classified fire-resistant¹ non-load-bearing walls of fire resistance class F 30-B in accordance with DIN 4102-2² with a substructure made of combustible building materials and boarding made of non-combustible¹ gypsum or cement-bonded structural panels

1.2.2 The electrical installation opening closures installed in accordance with this general type approval prevents the passage of fire and smoke through the closed electrical installation opening for at least 30, 60 or 90 minutes³, depending on the respective area of application, based on the standard fire according to DIN 4102- 2²

1.2.3 The walls in accordance with Section 1.2.1 continue to fulfil the requirements for the respective fire resistance in conjunction with the electrical installation opening closures in accordance with this general type approval.

1.2.4 The designs described in this general type approval and shown in the installation drawings in the annex represent minimum designs to meet the requirements for fire protection.

Compliance with the provisions of other areas of law shall remain unaffected.

Verifications of thermal and/or sound insulation as well as further verifications of serviceability and durability are not provided with this general type approval.

1.2.5 The cavity wall boxes must always be used with appropriate electrical installation devices (switches, sockets, etc.) or - if the products are unoccupied and used as one-gang boxes - with "HWD 30-120" type covers.

¹ Building regulation requirements, classes and required performance data in accordance with Technical Regulation A 2.2.1.2 (Annex 4) of the Model Administrative Regulation Technical Building Regulations (MVV TB), edition 2023/1; s. www.dibt.de

² DIN 4102-2:1977-09 Fire Behaviour of Building Materials and Building Components; Building Components; Definitions, Requirements and Tests

³ Expert opinions that certify conformity with the results to be expected according to test standards were also taken into account for the assessment of the electrical installation closure.

2 Provisions for planning and execution

2.1 Planning

2.1.1 Planning - Components of the type approval

2.1.1.1 Cavity wall boxes

At least normally flammable¹ special cavity wall boxes from KAISER GmbH & Co. KG, 58579 Schalksmühle, in accordance with the European Technical Assessment and Annexes 1 to 3 in the design variants

- one-gang boxes "HWD 68+" and/or
- one-gang junction boxes "HWD 68+";

each with the declaration of performance no. 12013036 from 17.07.2023, are to be used.

2.1.1.2 Cover

At least normally flammable¹ special cover "HWD 30-120", Art. No. 1184-94, from KAISER GmbH & Co. KG, 58579 Schalksmühle, Germany, in accordance with Annex 4.

2.1.1.3 Means of fastening and straight couplings

The following special fasteners and straight couplings from KAISER GmbH & Co. KG, 58579 Schalksmühle, Germany must be used in accordance with Annex 4:

- special fasteners
- screws Ø 5.5x41.5 or 44.5 made of non-alloy structural steel and fixing lug, material DC 01 C390 according to DIN EN 10139⁴, each for Art. No. 9463- 02/9464 02
- Device screws Ø 3.2, countersunk-head screw of non-alloy construction steel, Art. No. 2472-15/20/25/40
- if necessary, at least normally flammable¹ straight coupling Ø 12 mm, Art. No. 9060-78.

2.1.2 Planning - Walls in which the subject of regulation is verified

The electrical installation opening closures with cavity wall boxes "HWD 68" were verified in walls with at least the following structure:

- a) Walls with a steel substructure, which must be boarded on both sides with at least one ≥ 12.5 mm thick, non-combustible¹ fire protection board (gypsum plaster fire protection board).

The structure of the walls must also comply with the provisions of the DIN 4102-4⁵ standard, Section 10.2, for classified walls of fire resistance class F 30-A in accordance with Table 10.2 (see Annex 5).

or

- b) Walls with timber frame structure, which must be boarded on both sides with at least one ≥ 12.5 mm thick, non-combustible¹ fire protection board (gypsum plaster fire protection board).

The structure of the walls must also comply with the provisions of the DIN 4102-4⁶ standard, Section 10.2, for classified walls of fire resistance class F 30-B in accordance with Table 10.3 (see Annex 5).

or

- | | | |
|---|----------------------|---|
| 4 | DIN EN 10139:2016-06 | Cold rolled uncoated low carbon steel narrow strip for cold forming - Technical delivery conditions |
| 5 | DIN 4102-4:2016-05 | Fire behaviour of building materials and building components - Part 4: Synopsis and application of classified building materials, components and special components |
| 6 | DIN 4102-4:2016-05 | Fire behaviour of building materials and building components - Part 4: Synopsis and application of classified building materials, components and special components |

- c) Walls with steel or timber frame structure, with or without insulation, which must be boarded on both sides with at least one ≥ 12.5 mm thick, non-combustible¹ gypsum or cement-bonded structural panel⁷ with a closed surface. The fire resistance class F 30-A F 30-B according to DIN 4102-2² must be verified in each case by a general test certificate issued by the building authorities or a general construction type approval (see Annex 6).

If these walls have insulation, it must be non-combustible¹ (e.g. insulation wool made of melted stone, so-called rock wool, or of glass, so-called glass wool, each according to DIN EN 13162⁸).

or

- d) Walls with studs and/or transoms made of sheet steel profiles and with non-combustible¹, cavity-filling mineral wool insulation layer, which must be clad on both sides with at least two ≥ 12.5 mm thick non-combustible¹ fire protection boards (gypsum plaster fire protection board). The structure of the walls must also comply with the provisions of DIN 4102-45, Section 10.2, for gypsum plasterboard walls of fire resistance classes F 60-A or F 90-A in accordance with Table 10.2 (see Annex 7).

or

- e) Walls with steel substructure and non-combustible¹, cavity-filling mineral wool insulation layer made of so-called rockwool⁹, which must be boarded on both sides with at least two ≥ 12.5 mm thick, non-combustible¹ gypsum or cement-bonded structural panels⁷ with a closed surface.

The fire resistance class F 60-A or F 90-A according to DIN 4102-2² must be verified in each case by a general test certificate issued by the building authorities or a general construction type approval (Annex 7).

or

- f) Walls with steel substructure and non-combustible¹, cavity-filling mineral wool insulation layer made of so-called glasswool¹⁰, which must be boarded on both sides with at least two ≥ 12.5 mm thick, non-combustible¹ gypsum or cement-bonded structural panels⁷ with a closed surface.

The fire resistance class F 60-A (wall thickness ≥ 100 mm) or F 90-A (wall thickness ≥ 125 mm) according to DIN 4102-2² must be verified in each case by a general test certificate issued by the building authorities or a general construction type approval (see Annex 8 and 9).

Depending on the design, the fire resistance of the wall with electrical installation opening closure must also comply with the specifications in Annex 10.

2.1.3 Planning - Electrical installation opening closure

2.1.3.1 The provisions for the design of the walls in accordance with section 2.1.2, which are specified in the respective general building inspectorate test certificates or type approvals, must be observed and complied with.

