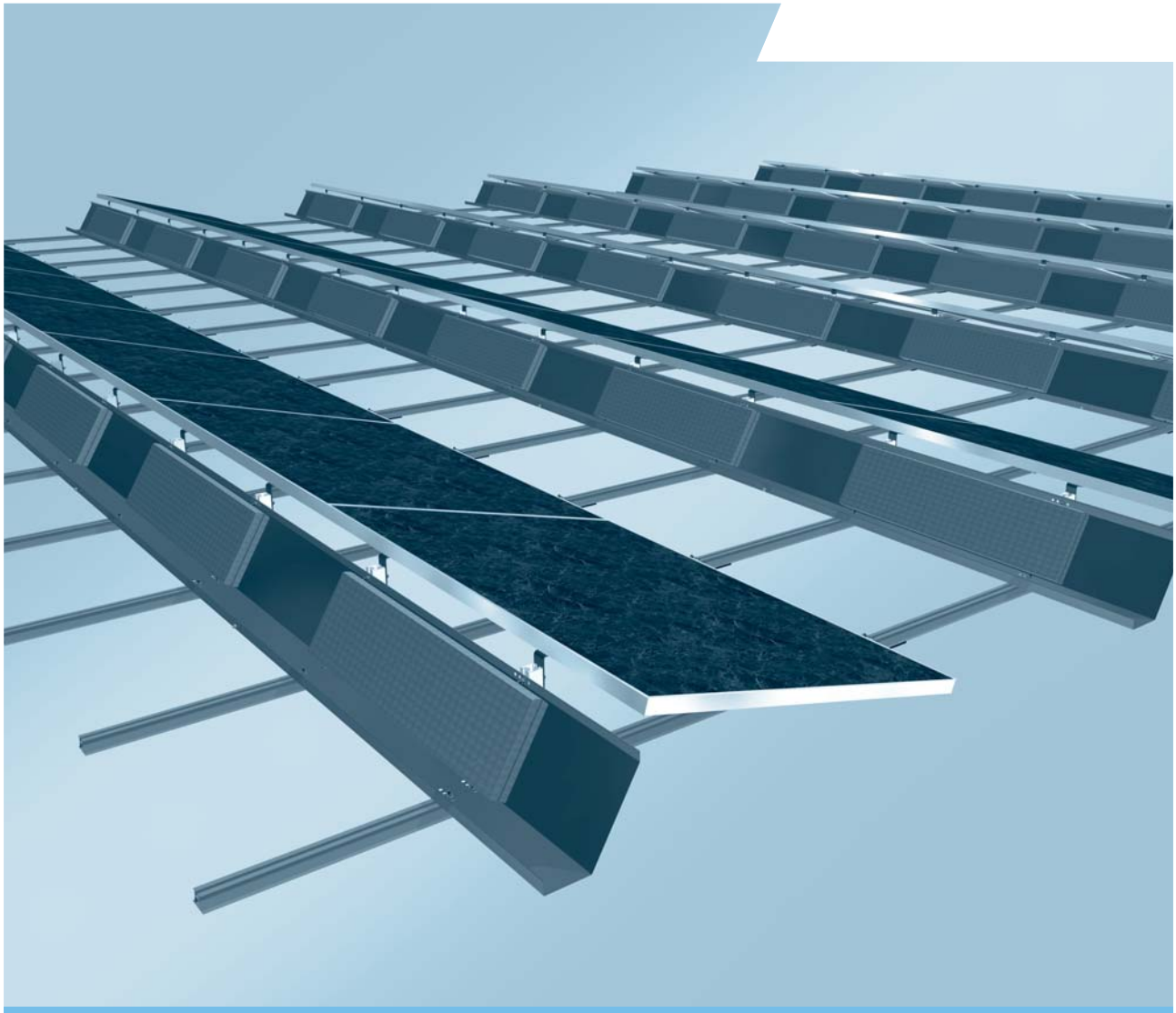
ALTEC Metalltechnik



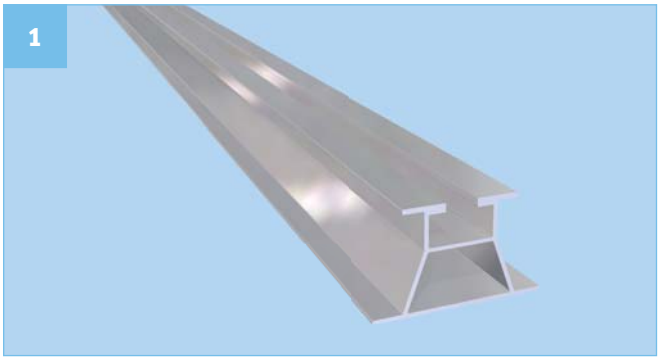
ALTEC *FD_COMPACT_S*

South system with optimized ballast

Assembly instruction

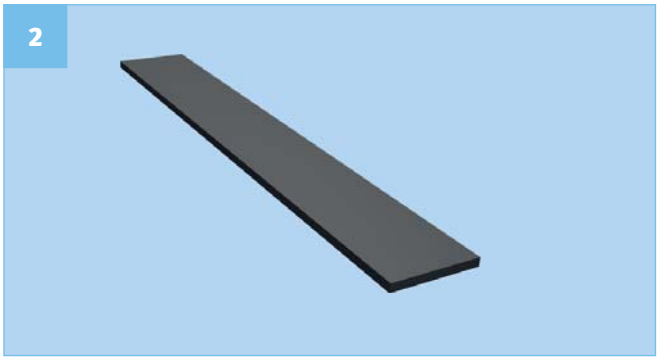
Parts Overview

1



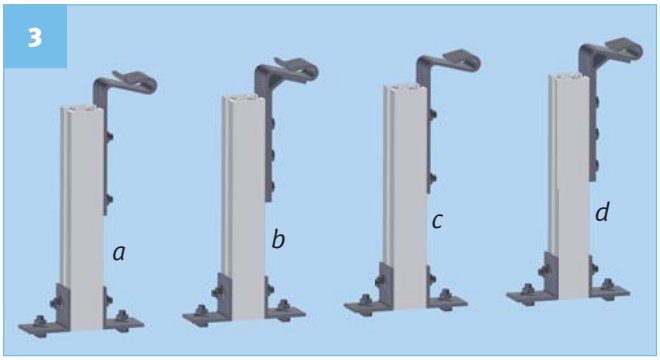
Basic profile 60 × 36
(lengths 6000, 4500, 2995 mm and customization)
according to system sketch

