

Certificates



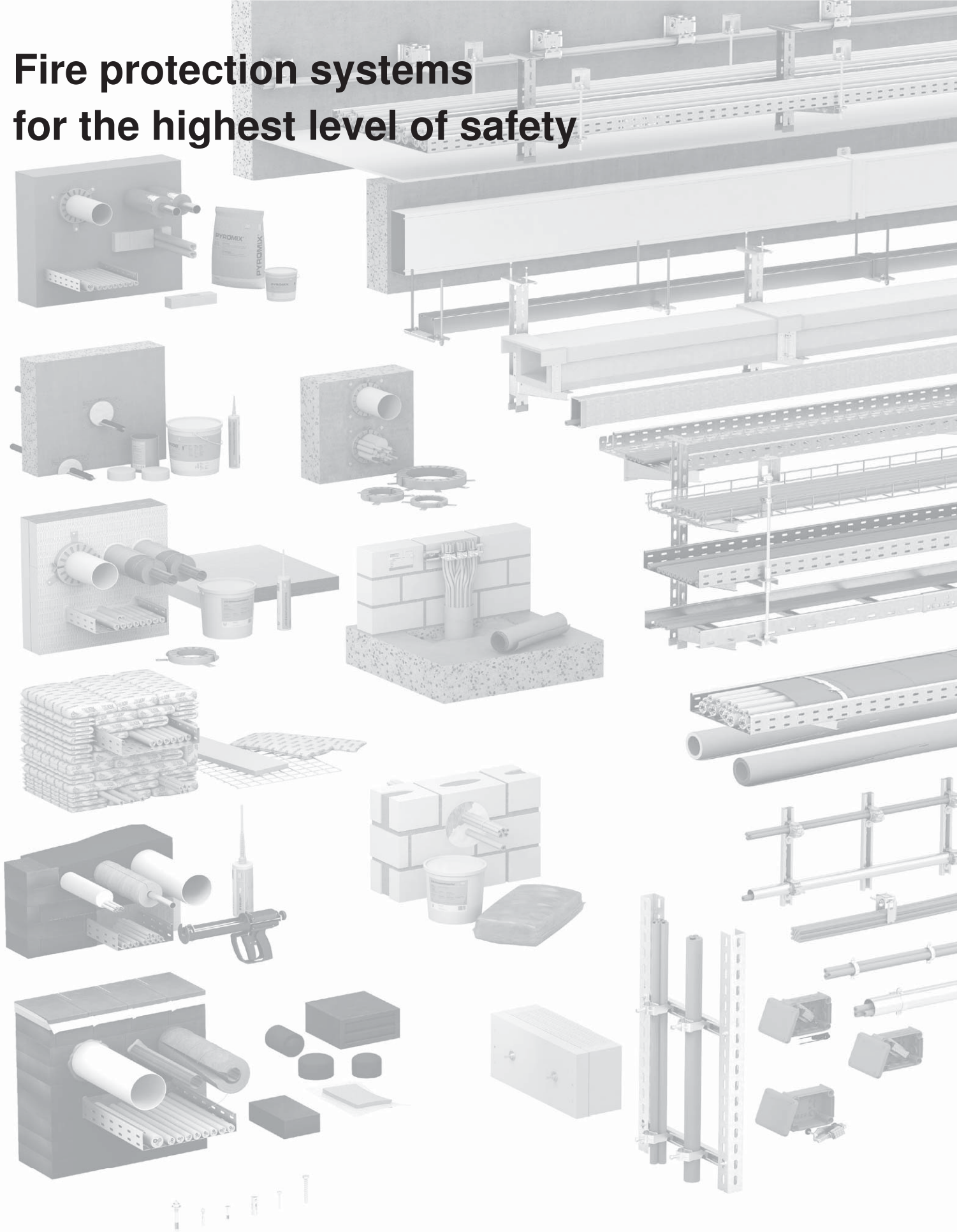
Maintaining electrical functionality

Mesh cable tray GR-Magic® - Center suspension

General building authority test certificate no. P-MPA-E-18-004, valid until 22.08.2028

This is a translation of the original German version, which has neither been checked nor approved by the NRW Materials Testing Office. Only the original German document is valid.