2.1.3.2 The subjects of regulation have been verified for

- a) design of the cavity wall boxes with
- a maximum of four cable connections for each arrangement of individual boxes (cable diameter ≤ 15 mm)
 - an additional free space to accommodate straight couplings so that fully insulated through-wiring is possible.

⁷ In the general type approval procedure, the subjects of regulation were verified with structural panels that had the following characteristic values: Gross density ≥ 800 kg/m³.

⁸ DIN EN 13162:2015-04 Thermal insulation products for buildings - Factory made mineral wool (MW) products - Specification

⁹ In the general type approval procedure, the control objects were verified with mineral wool, which had the following characteristic values: non-combustible, melting point ≥ 1000 °C, gross density ≥ 40 kg/m³.

¹⁰ In the general type approval procedure, the control objects were verified with mineral wool, which had the following characteristic values: non-combustible, melting point ≥ 1000 °C, gross density ≥ 14 kg/m³.

- b) Installation of cavity wall boxes in walls under the following boundary conditions and taking into account the permissible designs in accordance with Annex 10:
- arranged according to the installation zones according to DIN 18015-3¹¹, also on both sides of the wall (opposing)
 - individually or in so-called multiple combinations - i.e. a maximum of five cavity wall boxes arranged next to or on top of each other - but multiple only if designed with an electrical installation device (switch, plug power socket, etc.)

2.2 Version

2.2.1 Installation instructions

The applicant for this general component type approval shall provide each contractor of electrical installation opening closures with installation instructions, which he has drawn up in accordance with this general type-approval and which shall contain at least the following information:

- Work steps for the professional production of exact electrical installation openings
- Description or illustration of the professional, exact design of the subject of regulation - including the so-called multiple arrangement - and the exact design of the cable entries (strain relief), including information on the tools to be used
- Dimension specifications on the products (including adaptation and connection in the case of multiple combination), information on the permissible population and on the installation of the electrical installation devices, including information on the use of the covers and straight couplings
- Fixing details
- Description or representation of the relevant design provisions, taking into account the provisions applicable to the walls and the respective scope of application
- Information on use/maintenance

2.2.2 General information

Unless otherwise specified below, the provisions of the installation instructions apply.

Before installing the electrical installation opening closure, check that the arrangement and structure of the components comply with the provisions of Sections 1 and 2. The design must take into account the arrangement of the wall profiles (sheet steel profiles, timber frame structure).

The diameter of the electrical installation opening (cut hole) in which the subject of regulation is executed must be exact and 68 mm.

2.2.3 Design of the electrical installation opening closures

The subjects of regulation must be designed flush with the building component.

For the execution of multiple combinations in accordance with section 2.1.3, additional requirements apply with regard to adaptation, which can be found in the installation instructions.

The electrical installation devices are to be inserted into the one-gang boxes, the subject of regulation is to be designed with cover, if applicable.

The subjects of regulation are to be executed with the following distance to the sub-construction:

- in walls with steel substructure: no restriction
- in walls with timber frame structure: ≥ 100 mm
- in walls according to section 2.1.2, version c) with timber frame structure without insulation or with glass wool: Version

¹¹ DIN 18015-3:2016-09 Electrical installations in residential buildings - Part 3: Cable routing and disposition of operating resources

- with peripheral arrangement of mineral wool¹² in accordance with DIN EN 131628 in a minimum width of 100 mm
- with the mineral wool secured against slipping. The execution must be carried out in accordance with Annexes 5 to 10.

2.3 Declaration of conformity

The construction company that has erected the subjects of regulation must provide confirmation of the conformity of the construction type with the general type approval for each construction project (see §§ 16 a para. 5, in conjunction with 21 para. 2 MBO ¹³).

It must be in writing and also contain at least the following information:

- Z-19.21-2693
- Type approvals for closing electrical installation openings in fire-resistant components
- Name and address of the company carrying out the construction work
- Designation of the building
- Date of construction/completion
- Place and date of issue of the declaration as well as signature of the responsible person

The declaration of conformity shall be handed over to the building owner for forwarding to the competent building supervisory authority, if required.

3 Provisions for use, maintenance and servicing

The fire protection effect of the electrical installation opening closures is only ensured in the long term if they are always kept in proper condition.

The installer must inform the operator of this (e.g. by handing over the general type approval and the installation instructions).

When changing the occupancy of the products, make sure that the products are not damaged.

After a change of occupancy has taken place, the intended condition of the electrical installation opening closure must be restored, taking Sections 1 and 2 into account.

Heidrun Bombach
Head of Unit

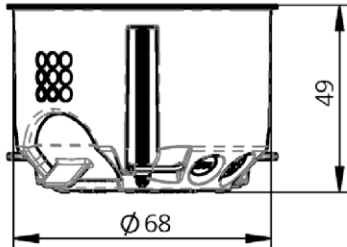
Certified
von Hoerschelmann

¹² In the general type approval procedure, the control objects were verified with mineral wool, which had the following characteristic values: non-combustible, melting point ≥ 1000 °C.

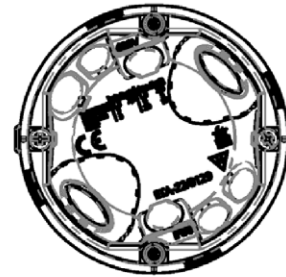
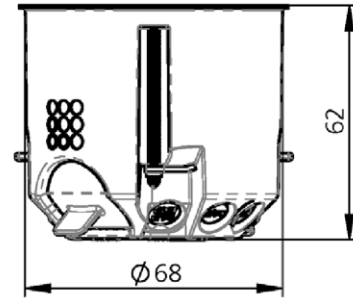
¹³ according to German regional building code