2



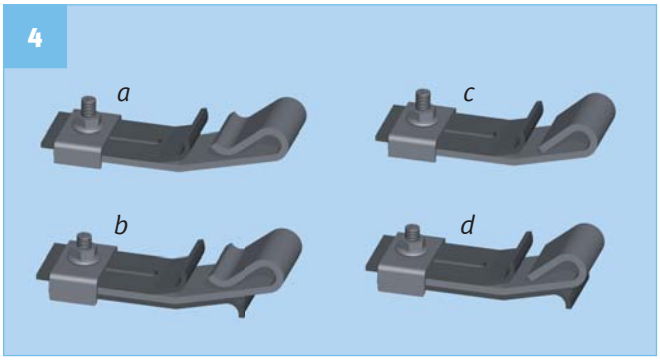
System mat
400 × 120 × 6 mm
quantity according to system sketch

3



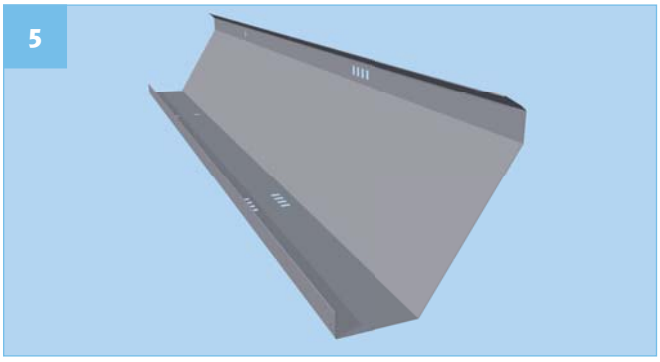
Support 15° South (2 per module), pre-assembled
Var. a) for module frames with wide clamping area
Var. b) as a) and for higher snow loads
Var. c) for module frames with narrow clamping area
Var. d) as c) and for higher snow loads

4



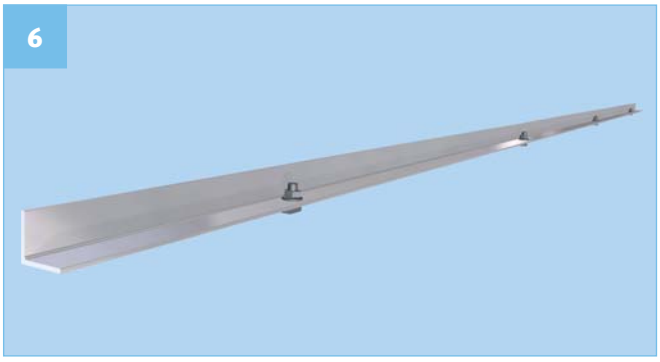
Front module fastener 15° (2 per module)
Var. a) for module frames with wide clamping area
Var. b) as a) and for higher snow loads
Var. c) for module frames with narrow clamping area
Var. d) as c) and for higher snow loads

5



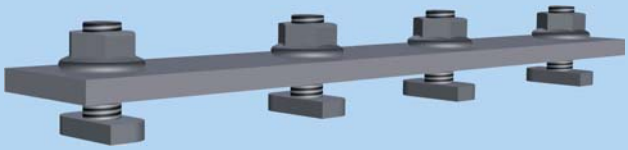
Wind cover (per module)

6



Slot connector (according to system sketch)
Angle 30 × 30 × 3 (Lengths 6000, 4500, 2995 mm and customization), pre-assembled with hammer head screws M8 × 20 and locking nuts, M8

7

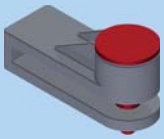


Profile connector (according to system sketch)
A2, 4-hole with hammer-head screw and locking nuts

8

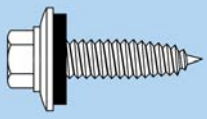
Expansion connector (according to system sketch)
depending on requirements

9



Position lock

10

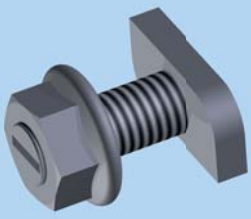


Thin metal screw 6 × 25

11

Protection cap

12



Hammer head screw (set)

Safety instructions

This manual contains important information for safe and proper installation and use of the ballast-optimized flat roof installation. Please follow these information and protection notes in this manual. Keep the general legal rules (accident prevention regulations) as well as the safety instructions. Fence off resp. secure the working area before installation starts, for protection against unauthorized access or accident. Perform installation on safe ground!
If components of this assembly system have to be changed during installation or at a later date, these structural changes must be cleared with the manufacturer. In case of non-compliance the manufacturer is not liable in the event of damage. Damages of any sort which are resulting from interference by the customer are excluded from the guarantee.

Concerning the warranty please note the general terms and conditions of ALTEC Metalltechnik GmbH.
During installation work it is necessary to wear proper protective clothing. You have to ensure that all components listed are available. Place the components in order to installation process. For installation two people are needed at least. It may be necessary to free the surfaces from water, snow or dirt. Please store the components dry before installation starts to avoid stains or other damages. The manufacturer is not responsible for damages caused by improper storage/installation or force majeure. It is absolutely necessary to switch off the power supply before working on electrical components!
We point out that, for necessary removal of roof-related components / PV systems, applicable regulations must be kept. Please instruct a specialized company in this case. Changes to the roof structure and/or roofing, which are caused by the PV system, must be released by the building owner or constructor. This concerns all roof components as well as roof constructions. It must be ensured, that the roof static is able to bear the additional loads of the installed system.
Based on the building documentation it must be ensured, that the roof structure and roofing is suitable for the project. All issued documents are project-related. These are calculated on static and structural aspects individually for each project.
the existing roof covering must be cleaned at least within the area of the basic profiles of pollution (algae, moss, mud, etc.). Optionally we can offer membrane roof cleaner. Without a pre-cleaned roofing ALTEC Metalltechnik GmbH cannot provide any warranty.

