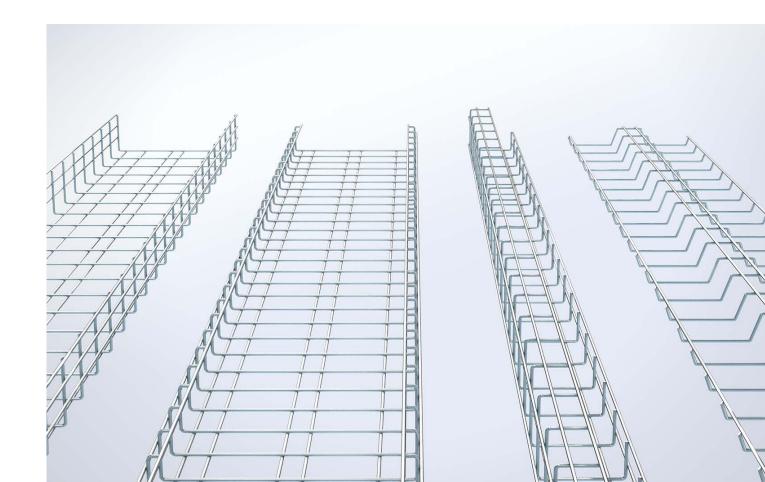




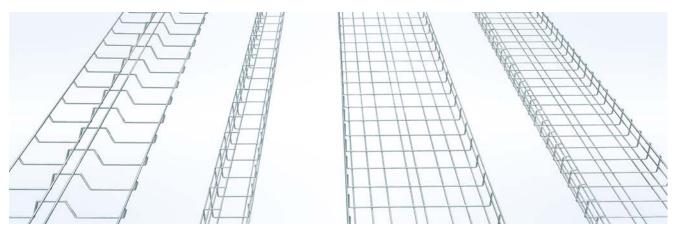
# Mesh cable trays

Assembly instruction





### **General notes**



The support systems for mesh cable trays are to be planned according to engineering standards. The permissible torque must be observed for all screw connections.



Cutting and separating work
Carry out cutting and separating work
with the utmost care and in compliance
with occupational health and safety
regulations. Ex. fig. mesh cable tray
cover GD 50-06



Galvanising
All cut and separation points are to be galvanised on site with cold zinc paint (KZF)\* or cold zinc spray (KZS)\* after deburring.



A legend of the symbols and an index can be found on page 3.

### Selection of screw tightening torques (recommended)

Bolt diameter	Strength class Screw (DIN 267 Part 3)	Strength class Nut (DIN 267 Part 4)	Screw tightening torque acc. to VDI 2230 (Nm)
M6	4.6	5	4
M8	4.6	5	8
M6	8.8	8	14
M8	8.8	8	34

### Legend

#### **Symbols**



Wear safety goggles



Wear hearing protection



Observe tightening torque for fastening elements

#### Index

#### Mesh cable trays

G 50 U-shaped mesh cable tray, height = 53 mm
G 100 U-shaped mesh cable tray, height = 103 mm
Gl C-shaped mesh cable tray, height = 60 mm

GTDW G-shaped mesh cable tray GTD 30 W-shaped mesh cable tray

#### Covers

GD Mesh cable tray cover

GDR Mesh cable tray cover with turning bolts

GID Mesh cable tray cover

GIDR Mesh cable tray cover with turning bolts

GD-SW Storm protection angle GID-SW Storm protection angle

#### Accessories

MP-G Assembly plate MP-G90 Assembly plate 90°

GVR Mesh cable tray snap-in connector

GV 30 Mesh cable tray connector GVD 30 Mesh cable tray connector GV-L 30 Mesh cable tray connector

GVU Mesh cable tray connector, universal GVK Mesh cable tray connector clamp

GTR 50 Mesh cable tray separating strip, height = 33 mm
GTR 60 Mesh cable tray separating strip, height = 50 mm
GTR 100 Mesh cable tray separating strip, height = 80 mm

GKAB Drop-out plate

KLUGS Clamp mounting universal, welded, vertical KLUGW Clamp mounting universal, welded, horizontal

MKDL Lug

GBH 30 Spacer bar for mesh cable tray detent

dimension 30

GBH 50 Spacer bar for mesh cable tray detent

dimension 50

KZF Cold zinc paintKZS Cold zinc sprayBBS Bolt flush cutter 40°

#### Fastening accessories

FRS 8x25 Round-head screw with square, DIN 603 FRSV 8x16 Round-head screw with short square, DIN 603