One-gang junction boxes

One-gang box HWWD 68+



One-gang / one-gang junction box HWWD 68+

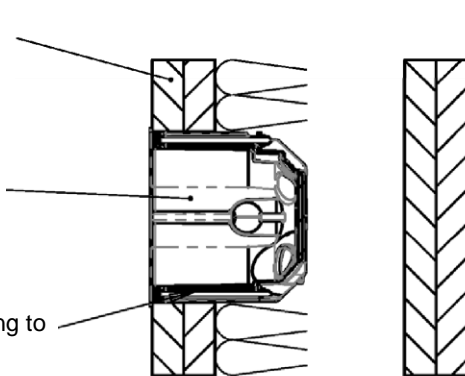


Example electrical installation opening

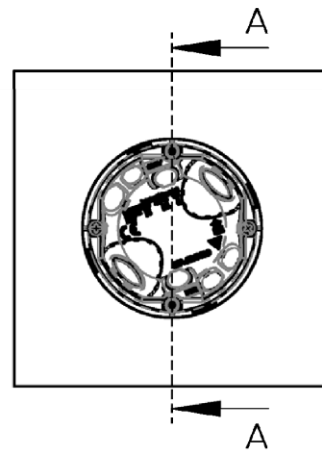
Wall according to
 Section 2.1.2

Product HWWD 68+
 according to
 section 2.1.1

Special means of
 fastening according to
 Section 2.1.1



SECTION A-A

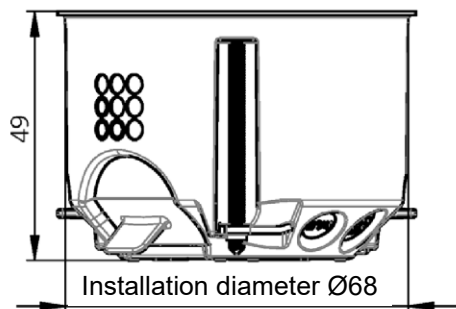


Dimensions in mm

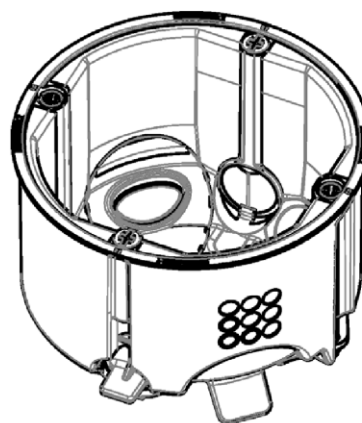
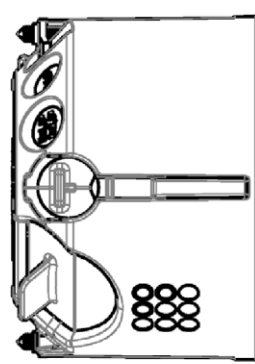
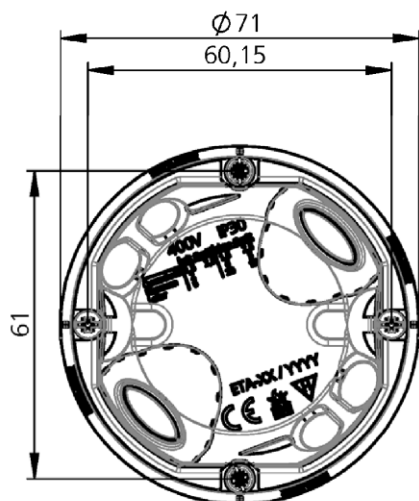
Type approvals for closing electrical installation openings in fire-resistant components

Annex 1

Overview of products to be used and example of the closure of the electrical installation opening



9463-03 one-gang box HWD 68+
maximum number of electric cables and conduits
max. 2 electric cables max. 2 conduits
maximum cable and conduit diameter
Cable $\leq \varnothing 15$ mm / Conduit $\leq \varnothing 24$ mm
maximum wire cross-section
≤ 2.5 mm ²

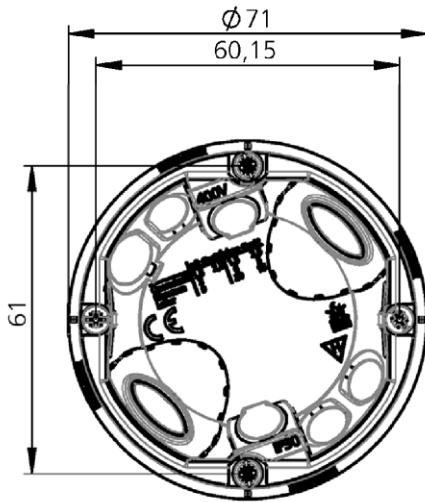
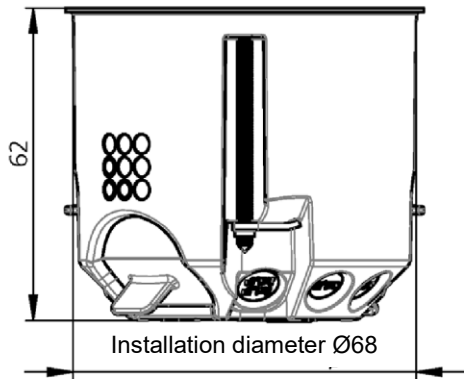


Dimensions in mm

Type approvals for closing electrical installation openings in fire-resistant components

One-gang box HWD 68+
 Art. No. (6463-03)

Annex 2



9463-03 one-gang box HWD 68+

maximum number of electric cables and conduits

max. 4 electric cables

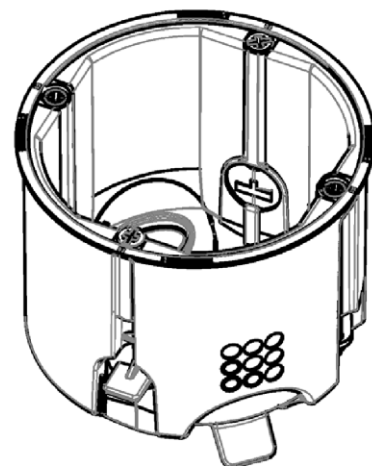
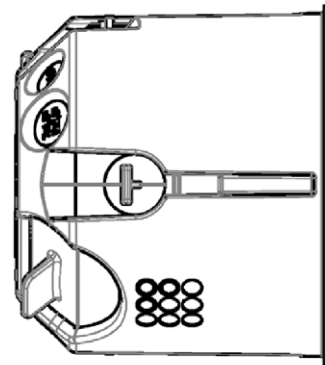
max. 2 conduits