Tools for installation:

- Measuring equipment: laser or measuring tape
- Screwdriver or ratchet with a 13 mm socket for the nuts on the head bolts
- Installation aid (optional)
- Roofing film cleanser (optional)

Assembly instruction *Positioning system mats*

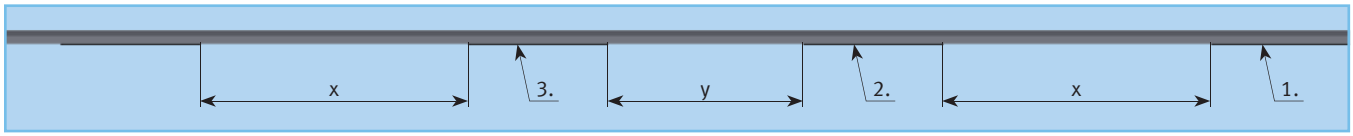
System mat 2 has to be placed under the load point of the base profile 60 × 36 1 (under front and rear module fastener), with aluminum side on the roof skin. The system mat may not be placed to the terminal of the profiles, as well as it should be avoided to place it in the range of the profile connector/ expansion connector.

Note:
The width of the modules determines the system's mat intervals.

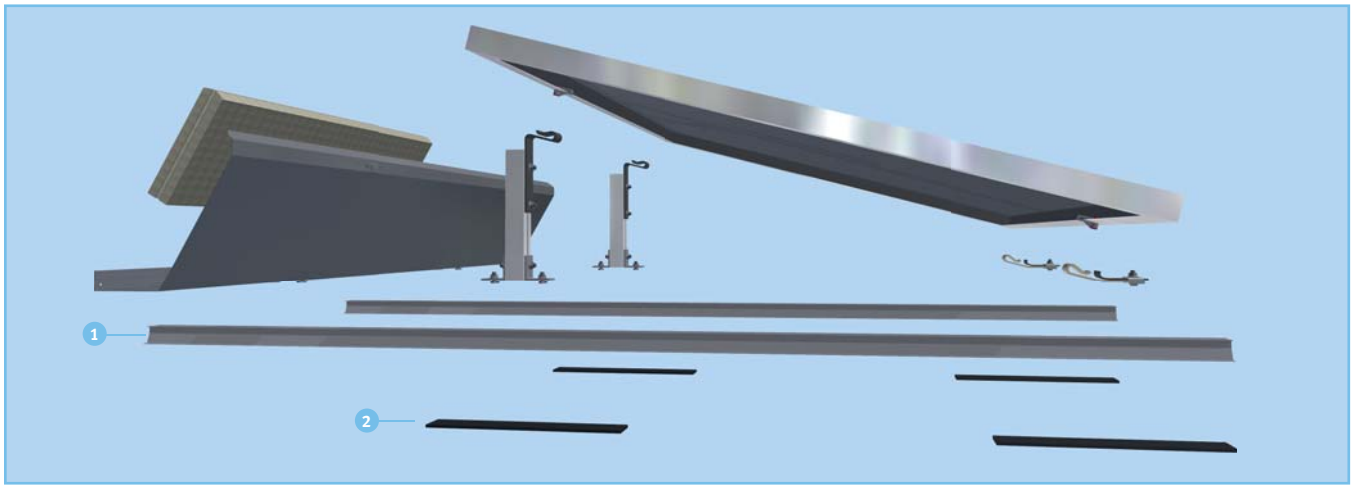
- first system mat on top of base rail secure
- second mat system at distance x to the base rail secure
- third system mat with distance Y to the base rail secure
- fourth system mat with repeating distance X at Fix the base rail
- fifth system mat ... Y ... (additional repetition)

The system is designed for the following module sizes:

Module width in mm	Module length in mm
982	1638
990	1330
990	1650
991	1665
992	1636
992	1640
992	1640
992	1655
994	1652
1000	1640
1000	1650
1000	1652
1065	1596
1069	1580
1100	1640



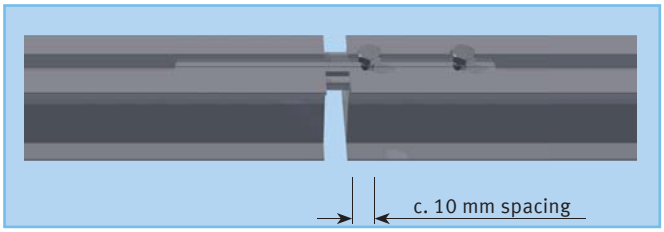
X = System mat distance as a function of the module width
Y = System mat distance as a function of surface shading