GH 6x24 Fastening hook
KLS 8x25 Clamp fastening set

SAZ Anchor SAZ-D Anchor

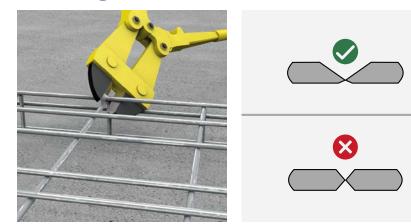
SD 8/10 Expansion anchor SEM 8 Hexagon-nut, DIN 934

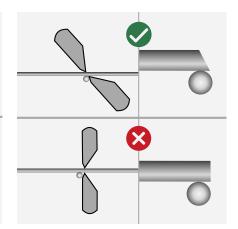
SEMSS 6 Hexagon-nut, self-locking, DIN 985

SES 6x20 Hexagon head bolt, DIN 933 SES 8x20 Hexagon head bolt, DIN 933 SES 8x20 Hexagon head bolt, DIN 933 SES 8x25 Hexagon head bolt, DIN 933 SES 8x35 Hexagon head bolt, DIN 933

US 8x17 Washer, DIN 125 US 8x25 Washer, DIN 9021 VM Rod coupling

## **Cutting work**





**Bolt flush cutter** 

Create the required mesh cut-outs using a bolt flush cutter 40° (BBS)\*.



The top illustration shows a U-shaped mesh cable tray G 50-40 assembled for a bend installation. Except for the lateral wires (G 50 = 2 pieces/G 100 = 3 pieces), all wire braces must be removed.

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.

### Mesh cable tray connectors



GV 30 for mesh cable tray G 50/G 100 Place one GV 50/GV 100 with connector GV 30\* from the inside onto the other GV 50/GV 100 and screw them with a round-head screw (FRSV 8x16).



GV 30 for mesh cable tray GI Place one GI with connector GV 30\* from the inside onto the other GI and screw them together with a round-head screw (FRSV 8x16).



**GVD 30 for mesh cable tray GTD 30**Place one GTD 30 with connector GVD 30\* from above on the other GTD 30 and screw them together with a round-head screw (FRS 8x25).

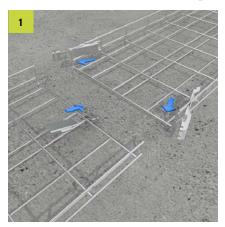


**GV 30 for mesh cable tray GTDW**Place one GTDW with connector GV 30\* from the inside onto the other GTDW and screw them together with a roundhead screw (FRSV 8x16).

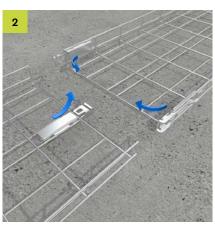
Type of mesh cable tray	Width of mesh cable tray [mm]		Nu	mber of connectors
		Side	Тор	Bottom
G 50/G 100	100, 200 300, 400 500, 600	2x GV 30 2x GV 30 2x GV 30	-	1x GV 30 2x GV 30 3x GV 30
GI	60 120 200 300	2x GV 30 2x GV 30 2x GV 30 2x GV 30	-	1x GV 30 1x GV 30 1x GV 30 2x GV 30
GTD 30	300	+	2x GVD 30	-
GTDW	80 - 130	1x GV 30	1x GV 30	-

<sup>\*</sup> The item mentioned is not included in the scope of delivery and must be ordered separately.

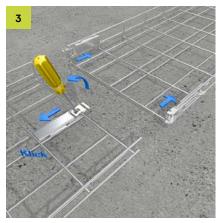
## Mesh cable tray connectors



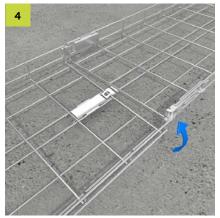
Insert connectors from the inside between the longitudinal wires. Mount bottom connector on opposite mesh cable tray.



Turn in.



Engage with slotted screwdriver and lock the bending tab (from inside or outside).



Position the cross wire in the guide on one side and snap it into place from the bottom opposite the beam.



Snap in.