maximum cable and conduit diameter

Cable $\leq \text{Ø } 15 \text{ mm}$ / Conduit $\leq \text{Ø } 25 \text{ mm}$

maximum wire cross-section

$\leq 2.5 \text{ mm}^2$

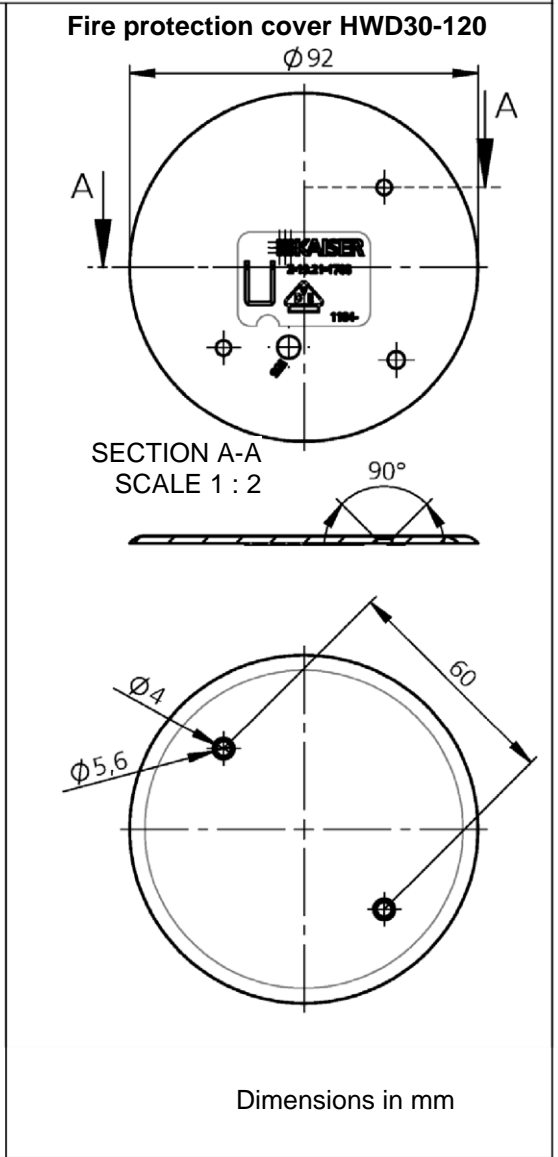
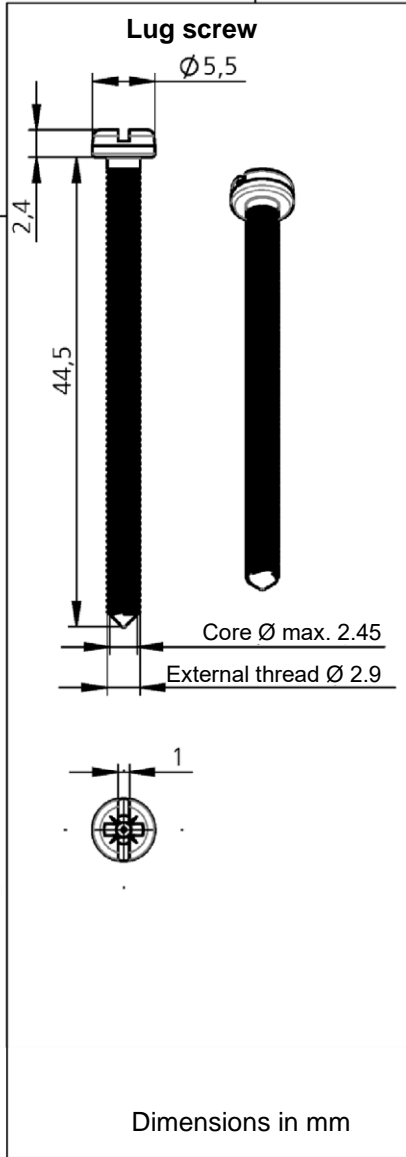
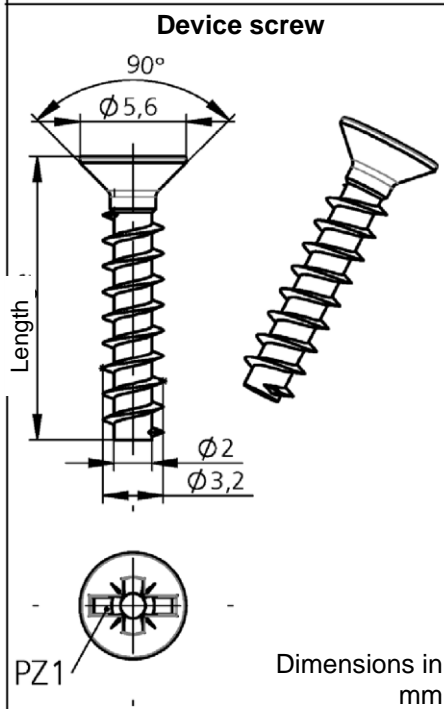
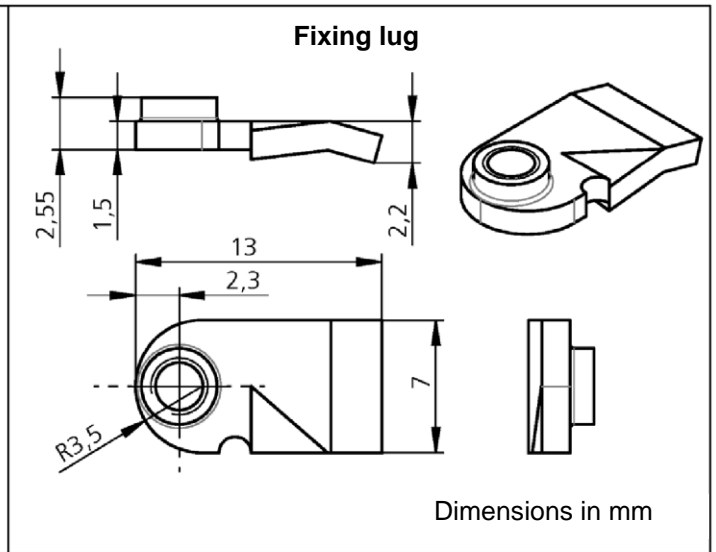
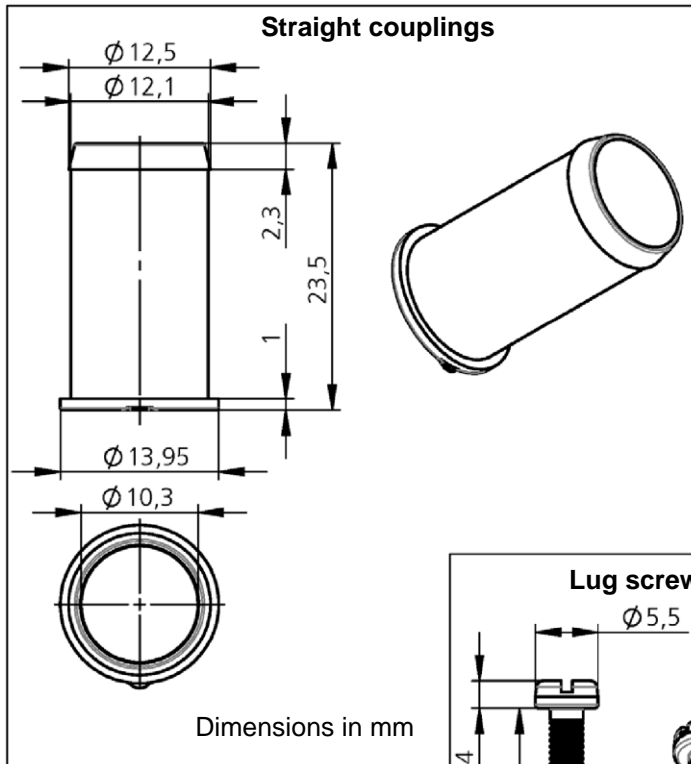


Dimensions in mm

Type approval(s) for closing electrical installation openings in fire-resistant components

one-gang junction box HWD 68+
 Art. No. (6464-03)