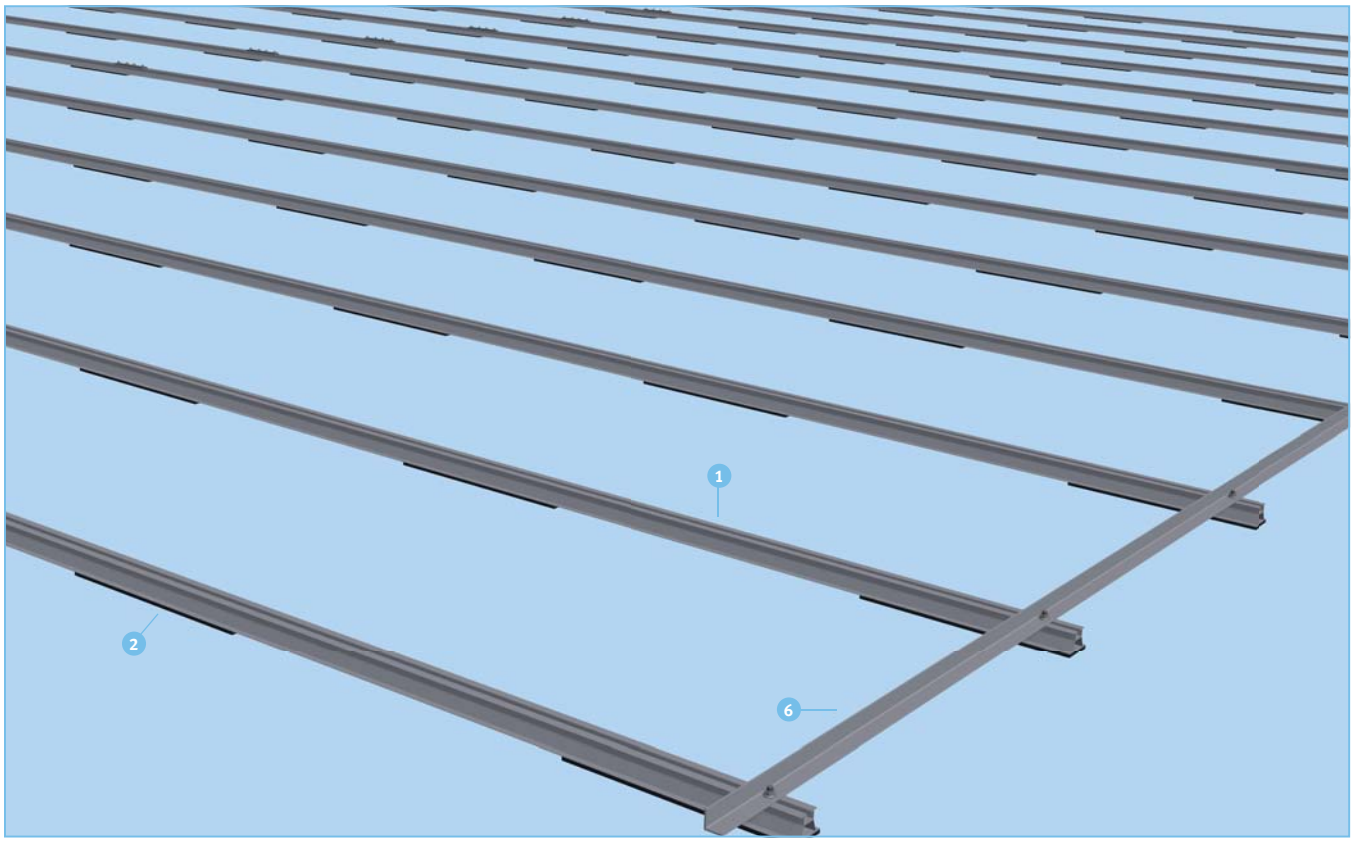
Assembly instruction *Installation of the base rail and slot connector*

- Extension of the base rail only up to 12 m with slot connector 7
- Over 12 m runs between use an expansion connector 8