Fire protection systems for the highest level of safety



Be it in a residential building or an industrial complex – OBO has the appropriate solution for fireproof electrical installations. Our tested and certified fire protection systems cover all the relevant fire protection guidelines and provide you with an electrical installation that really serves its purpose. We will be happy to provide you with more details – on our website or personally.

Allgemeines bauaufsichtliches Prüfzeugnis

Test Certificate number:

P-MPA-E-18-004

Subject:

Cable system with integrated functional maintenance of functional integrity class E30 to E90 according to DIN 4102-12: 1998-11 corresponding to „Verwaltungsvorschrift Technische Baubestimmungen NRW (VV TB NRW)” (*administrative regulations Technical Building Regulations NRW (VV TB NRW)*), section C4, serial number C.4.9

Client:

OBO Bettermann Produktion Deutschland GmbH & Co. KG
Hüingser Ring 52
58710 Menden

Date of issue:

18.08.2023

Period of validity:

23.08.2023

Period of validity until:

22.08.2028

Based on this „allgemeines bauaufsichtliches Prüfzeugnis“, the above-mentioned product is applicable within the meaning of the „Landesbauordnung“ (*state building regulations*).

This „allgemeines bauaufsichtliches Prüfzeugnis“ has 9 Pages and 8 annexes.

1 Subject and field of application

1.1 Subject

1.1.1

The „allgemeines bauaufsichtliches Prüfzeugnis“ is applicable for manufacturing and the use of the cable system with integrated functional maintenance as type of construction. The cable system with integrated functional maintenance ensures classification into functional integrity classes „E30“, „E60“ and „E90“ according to DIN 4102-12 (Edition 11-1998) depending on the cable types.

1.1.2

The cable system with integrated functional maintenance must consist of cable types according to clause 3.1 and of a cable supporting system according to clause 3.2.

Table 1: Classification of cable types on cable supporting constructions on ceilings according to DIN 4102-12

Installation method			
<p>1 Ceiling mounting Mesh cable tray GRM55 200 with centre suspension GMS 170 (a ≤ 1000 mm) (b = 200 mm) (g ≤ 7,5 kg/m)</p> <p>2 Ceiling mounting Mesh cable tray GRM55 200 with centre suspension GMS 170 (a ≤ 1250 mm) (b = 200 mm) (g ≤ 7,5 kg/m)</p>			
Cable construction type:	Installation method no.	Dimension:	Classification:
Designation acc. to specifications of the manufacturer EUPEN EUCASAFE		Number of wires x cross section [n x mm ²] or number of wires x 2 x diameter [n x 2 mm]	Acc. to DIN 4102-12 1998-11
(N)HXH... FE180 E30 VDE 0266 VDE Reg. No. 8512 and 7581	1	n x 1,5 - 25	E30
	1	n x 1,5 - 25	E60
(N)HXCH... FE180 E30 VDE 0266 VDE Reg. No. 8512 and 7581	2	n x 1,5/1,5 – 25/16	E30
(N)HXH... FE180 E90 VDE 0266 VDE Reg. No. 8566 and 8513	1	n x 1,5 - 25	E30
	1	n x 1,5 - 25	E60
	2	n x 25	E60
	1	n x 1,5	E90
(N)HXCH... FE180 E90 VDE 0266 VDE Reg. No. 8566 and 8513	1	n x 1,5/1,5 – 25/16	E30
	1	n x 1,5/1,5 – 25/16	E60
	1	n x 1,5/1,5 – 25/16	E90
	2	n x 25/16	E90
JE-H(St)H... FE180 E30 VDE Reg. No. 7510	2	n x 2 x 0,8	E30

Table 1 (continued)