Annex 3

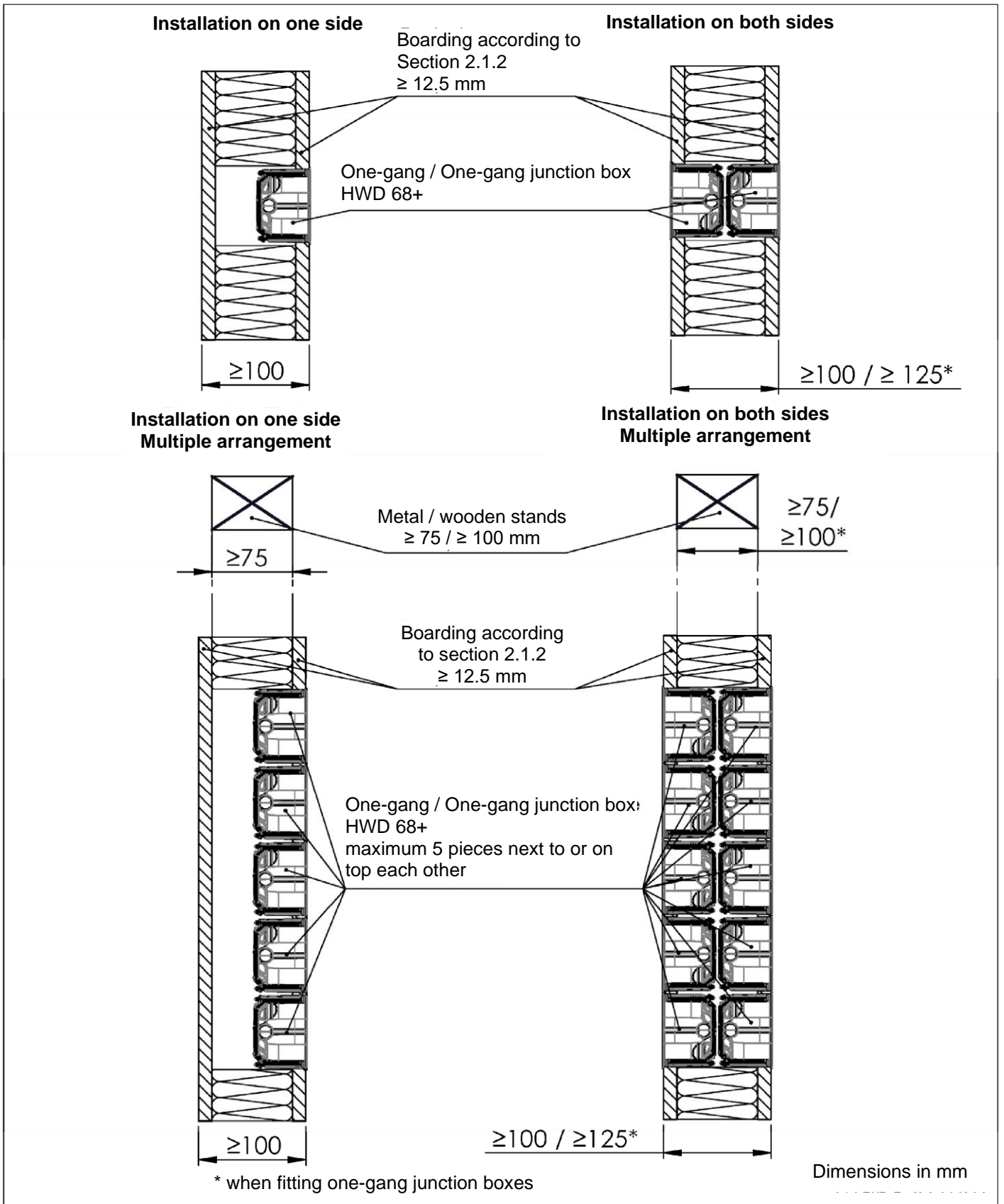


Half part no.	Length
78017 - 20	15
78017 - 21	20
78017 - 22	25
78017 - 23	40

Type approvals for closing electrical installation openings in fire-resistant components

Straight coupling, strap, device and strap screw and fire protection cover HWD 30-120

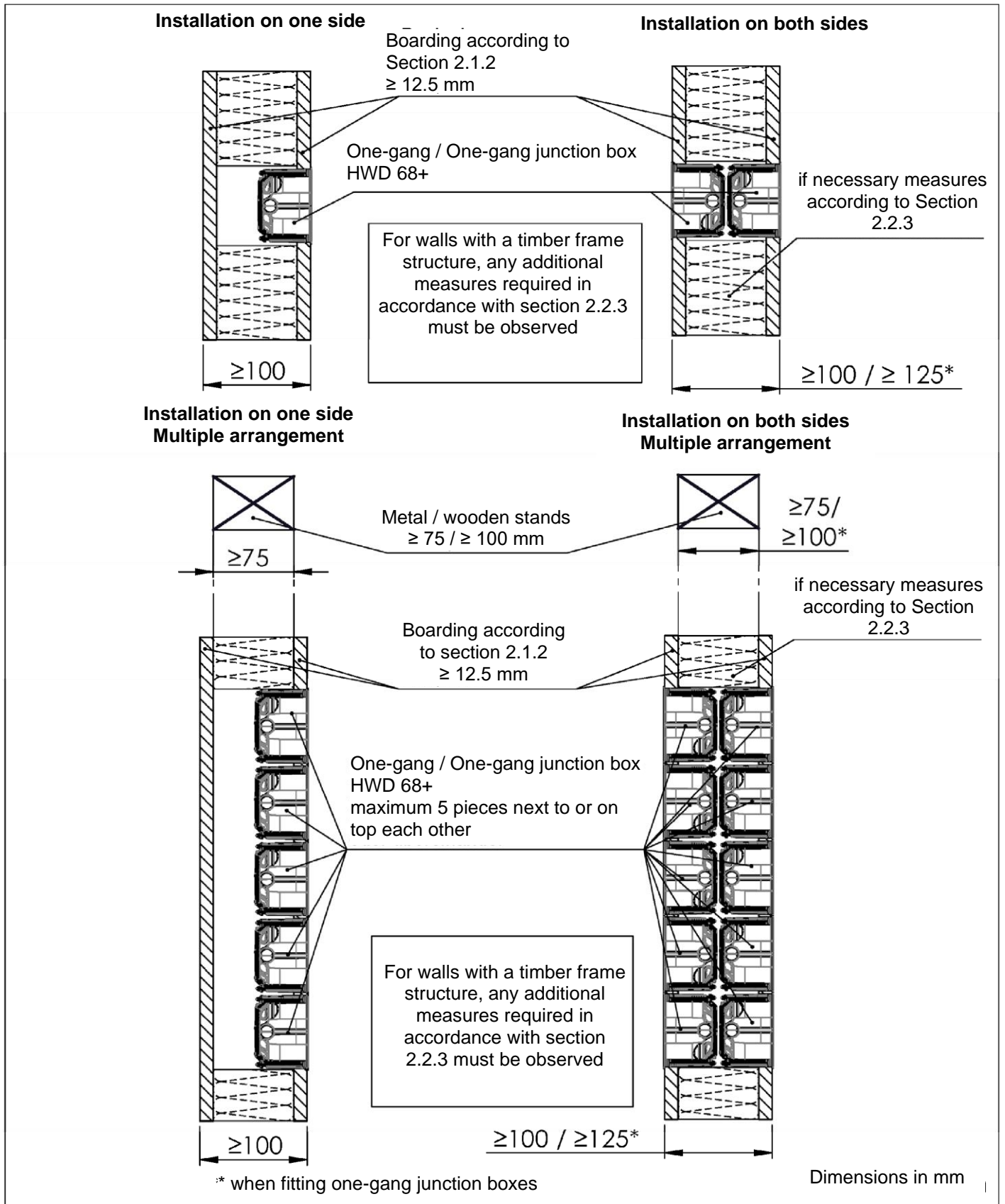
Annex 4



Type approvals for closing electrical installation openings in fire-resistant components