Slot connector



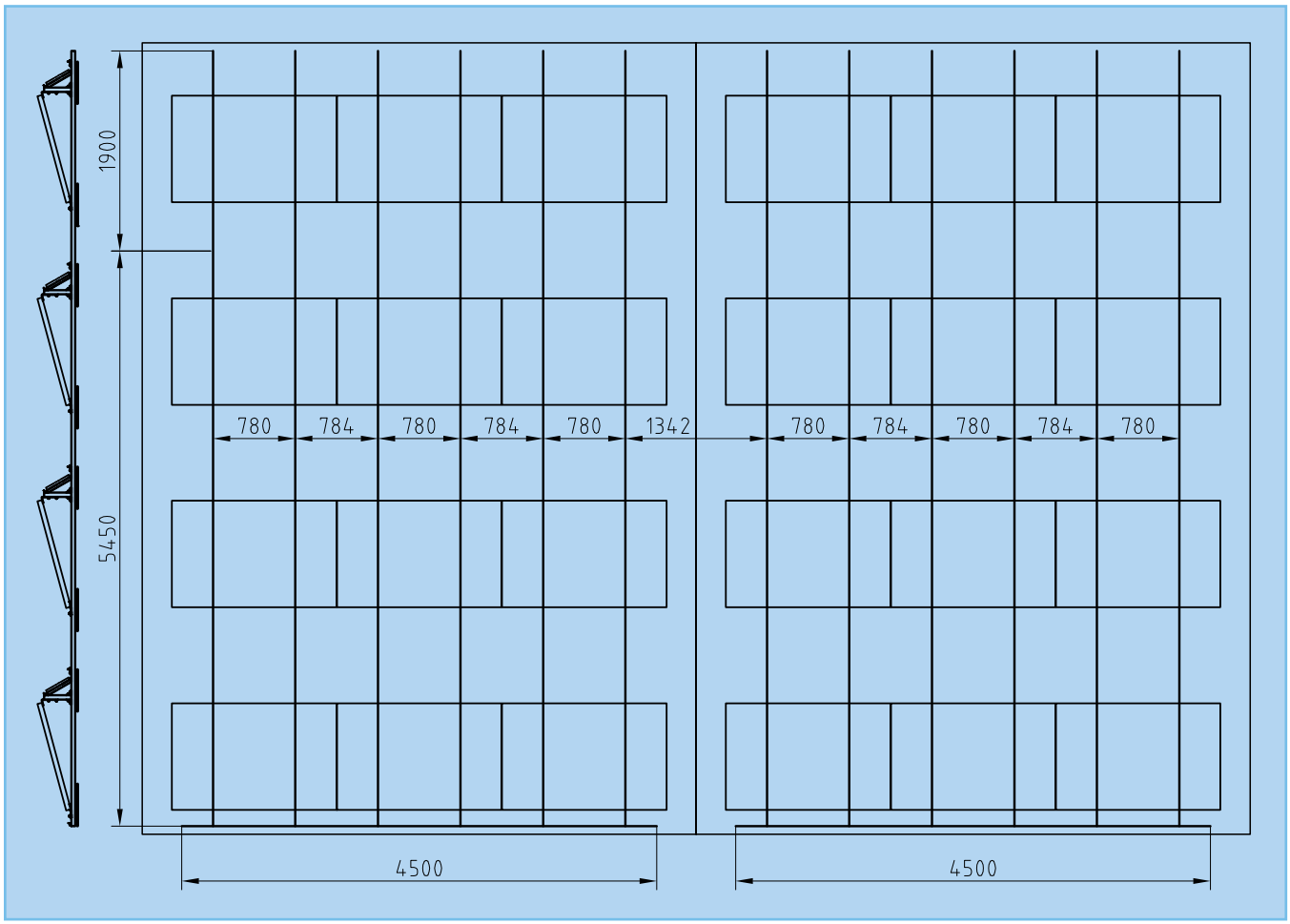
Expansion connector



Note:
Number and position of the base rails and columns connector, refer to the separate drawing which will be issued by with the system before construction begins.

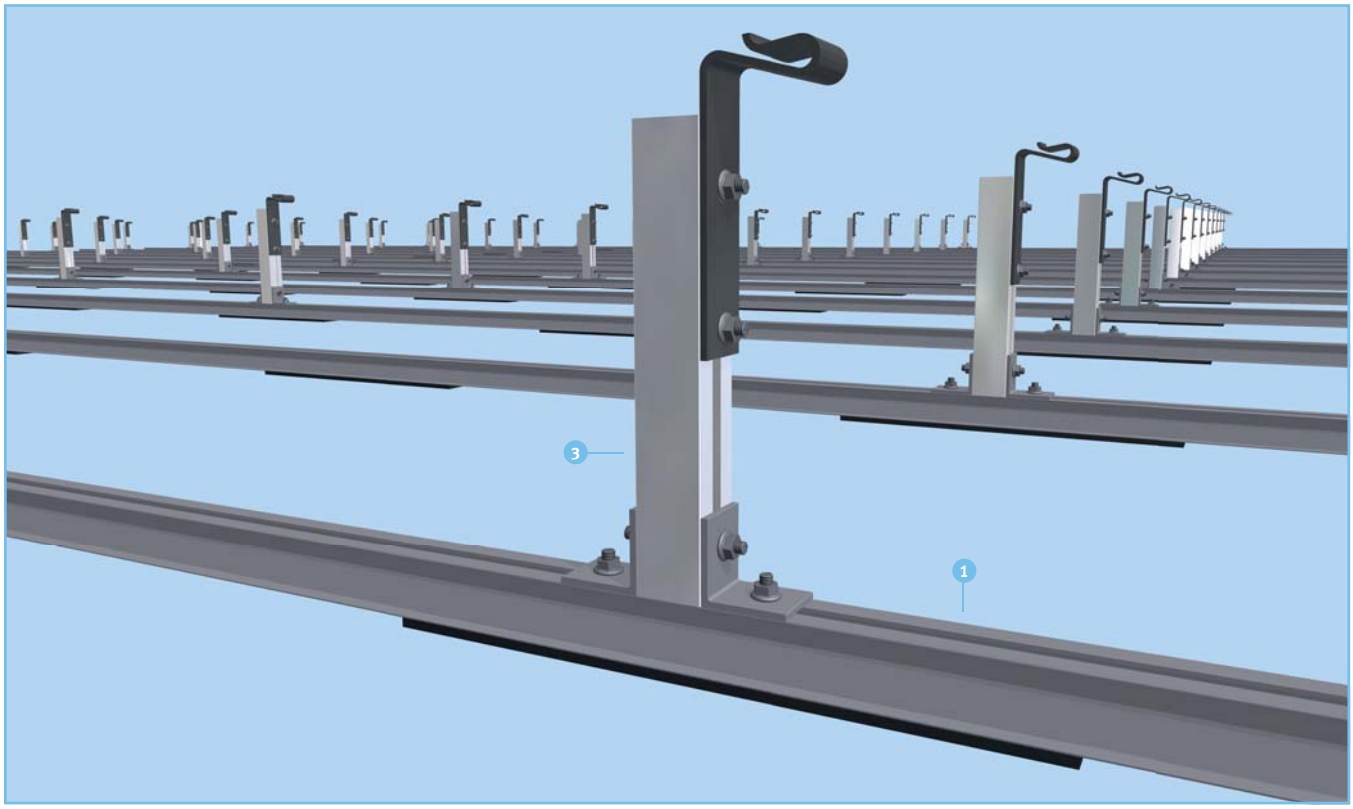
Assembly instruction *Example roof layout plan (detail)*