Installation method			
<p>1 Ceiling mounting Mesh cable tray GRM55 200 with centre suspension GMS 170 (a ≤ 1000 mm) (b = 200 mm) (g ≤ 7,5 kg/m)</p> <p>2 Ceiling mounting Mesh cable tray GRM55 200 with centre suspension GMS 170 (a ≤ 1250 mm) (b = 200 mm) (g ≤ 7,5 kg/m)</p>			
Cable construction type:	Installation method no.:	Dimension:	Classification:
Designation acc. to specifications of the manufacturer Dätwyler Pyrofil Keram		Number of wires x cross section [n x mm ²] or number of wires x 2 x diameter [n x 2 mm]	Acc. to DIN 4102-12 1998-11
(N)HXH... FE180 E30-E60 VDE Reg. No. 7780	2	n x 1,5 - 25	E30
(N)HXCH... FE180 E30-E60 VDE Reg. No. 7780	1	n x 6/6 – 25/16	E30
	1	n x 6/6	E60
(N)HXH... FE180 E90 VDE Reg. No. 7780	1	n x 1,5 - 25	E30
	1	n x 1,5 - 25	E60
	1	n x 1,5	E90
(N)HXCH... FE180 E90 VDE Reg. No. 7780	1	n x 1,5/1,5 – 25/16	E30
	1	n x 1,5/1,5 – 25/16	E60
	1	n x 1,5/1,5 – 25/16	E90
JE-H(St)HRH... FE180 E30-E90 VDE Reg. No. 9361	1	n x 2 x 0,8	E30

Table 1 (continued)

Installation method			
1 Ceiling mounting Mesh cable tray GRM55 200 with centre suspension GMS 170 (a ≤ 1000 mm) (b = 200 mm) (g ≤ 7,5 kg/m)			
2 Ceiling mounting Mesh cable tray GRM55 200 with centre suspension GMS 170 (a ≤ 1250 mm) (b = 200 mm) (g ≤ 7,5 kg/m)			
Cable construction type:	Installation method no.:	Dimension:	Classification:
Designation acc. to specifications of the manufacturer Studer BETAflam		Number of wires x cross section [n x mm ²] or number of wires x 2 x diameter [n x 2 mm]	Acc. to DIN 4102-12 1998-11
(N)HXH... FE180 / E30-E60 S VDE Reg. No. 8849	1	n x 1,5 - 16	E30
(N)HXH... FE180 / E30-E60 VDE Reg. Nr. 9803	1	n x 16 - 25	E30
(N)HXCH... FE180 / E30-E60 VDE Reg. No. 9803	1	n x 1,5/1,5 – 25/16	E30
(N)HXH... FE180 / E90 VDE Reg. No. 9803	1	n x 1,5 - 25	E30
	1	n x 1,5	E60
(N)HXCH... FE180 / E90 VDE Reg. No. 9803	1	n x 1,5/1,5 -25/16	E30
	1	n x 25/16	E60
JE-H(St)H... FE180 / E30 S VDE Reg. No. 8619	1	n x 2 x 0,8	E30
JE-H(St)H... FE180 / E30-E90 VDE Reg. No. 9593	2	n x 2 x 0,8	E30
JE-H(St)HRH... FE180 / E30-E90 VDE Reg. No. 8238	2	n x 2 x 0,8	E30

2.1 Field of application

2.1.1

The field of application is limited to cables with nominal voltages ≤ 1 kV. When dimensioning cable systems with integrated functional maintenance, possible functional impairment of the cables due to thermally caused increases in resistance must be taken into account.

2.1.2

A combination of different types of installation is permitted as long as they are of the same functional integrity classes.

2.1.3

If further requirements are made, these must be proven separately.

3 Provisions for the design

The cable system must be designed in accordance with the following detailed information.

3.1 Cable supporting constructions

Only cable types in accordance with table 1 with a valid VDE approval may be used. The details of the structural design are deposited in the files of the MPA NRW.

3.2 Cable supporting constructions

The cable supporting construction must consist of steel (S235, see explanations in table 1 and in the annex). The cable supporting constructions or clamps may be coated with plastics or fire protection paint up to a layer thickness of 1.5 mm.