Design variants for electrical installation opening closures in walls in accordance with section 2.1.2 a) or 2.1.2 b) of fire resistance class F30-A or F30-B in accordance with DIN 4102-4, Table 10.2 or 10.3

Annex 5

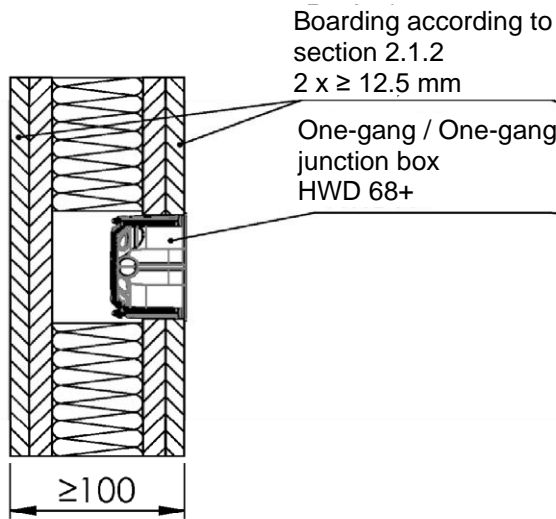


Type approvals for closing electrical installation openings in fire-resistant components

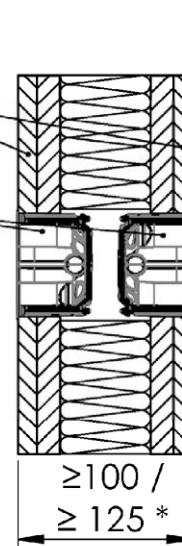
Design variants for electrical installation opening closures in walls in accordance with section 2.1.2 c) of fire resistance class F30-A or F30-B in accordance with DIN 4102-2 according to abP/aBG

Annex 6

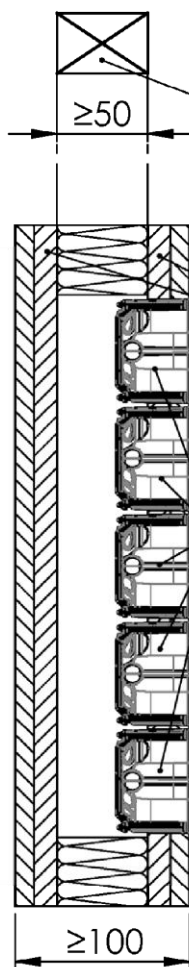
Installation on one side



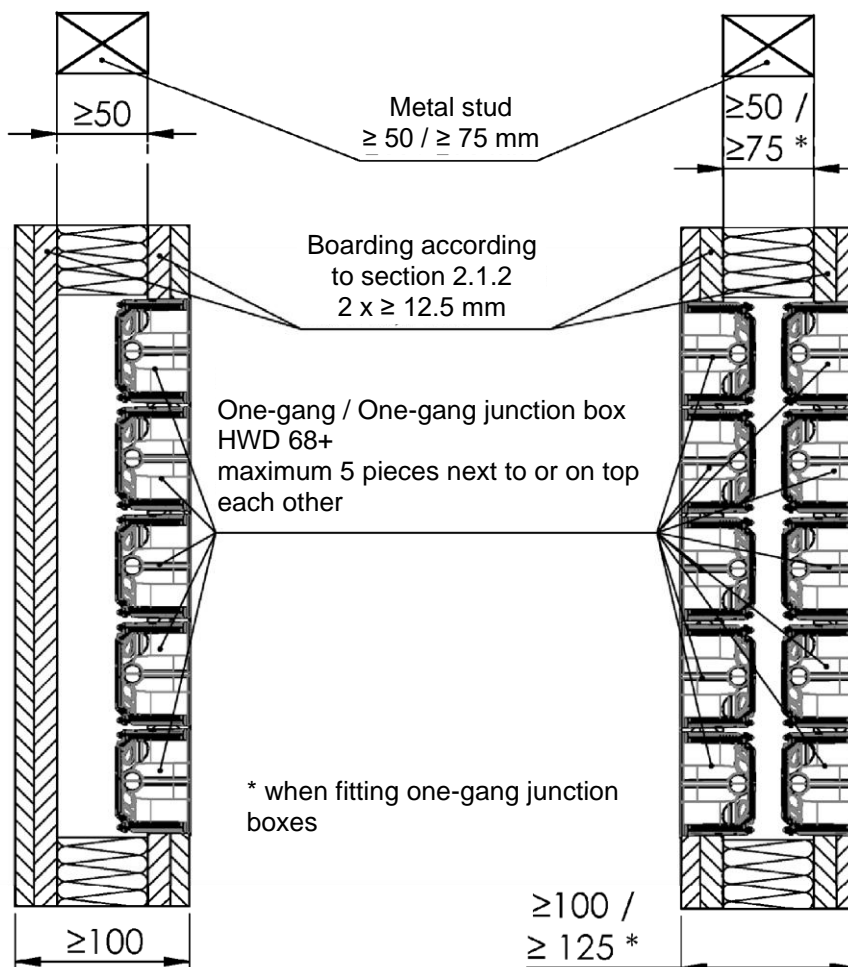
Installation on both sides



Installation on one side
 Multiple arrangement



Installation on both sides
 Multiple arrangement



Dimensions in mm

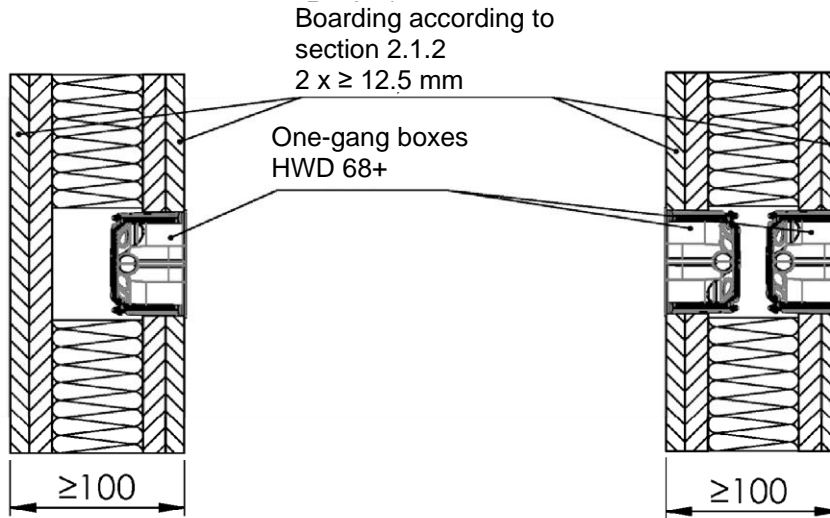
Type approvals for closing electrical installation openings in fire-resistant components