Type of mesh cable tray	Width of mesh cable tray [mm]	Wire diameter [mm]	Snap-in connector		lumber of onnectors
				Side	Bottom
G 50	100, 200, 300	4,0	GVR 4.0	2	1
G 100	100,200	4,0	GVR 4.0	2	1



### Horizontal changes of direction





Width of mesh cable tray [mm]	Number GV 30 for side	Number GVD 30 for bottom
100, 200	2x	2x
300, 400	2x	4x
500, 600	2x	6x

Mesh cable tray branch at corners for U-shaped mesh cable trays G 50/G 100 Remove the wire braces corresponding to the illustration for the mesh cable trays with bolt flush cutter (BBS)\*. Slide the G 50's/G 100's over each other and screw them together with connectors (GV 30 and GVD 30)\* and round-head screws (FRSV 8x16 and FRS 8x25).





Width of mesh cable tray [mm]	Number GV 30 for side	Number GVD 30 for bottom
100, 200	2x	1x
300, 400	2x	2x
500, 600	2x	3x

Standard mesh cable tray branch for U-shaped mesh cable trays G 50/G 100 Remove the wire braces corresponding to the illustration for the mesh cable trays with bolt flush cutter (BBS)\*. Join the G 50's/G 100's, screw the connectors (GV 30 and GVD 30)\* from the inside onto the mesh cable trays with round-head screws (FRSV 8x16 and FRS 8x25).





Sides: Screw the mesh panel universal connector (GVU)\* from the outside onto the mesh panels with the clamping piece (GVK)\* and clamping screw (FRS 6x20).

Number

for side

2x/4x

2x/4x

mesh cable GVU/GVK

Number GV 30

1x

2x

for bottom

Width of

tray [mm]

100, 200

300, 400

Mesh cable tray branch with radius for U-shaped mesh cable trays G 50/G 100 Remove the wire braces corresponding to the illustration for the mesh cable trays with bolt flush cutter (BBS)\*. Join the G 50's/G 100's. Bottom: Screw the connectors (GV 30)\* from the inside onto the mesh cable trays with round-head screws (FRSV 8x16).

<sup>\*</sup> The item mentioned is not included in the scope of delivery and must be ordered separately.

### Horizontal changes of direction





Width of mesh cable tray [mm]	Number GV 30 for side	Number GVD 30 for bottom
60	2x	1x
120	2x	1x
200	2x	1x
300	2x	2x

#### Standard mesh cable tray branch for C-shaped mesh cable tray GI

Remove the wire braces as shown in the illustration for the mesh cable trays using a bolt flush cutter (BBS)\*. Join the GI's, screw the connectors (GV 30 and GVD 30)\* from the inside onto the mesh cable trays with round-head screws (FRSV 8x16 and FRS 8x25).





Width of mesh cable tray [mm]	Number GVD 30 for side	Number GV 30 for bottom
60	2x	1x
120	2x	1x
200	2x	1x
300	2x	2x

#### Mesh cable tray branch with radius for C-shaped mesh cable tray GI

Remove the wire braces as shown in the illustration for the mesh cable trays using a bolt flush cutter (BBS)\*. Join the Gl's, screw the connectors (GV 30 and GVD 30)\* from the inside onto the mesh cable trays with round-head screws (FRSV 8x16 and FRS 8x25).

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.

## Horizontal changes of direction





Width of mesh	Number GV 30
cablte tray [mm]	for side
80 - 130	2x

#### Standard branch for G-shaped mesh cable tray GTDW

Remove the wire braces as shown in the illustration for the mesh cable trays using a bolt flush cutter (BBS)\*. Assemble the GTDW's, screw the connectors (GV 30)\* from the inside onto the mesh cable trays using round-head screws with short square (FRSV 8x16).

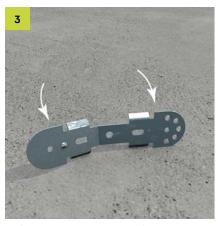
<sup>\*</sup> The item mentioned is not included in the scope of delivery and must be ordered separately.



Position the mesh cable tray and fix it in place using the mesh cable connector (GV 30)\*.



First mount all connectors (GV 30)\* before screwing the first universal connector (GVU)\*.



Adjust the GVU\* to determine the angle of the mesh cable tray.



Fit the clamping piece for the GVK\* into the slots of the GVU\*.



Make sure that the curved sides of the  $\mbox{GVU}^{\star}$  face inwards.

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.