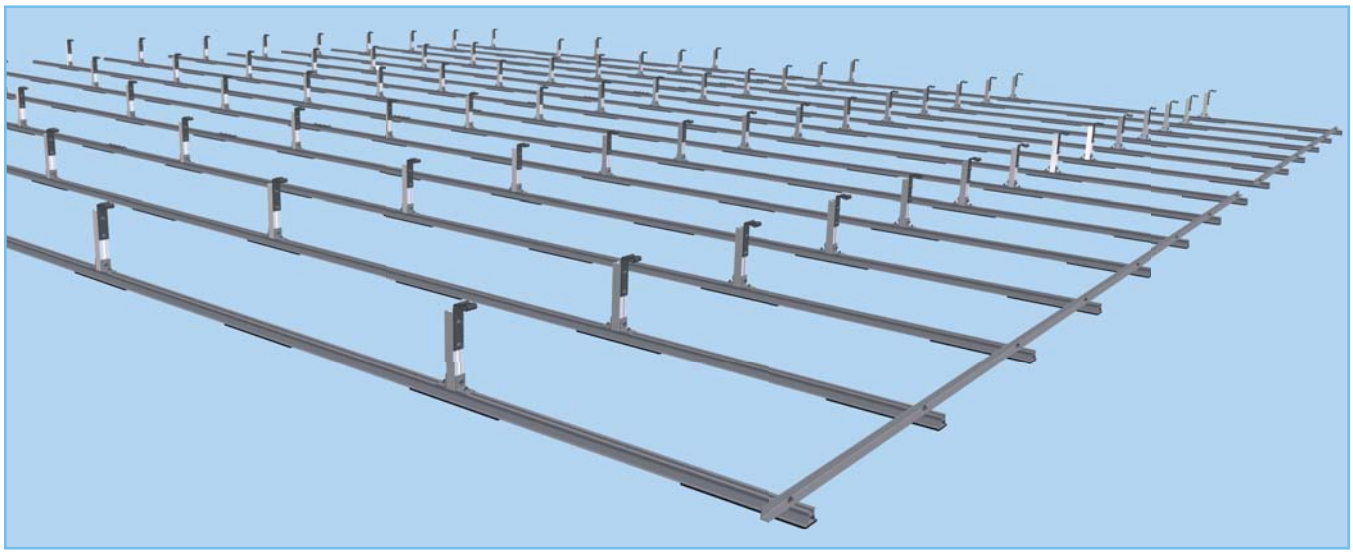
Note:
Documents are issued before construction starts.



Assembly instruction *Position of the supports*

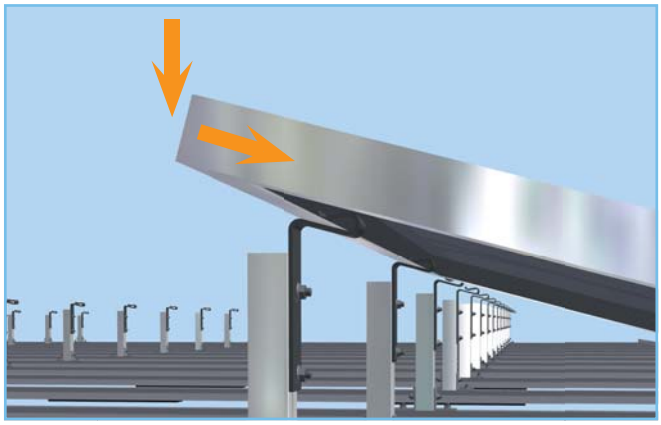
Please refer to the separate drawing concerning the distance/position of the supports. The support will be fastened by tightening the lock nut with 14–16 Nm.



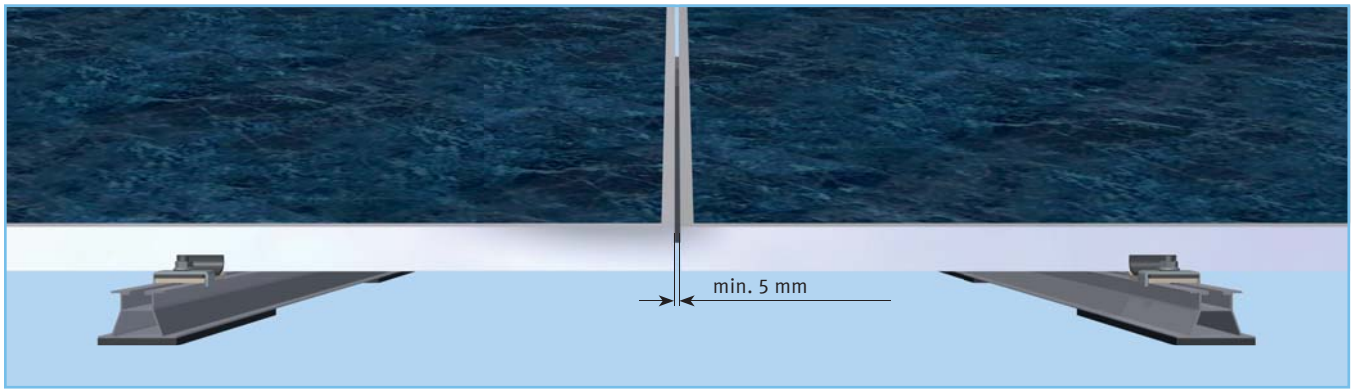


Assembly instruction *Mounting the modules*

Fix module with support:
Hang all modules with the inner frame into the first both supports and pull the frame into the holder.

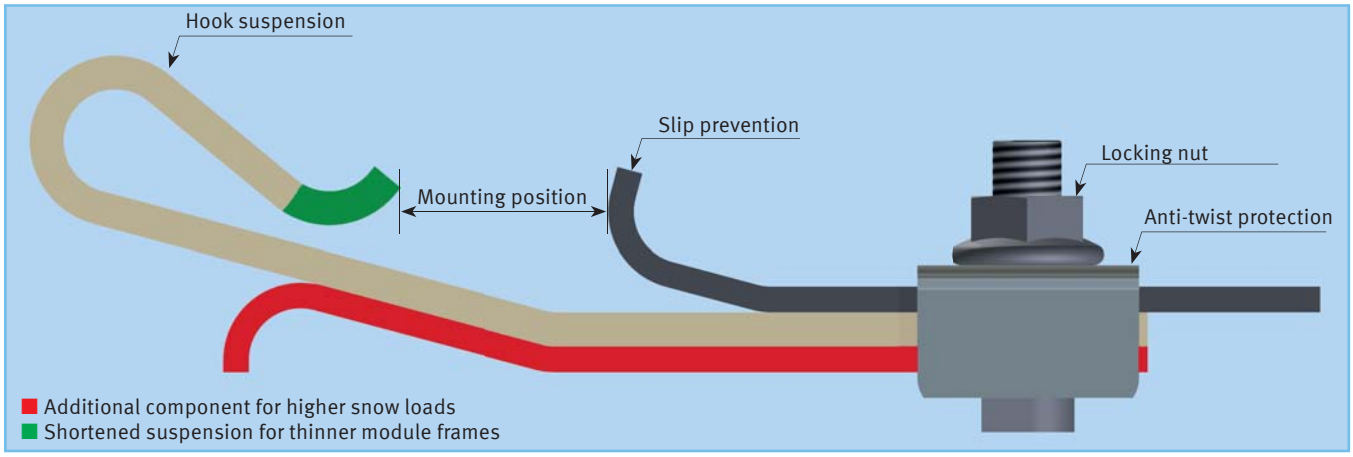


Between the modules must be an expansion gap (min. 5 mm, max. 10 mm).