Design variants of electrical installation opening closures in accordance with section 2.1.2 d) of fire resistance class F30-A and F90-A according to DIN 4102-2 Table 10.2, or according to section 2.1.2 e) of fire resistance class F 60-A or F 90-A to DIN 4102-2 in accordance with abP/aBG

Annex 7

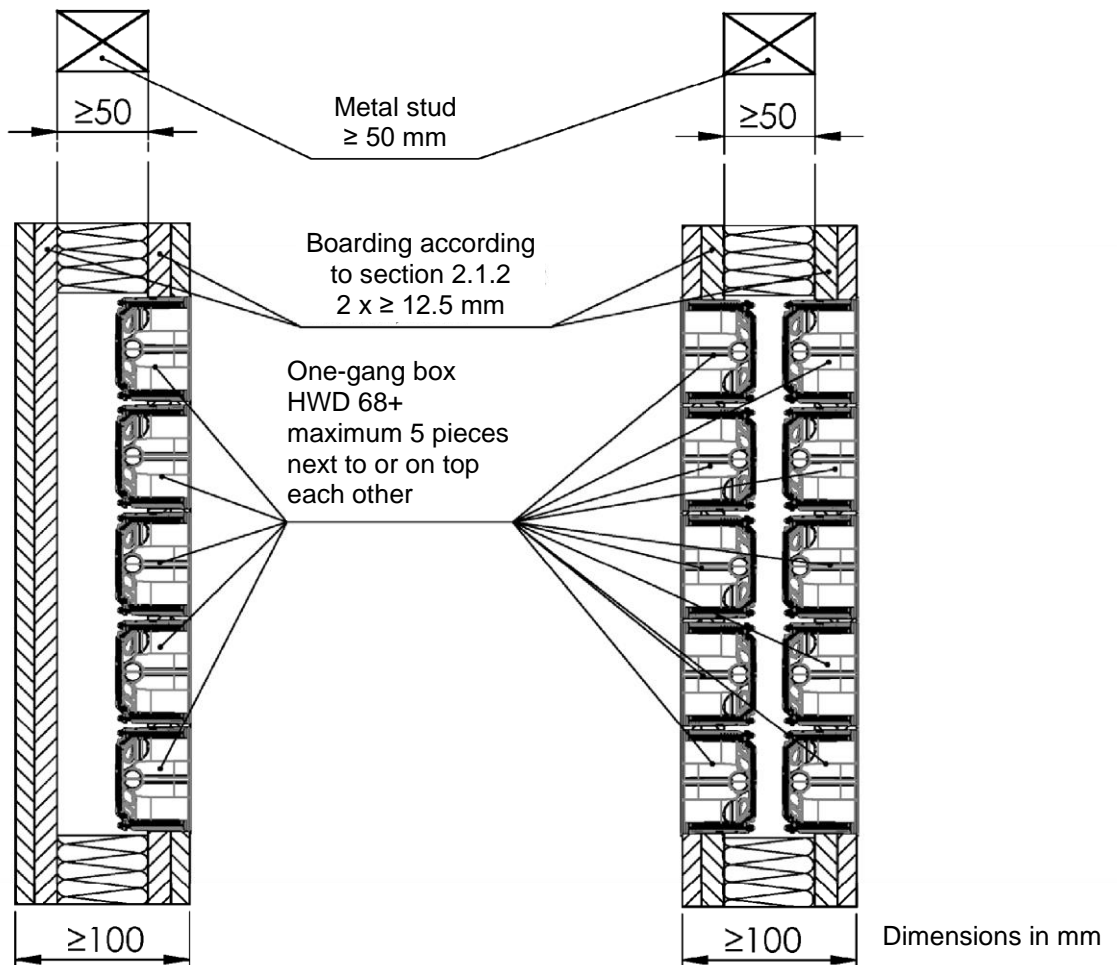
Installation on one side

Installation on both sides



Installation on one side
 Multiple arrangement

Installation on both sides
 Multiple arrangement



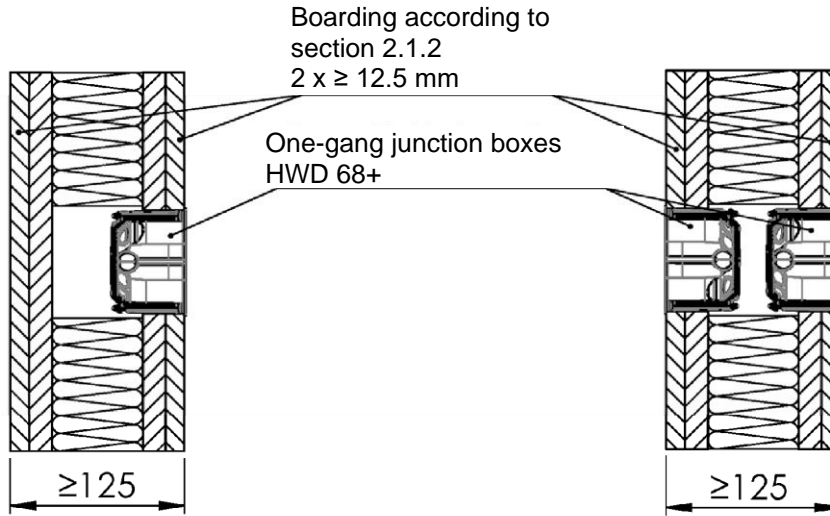
Type approvals for closing electrical installation openings in fire-resistant components

Design variants for electrical installation opening closures with one-gang box in ≥ 100 mm thick walls according to section 2.1.2. f) of fire resistance class F60-A according to DIN 4102-2 in accordance with abP/aBG