U-shaped mesh cable tray G 50-06



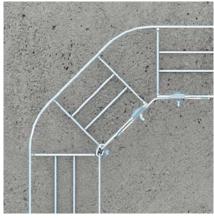
Cutting work to create: 2 mesh cutouts Inner radius: 130 mm



Required accessories 2x GVU\*; 3x GVK\*



U-shaped mesh cable tray G 50-10/G 100-10



**Cutting work** to create: 2 mesh cutouts Inner radius: 90 mm



Required accessories 1x GV 30\*; 1x GVU\*; 2x GVK\*



U-shaped mesh cable tray G 50-20/G 100-20



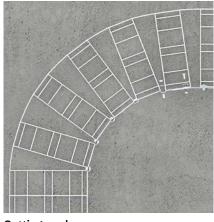
Cutting work to create: 4 mesh cutouts Inner radius: 250 mm



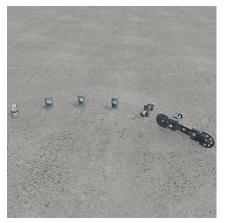
Required accessories 3x GV 30\*; 1x GVU\*; 2x GVK\*



U-shaped mesh cable tray G 50-30/G 100-30



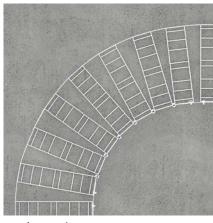
Cutting work to create: 6 mesh cutouts Inner radius: 390 mm



Required accessories 5x GV 30\*; 1x GVU\*; 2x GVK\*



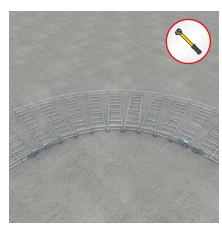
U-shaped mesh cable tray G 50-40/G 100-40



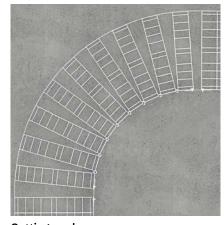
**Cutting work** to create: 8 mesh cutouts Inner radius: 550 mm



Required accessories 6x GV 30\*; 2x GVU\*; 4x GVK\*



U-shaped mesh cable tray G 50-50/G 100-50



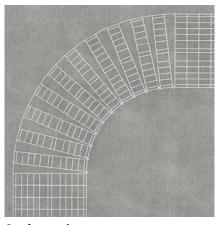
**Cutting work** to create: 10 mesh cutouts Inner radius: 700 mm



Required accessories 8x GV 30\*; 2x GVU\*; 4x GVK\*



U-shaped mesh cablte tray G 50-60/G 100-60



Cutting work to create: 11 mesh cutouts Inner radius: 740 mm



Required accessories 11x GV 30\*

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.

### Vertical changes of direction





Vertical changes of direction with universal mesh cable tray connector GVU Push the GVU\* from the outside onto the beam and screw it with the connector clamp (GVK)\* and hexagon head bolt (SES 6x20) and self-locking hexagon-nut (SEMSS 6) (adjust the angle before finally screwing).







Optional: Connection of inside/outside riser with mesh cable tray connector

Remove the wire braces as shown in the illustration for the mesh cable trays using a bolt flush cutter (BBS)\*. Optional for inside/outside riser (G 50/G 100/GI): Screw the connectors (GV 30 and GVD 30)\* from the inside onto the mesh cable trays with round-head screws (FRSV 8x16 and FRS 8x25).

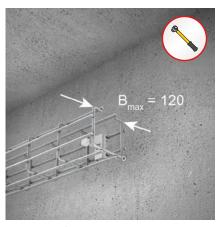
### Mesh cable tray G 50/G100 Mesh cable tray GI

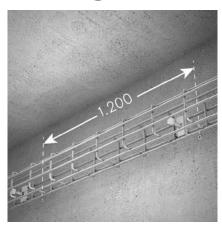
Width of mesh cable tray [mm]	Number GV 30 for side	Number GVD 30 for bottom
100, 200	2x	1x
300, 400	2x	2x
500, 600	2x	3x

Width of mesh cable tray [mm]	Number GV 30 for side	Number GVD 30 for bottom
60	2x	1x
120	2x	1x
200	2x	1x
300	2x	2x

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.