3.2.1

Paint coatings and paint varnishes with standard layer thicknesses of up to 150 μm are permitted.

The following boundary conditions must be observed:

Components subjected to tension must be dimensioned in such a way that their calculated tensile stress is not greater than 9 N/mm² (classifications "E30" and "E60") or not greater than 6 N/mm² (classification "E90") in accordance with table 109 of DIN 4102-4:1994-03.

Dowels must correspond to the specifications of valid "allgemeine bauaufsichtliche Zulassungen" (*general building approvals*) from Deutsches Institut für Bautechnik, Berlin, and must also be installed twice as deep as stated in the "Zulassungsbescheid" (*approval notice*) - but at least 6 cm deep - unless the "allgemeine bauaufsichtliche Zulassung" states otherwise. The calculated tensile load per dowel must not exceed 500 N, see DIN 4102-4:1994-03, section 8.5.7.5.

Alternatively, dowels may be used whose fire protection suitability has been proven with a "allgemeinen bauaufsichtlichen Zulassung", an "Europäischen technischen Zulassung (ETZ)" or assessment or an "allgemeines bauaufsichtliches Prüfzeugnis". They must be installed in accordance with the specifications in the "allgemeinen bauaufsichtlichen Zulassung" or in the "allgemeines bauaufsichtliches Prüfzeugnis"..

This "allgemeines bauaufsichtliches Prüfzeugnis" is only valid, when

- the cables or lines are designed without connecting elements,
- it is ensured that the cable systems with integrated functional maintenance are not negatively influenced in their functional integrity class by surrounding components.

3.3 Labelling

3.3.1 Cable types

The cable must be marked in accordance with VDE regulations.

Every cable system must be permanently marked with a sign or sticker which has to be attached to the cable supporting construction. The labelling must contain the following information:

- Name of the entrepreneur who created the cable system with integrated functional maintenance,
- Cable system with integrated functional maintenance, „E..." acc. to DIN 4102-12:1998-11,
- „Allgemeines bauaufsichtliches Prüfzeugnis“ No. P-MPA-E-18-004 dated 18.08.2023, MPA Erwitte,
- Owner of the "allgemeines bauaufsichtliches Prüfzeugnis" OBO Bettermann Produktion Deutschland GmbH & Co. KG, Hüingser Ring 52, 58710 Menden and
- Year of manufacture.

4 Proof of compliance

The construction type listed in this "allgemeines bauaufsichtliches Prüfzeugnis" requires a proof of conformity (proof of conformity) in accordance with the requirements of the "Verwaltungsvorschrift Technische Baubestimmungen NRW (VV TB NRW)" (*administrative regulations Technical Building Regulations NRW (VV TB NRW)*), Edition July 2022, section C4, serial number C.4.9. A declaration of conformity must then be made by the manufacturer (entrepreneur).

The entrepreneur who manufactures the cable system must provide the client with a written declaration of conformity certifying that the cable system he has installed complies with the provisions of this "allgemeines bauaufsichtliches Prüfzeugnis".

5 Legal basis

This "allgemeines bauaufsichtliches Prüfzeugnis" is issued based on Section 17 III of the "Bauordnung für das Land Nordrhein-Westfalen" (*building regulations for the state of North Rhine-Westphalia*) (BauO NW) dated 21.07.2018, last changed on 24.09.2021, in conjunction

with the “Verwaltungsvorschrift Technische Baubestimmungen NRW (VV TB NRW)” (*administrative regulation Technical Building Regulations NRW (VV TB NRW)*), July edition 2022, Section C4, serial No.C.4.9. The corresponding legal bases are contained in the “Landesbauordnungen der übrigen Bundesländer” (*state building regulations of the other federal states*).