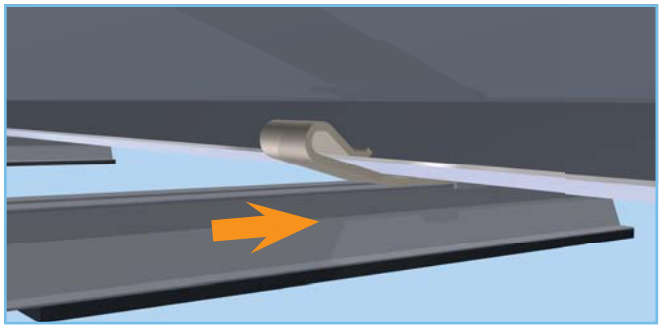


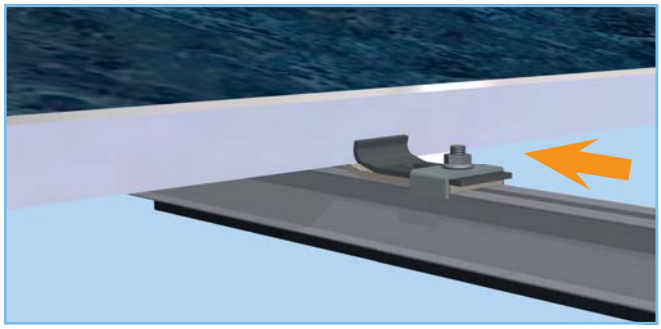
Assembly instruction *Mounting the modules*

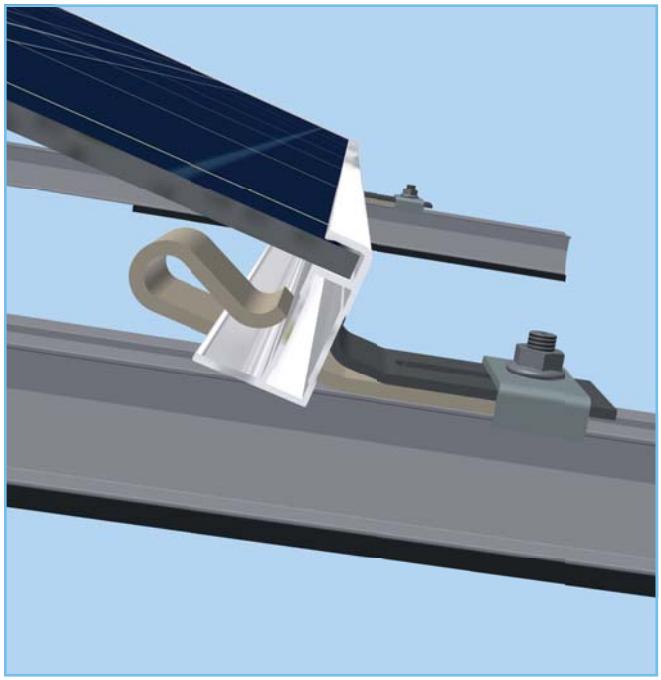
Front module holder:
Bring the slip prevention to mounting position.



Attach the hook suspension of the front module holder with the inner module frame, than insert the hammer head screw of the front module holder into the base profile. Now the front module holder has to be pulled against the module frame. Simultaneously the slip prevention has to be pushed in direction to the module until they fit closely in the frame. Finally, the locking nut has to be tightened with 12–15 Nm to ensure the connection.

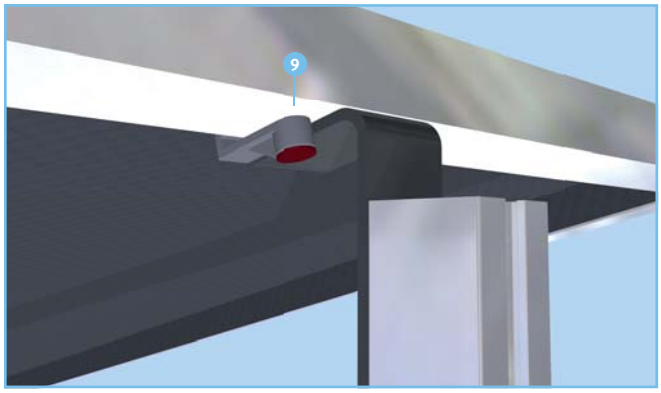






Assembly instruction *Mounting the modules*

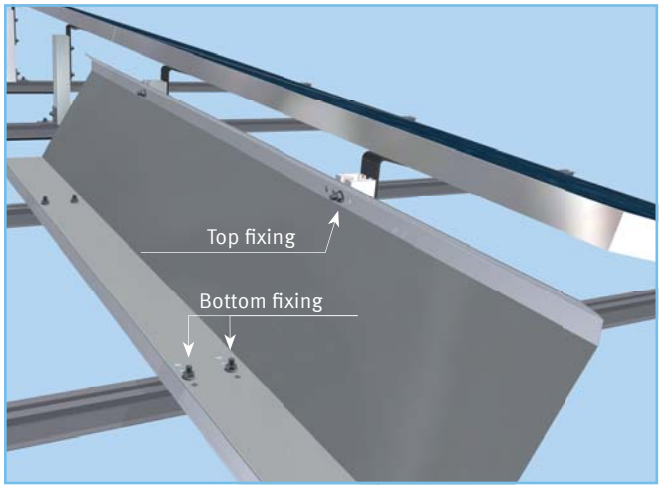
Define the margin:
Marginal modules will be secured against slipping by using the position lock 8. This will be connected at the bottom side of the module, near to the ultimate support.