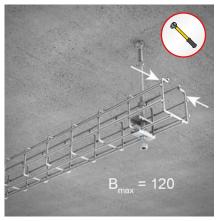
## Wall and ceiling mounting

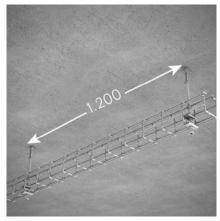




#### Wall mounting

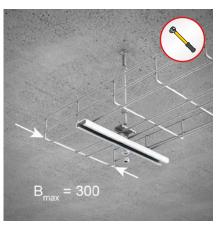
Dowel the mesh cable tray (GI/G 50) with connector (GV-L 30)\*, hexagon head bolt (SES 8x20)\* and anchor (SAZ 8)\* with anchor (SAZ-D 8)\* at a standard support spacing of 1,200 mm to the concrete wall up to max. width 120 mm.

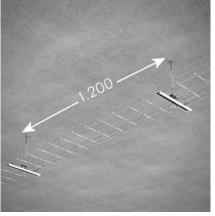




Ceiling mounting with external centre suspension GBAG 10

Dowel the mesh cable tray (GI/G 50) with GBAG  $10^*$ , connector set (GV-L 30, SEM 8, US 8x17), rod coupling (VM M8)\* and expansion anchor (SD 8/10)\* at a standard support spacing of 1,200 mm to concrete ceiling up to max. width 120 mm.



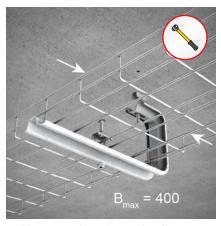


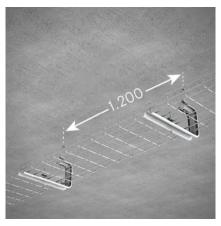
Ceiling mounting with external centre suspension GBAG 20/30

Dowel the mesh cable tray (GI/G 50) with GBAG  $20/30^*$ , connector set (GV-L 30, SEM 8, US 8x25), rod coupling (VM M8)\* and expansion anchor (SD 8/10)\* at a standard support spacing of 1,200 mm to concrete ceiling up to max. width 300 mm.

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.

### Wall and ceiling mounting

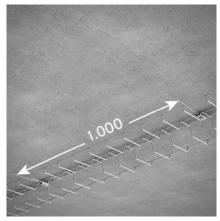




#### Ceiling mounting with ceiling fixed bracket DKSL

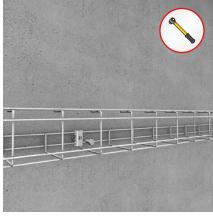
Dowel the DKSL\* to the concrete ceiling at the standard support spacing of 1,200 mm using an anchor (SAZ 8)\* with anchor (SAZ-D 8)\* and hexagon head screw (SES 8x35)\*. Screw mesh cable tray (G50/G 100/GI) with connector (GV-L 30)\* and clamp fastening set (KLS 8x25)\* to DKSL.



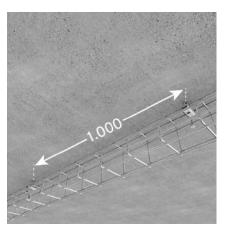


Ceiling mounting with connector GV-L 30 and anchor SAZ

Dowel the W-shaped mesh cable tray (GTD 30) with the connector (GV-L 30)\*, hexagon head bolt (SES 8x20)\* and anchor SAZ 8\* with anchor (SAZ-D 8)\* to concrete ceiling at standard support spacing of 1,000 mm.







Wall and ceiling mounting with connector GV-L 30 and anchor SAZ

Dowel the G-shaped mesh cable tray (GTDW) with connector (GV-L 30)\*, hexagon head bolt (SES 8x20)\* and anchor (SAZ8)\* with anchor (SAZ-D 8)\* to concrete ceiling/wall at standard support spacing of 1,000 mm.

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.

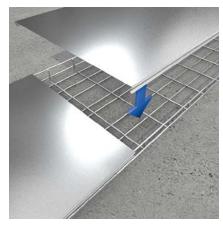
### Additional installations



Mesh cable tray separating strip GTR Fasten the GTR 50/60/100 3 times with the clamp fastening set (KLU) to the mesh cable trays (approx. 100 mm from both divider ends as well as centrally).



Assembly plate MP-G Screw the MP-G\* for the electrical component to the mesh cable tray beam 1-fold with the connector (GV 30) from the inside.

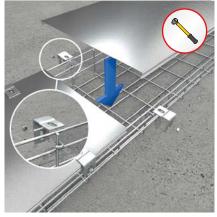


Mesh cable tray cover GD
Place GD\* on the U-shaped mesh cable tray (G 50/G 100) and engage positively on the beams. Only approved for indoor use!