6 Legal appeal

A legal action against this decision can be filed within one month of its announcement with the Gelsenkirchen Administrative Court, Bahnhofsvorplatz 3, 45879 Gelsenkirchen in writing or in writing by the clerk of the office of this court. The complaint must name the plaintiff, the defendant and the subject of the claim. It shall contain a specific request. The facts and evidence supporting the claim shall be stated, and the original or a copy of the contested order shall be attached. Copies for the other parties shall be attached to the application and to all other pleadings.

7 General information

The “allgemeines bauaufsichtliches Prüfzeugnis” proves the usability of the construction product/applicability of the construction type in accordance with the “Landesbauordnungen” (*state building regulations*).

The “allgemeines bauaufsichtliches Prüfzeugnis” does not replace the permits, approvals and certificates required by law for the implementation of construction projects.

The “allgemeines bauaufsichtliches Prüfzeugnis” is issued without prejudice to the rights of third parties, in particular private property rights.

Without prejudice to further regulations in the “Special Provisions”, manufacturers and distributors of the building product/ construction type must provide the user of the building product / construction type with copies of the “allgemeines bauaufsichtliches Prüfzeugnis” and point out that the “allgemeines bauaufsichtliches Prüfzeugnis” must be available at the point of use. Upon request, copies of the “allgemeines bauaufsichtliches Prüfzeugnis” must be made available to the authorities involved

The “allgemeines bauaufsichtliches Prüfzeugnis” may only be reproduced in its entirety. Publication in extracts requires the consent of the testing body. Texts and drawings of promotional literature must not contradict the “allgemeines bauaufsichtliches Prüfzeugnis”. Translations of the “allgemeines bauaufsichtliches Prüfzeugnis” must contain the note “Translation of the original German version not examined by the Materialprüfungsamt NRW”.

The “allgemeines bauaufsichtliches Prüfzeugnis” is issued revocably. The provisions of the “allgemeines bauaufsichtliches Prüfzeugnis” can be subsequently supplemented and changed, especially if technical findings require this.

The test reports on which this “allgemeines bauaufsichtliches Prüfzeugnis” is based have been named by the client.

Translation of the original German version not examined by the Materialprüfungsamt NRW.

This text version of the “allgemeines bauaufsichtliches Prüfzeugnis“ is only an English translation of the German version. This translation is only for a better understanding.

Date of issue of this English translation: 04/12/2023

Erwitte, 18.08.2023
On behalf

Friedrichs
(Deputy Head of fire resistance laboratory)

Diekmann

Sample for

Declaration of Compliance

- Name and address of the company that designed the cable system with integrated functional maintenance
- Construction site or building:
- Date of production:
- Required functional integrity class of the cable system (s) with integrated functional maintenance: „E ...“

It is hereby confirmed that the cable system (s) with integrated functional maintenance of the functional integrity class "E ..." was installed professionally with regard to all details and in compliance with all provisions of the „allgemeines bauaufsichtliches Prüfzeugnis“ of MPA NRW No. P-MPA-E-18-004 dated 18.08.2023 was installed.

For construction products or individual parts (e.g. cable types) not manufactured by the signatory himself, this is also hereby confirmed because of

- the existing marking of the parts in accordance with the provisions of the „allgemeines bauaufsichtliches Prüfzeugnis“ *)
- own controls *)
- corresponding written confirmations from the manufacturers of the construction products or parts, which the signatory has kept on file *)