Annex 8

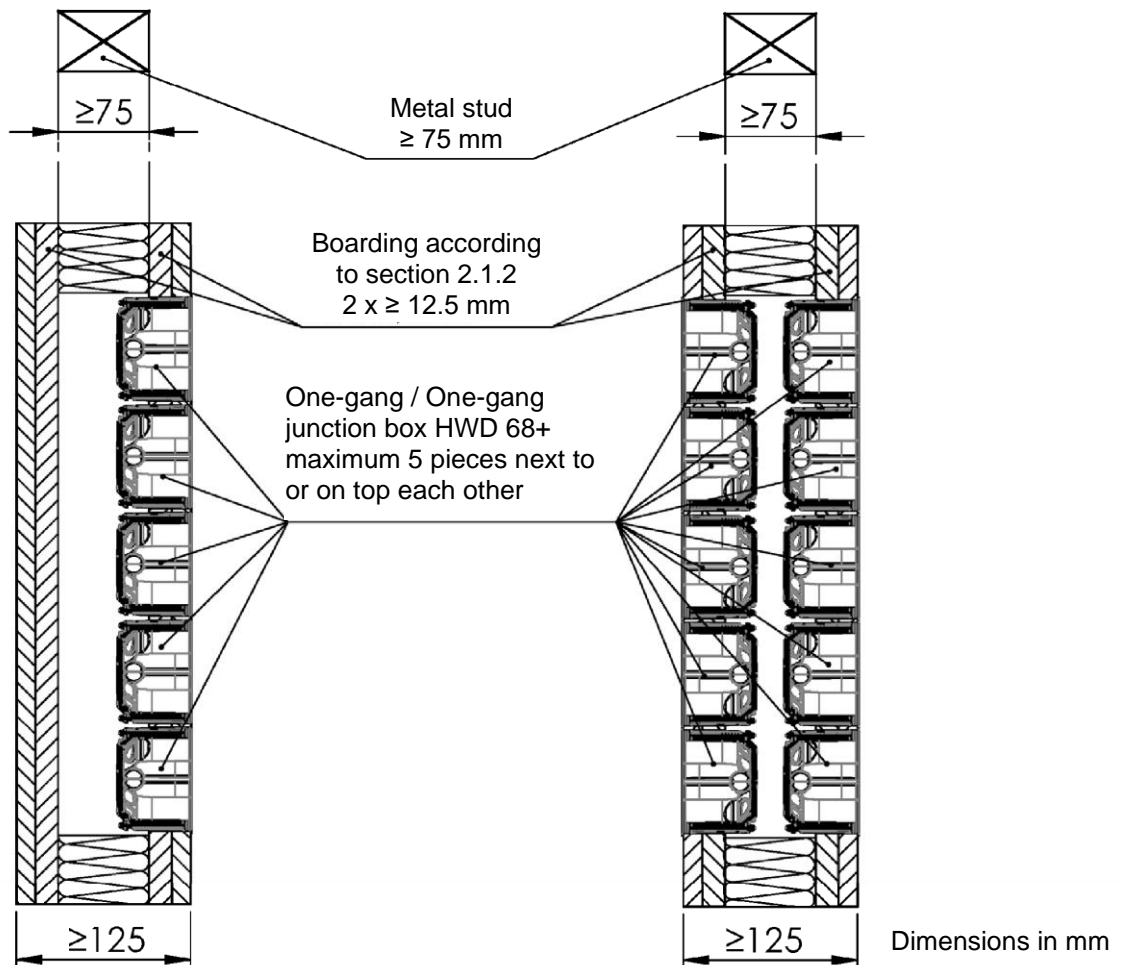
Installation on one side

Installation on both sides



Installation on one side
 Multiple arrangement

Installation on both sides
 Multiple arrangement



Type approvals for closing electrical installation openings in fire-resistant components

Design variants of electrical installation opening closures with one-gang junction box in $\geq 125 \text{ mm}$ thick walls in accordance with section 2.1.2. f) of fire resistance class F60-A and F90-A in accordance with DIN 4102-2 according to abP/aBG

Annex 9

No.	Wall					Boarding		Insulation		Installation		
	FWST ¹⁾	Standard abP aBG	Minimum thickness [mm] ²⁾	Profiles	aBG Section 2.1.2	Type	Minimum thickness [mm]	Type	Thickness [mm]	GD ³⁾	GV ⁴⁾	Distance profiles [mm]
1	F 30-A	DIN 4102-4 Table 10.2	100	Sheet steel	a)	Fire protection boards (gypsum plaster fire protection board) according to DIN 18180	1 x 12.5	non-combustible mineral wool melting point $\geq 1000^{\circ}\text{C}^5)$	≥ 40	•		0
2			125						≥ 60		•	
3	F 30-A	abP or aBG	100	Sheet steel	c)	non-combustible cement- or gypsum-bonded structural panels ⁶⁾	1 x 12.5	no insulation or non-combustible insulation (glass wool or rock wool) ⁷⁾	≥ 40	•		0
4			125						≥ 60		•	
5	F 30-B	DIN 4102-4 Table 10.3	100	Wood	b)	Fire protection boards (gypsum plaster fire protection board) according to DIN 18180	1 x 12.5	non-combustible mineral wool melting point $\geq 1000^{\circ}\text{C}^5)$	≥ 40	•		100
6			125						≥ 60		•	
7	F 30-B	abP or aBG	100	Wood	c)	non-combustible cement- or gypsum-bonded structural panels ⁶⁾	1 x 12.5	no insulation or non-combustible insulation (glass wool or rock wool) ⁷⁾	≥ 40	•		100
8			125						≥ 60		•	
9	F 60-A F 90-A	DIN 4102-4 Table 10.2	100	Sheet steel	d)	Fire protection boards (gypsum plaster fire protection board) according to DIN 18180	2 x 12.5	non-combustible mineral wool melting point $\geq 1000^{\circ}\text{C}^5)$	≥ 40	•		0
10			125						≥ 60		•	
11	F 60-A F 90-A	abP or aBG	100	Sheet steel	e)	non-combustible cement- or gypsum-bonded structural panels ⁶⁾	2 x 12.5	non-combustible insulation (rock wool) ⁸⁾	≥ 40	•		0
12			125						≥ 60		•	
13	F 60-A	abP or aBG	100	Sheet steel	f)	non-combustible cement- or gypsum-bonded structural panels ⁶⁾	2 x 12.5	non-combustible insulation (glass wool) ⁹⁾	≥ 40	•		0
14	F 60-A F 90-A		125						≥ 60		•	

- 1) Fire resistance class according to DIN 4102-2
2) with opposing installation
3) One-gang box
4) One-gang junction box
5) non-combustible, gross density according to DIN 4102-4, Table 10.2 or 10.3
6) non-combustible, gross density $\geq 800 \text{ kg/m}^3$
7) If applicable, measures according to section 2.2.3 and Annex 7
8) according to verification of usability; melting point $\geq 1000^{\circ}\text{C}$, gross density $\geq 40 \text{ kg/m}^3$
9) according to verification of usability; melting point $\geq 700^{\circ}\text{C}$, gross density $\geq 14 \text{ kg/m}^3$

Annex 10

Differentiation of installation in walls according to section 2.1.2

Type approvals for closing electrical installation openings in fire-resistant components