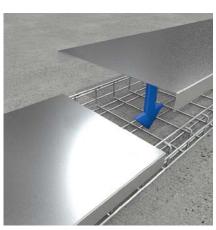
Mesh cable tray cover with turning bolts GDR

GDR\* is mounted in the same way as GD. Tighten the turning bolt until the screw head slot points lengthwise to the mesh cable tray. Only approved for indoor use!



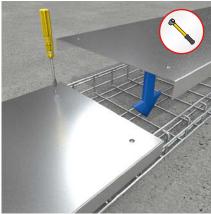
Storm protection angle GD-SW

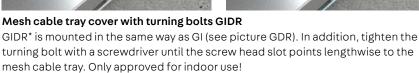
Fix the fastening hook (GH 6x24) according to the detail, place the storm protection angle (GD-SW)\* on the cover from the outside and screw it on with a self-locking hexagon-nut (SEMSS 6). Suitable for outdoor use! 6 pieces/3 metres.



Mesh cable tray cover GID

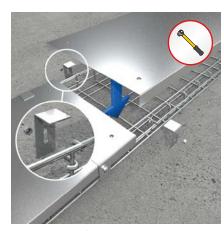
Place GID\* on the C-shaped mesh cable tray (GI). Only approved for indoor use!







### **Additional installations**

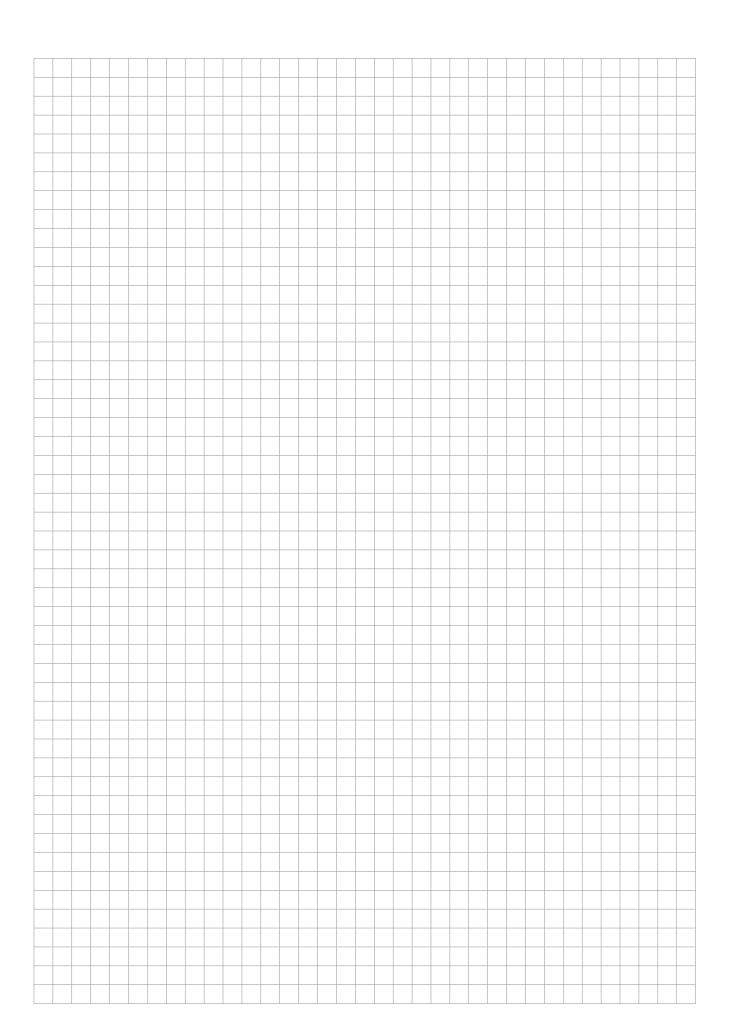




Storm protection angle GID-SW

Fix the fastening hooks (GH 6x24) according to the detail, place the storm protection angle (GID-SW) $^*$  on the cover from the outside and screw it on with a self-locking hexagon-nut (SEMSS 6). Suitable for outdoor use! 6 pieces/3 metres.

 $<sup>^{\</sup>ast}$  The item mentioned is not included in the scope of delivery and must be ordered separately.



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