Place, date

Stamp and signature

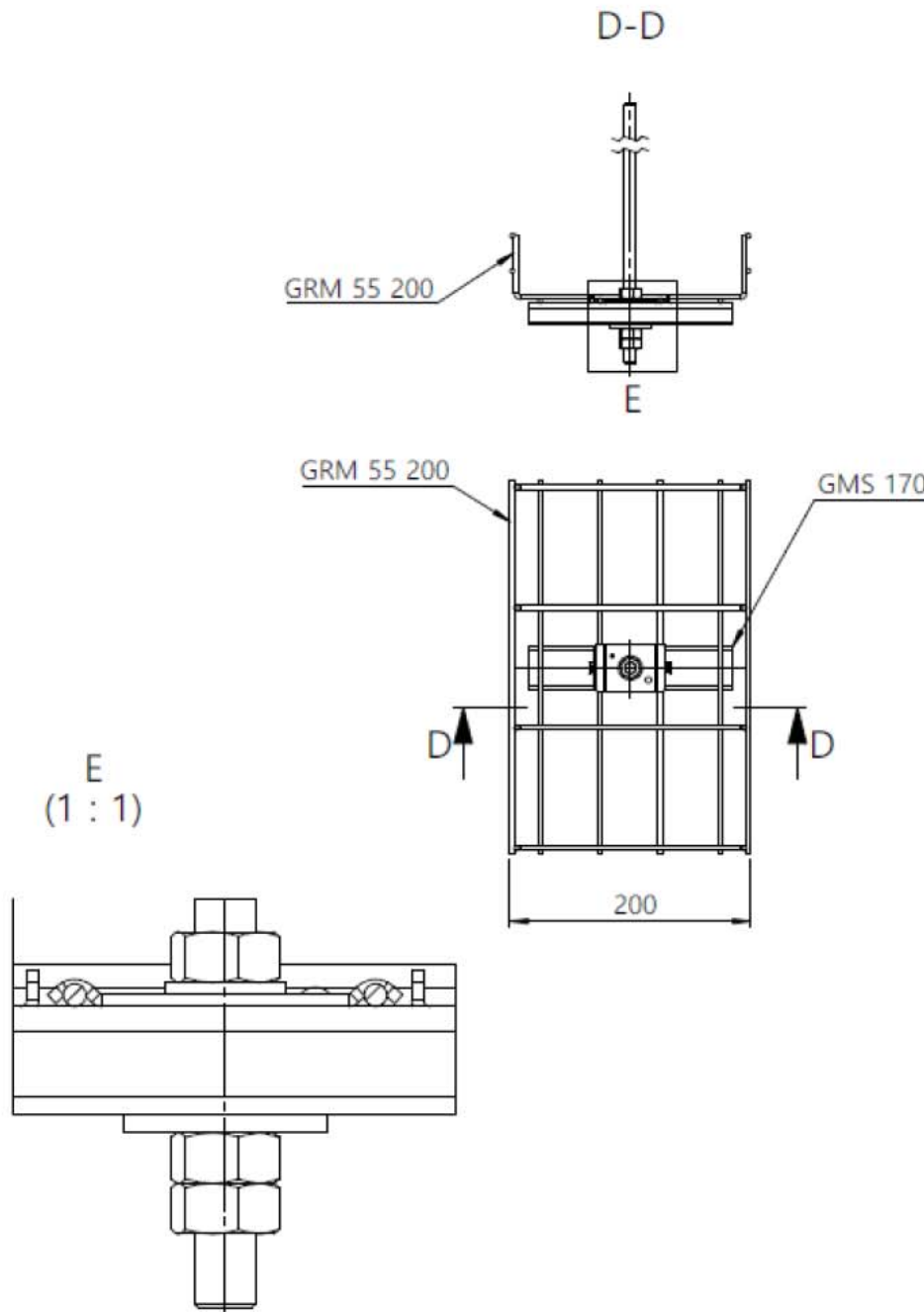
(This certificate must be handed over to the building owner to be passed on to the responsible „Bauaufsichtsbehörde“ (building control authority).

*) cross out what does not apply



Mesh cable tray GRM

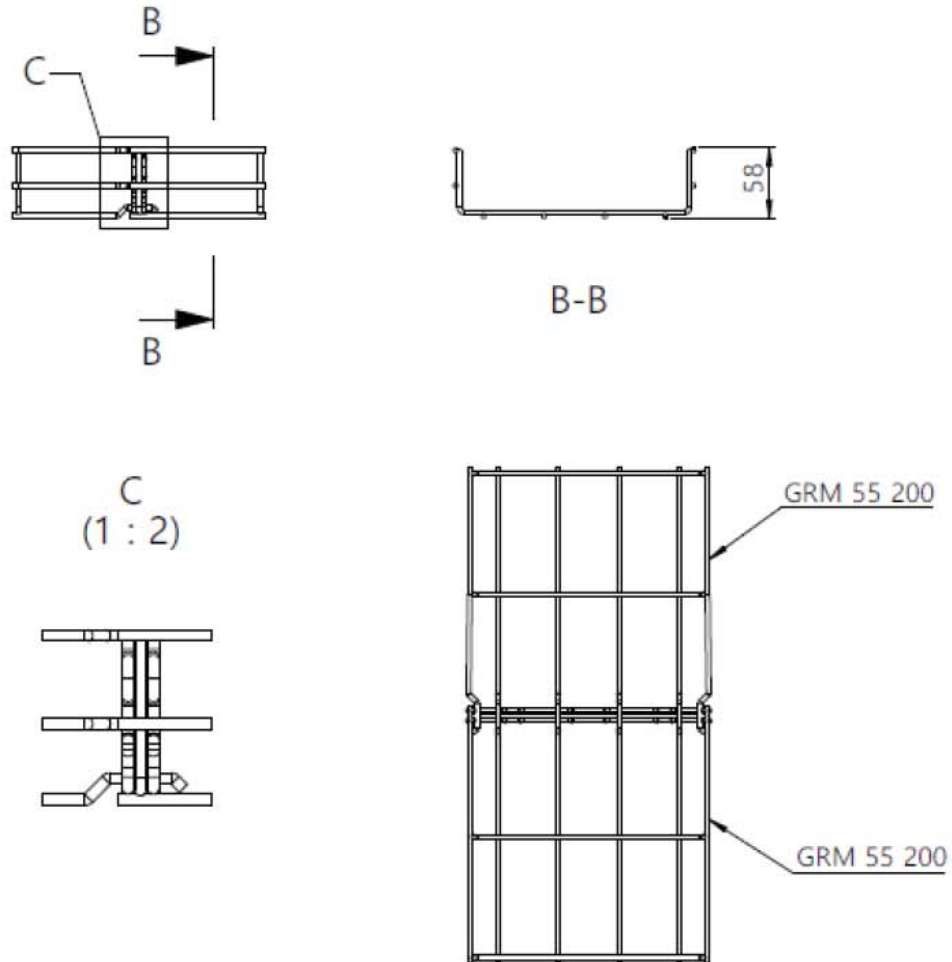
Ceiling mounting with centre suspension GMS 170





Mesh cable tray GRM

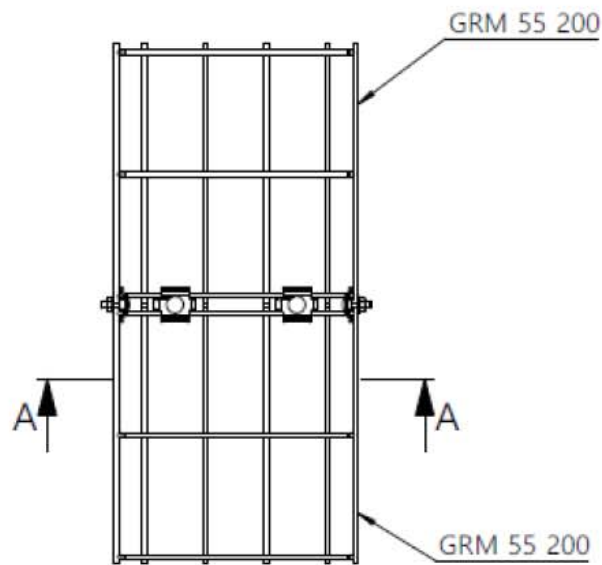
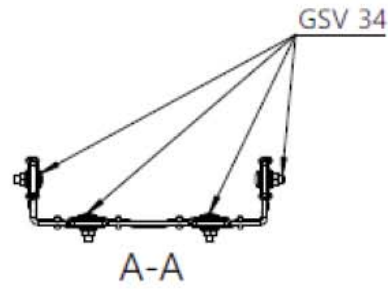
Joint connection as a screwless plug-in connection





Mesh cable tray GRM

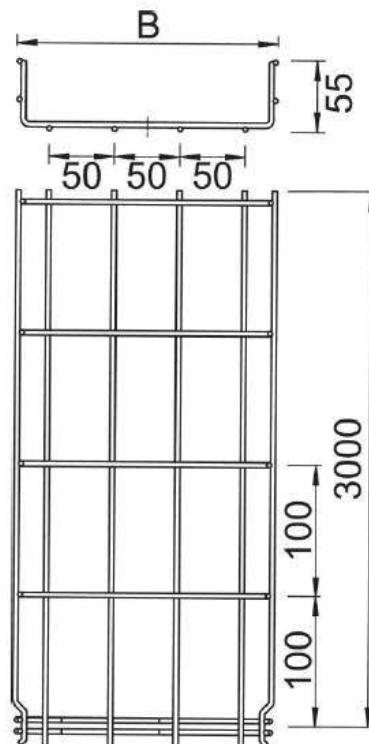
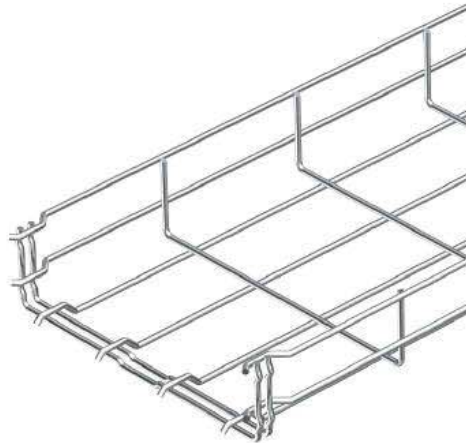
Joint connection with screw connector GSV 34





Mesh cable tray GRM

Mesh cable tray type GRM 55 200

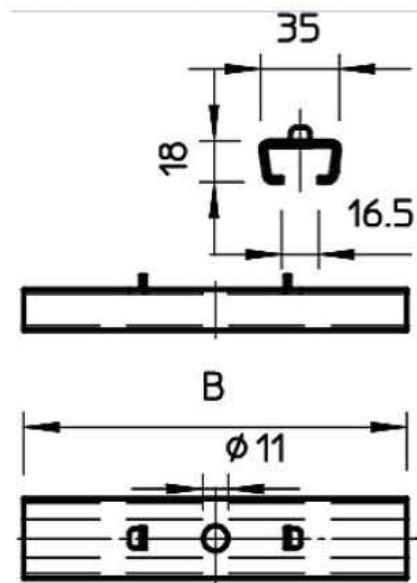


Dimension B:	200 mm
Diameter longitudinal wire:	3,9 mm
Diameter cross wire:	3,9 mm

Mesh cable tray GRM



Centre suspension type GMS 170



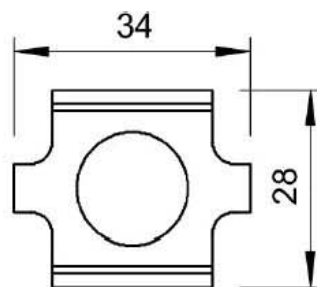
Dimension B:

170 mm

Mesh cable tray GRM



Joint connector type GSV 43



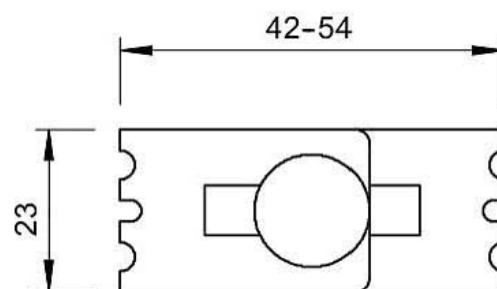
Truss-head bolt:

M6 x 20 with combined nut M6

Mesh cable tray GRM



Corner connector type GEV 36



Truss-head bolt: M6 x 20 with combined nut M6

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Building Connections