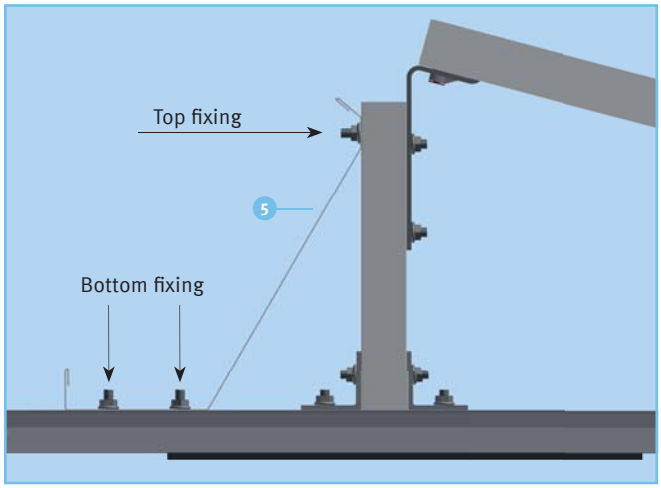


Note:
The lightning protection of the system must be installed by a specialized company.

Assembly instruction *Wind sheet and ballasting*

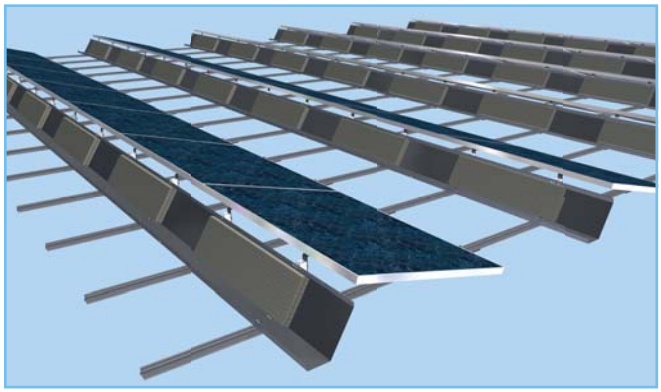
Wind deflector attachment:
The wind deflector sheet 5 is screwed to the support and the base rail.





Connect the wind deflector sheets:
The deflector sheets go side by side, overlapping ones are connected together by a thin sheet metal screw.

Ballast weighting:
Weight elements are protocol according to load arranged.



Note:
The lightning protection of the system must be installed by a specialist company.

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Industriegebiet 1 07924 Crispendorf

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0769-CPD-122089

EN 1090-1

Aufständerung Süd, beschwerungsarm (Süd, ba)

Änderung Stütze / Windleitblech

Geometrische Toleranzen: EN 1090-2

Schweißeignung:		NPD
Bruchzähigkeit:	1.4301 S235	unbedenklich bis -40°C nach Z-30.3-6
	1.0242 S250GD	27 J bei 20 °C
Brandverhalten:	Material in Klasse A1 eingestuft	
Freisetzung von Cadmium:		NPD
Freisetzung von radioaktiver Strahlung:		NPD
Dauerhaftigkeit:	1.4301 S235	unbeschichtet, NPD
	1.0242 S250GD	275 g/m² Zink je Seite (sendzimirverzinkt)

Tragfähigkeitsmerkmale:

Tragfähigkeit: Bemessung nach EN 1993-1 und 1999-1 siehe Entwurfsvorgaben und Berechnungen
Es gelten die für Deutschland festgelegten NDP.

Ermüdungsfestigkeit: NPD

Feuerwiderstand: NPD

Herstellung: nach der Bauteilspezifikation und EN 1090-2, EXC1 – EXC2

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EN 1090-1

Aufständerung Süd, beschwerungsoptimiert (BO-Süd 15° SR)

Änderung Modulaufnahme

Geometrische Toleranzen: EN 1090-2

Schweißeignung:		NPD
Bruchzähigkeit:	1.4301 S235	unbedenklich bis -40°C nach Z-30.3-6
	1.0242 S250GD	27 J bei 20 °C
Brandverhalten:	Material in Klasse A1 eingestuft	
Freisetzung von Cadmium:		NPD
Freisetzung von radioaktiver Strahlung:		NPD
Dauerhaftigkeit:	1.4301 S235	unbeschichtet, NPD
	1.0242 S250GD	275 g/m² Zink je Seite (sendzimirverzinkt)

Tragfähigkeitsmerkmale:

Tragfähigkeit: Bemessung nach EN 1993-1 und 1999-1 siehe Entwurfsvorgaben und Berechnungen
Es gelten die für Deutschland festgelegten NDP.

Ermüdungsfestigkeit: NPD

Feuerwiderstand: NPD

Herstellung: nach der Bauteilspezifikation und EN 1090-2, EXC1 – EXC2

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EN 1090-1

Aufständerung Süd, beschwerungsoptimiert (BO-Süd 15° HSL)

Verstärkung Stütze

Geometrische Toleranzen:		EN 1090-2
Schweißeignung:		NPD
Bruchzähigkeit:	1.4301 S235	unbedenklich bis -40°C nach Z-30.3-6
	1.0242 S250GD	27 J bei 20 °C
Brandverhalten:	Material in Klasse A1 eingestuft	
Freisetzung von Cadmium:		NPD
Freisetzung von radioaktiver Strahlung:		NPD
Dauerhaftigkeit:	1.4301 S235	unbeschichtet, NPD
	1.0242 S250GD	275 g/m² Zink je Seite (sendzimirverzinkt)

Tragfähigkeitsmerkmale:

Tragfähigkeit: Bemessung nach EN 1993-1 und 1999-1 siehe Entwurfsvorgaben und Berechnungen
Es gelten die für Deutschland festgelegten NDP.

Ermüdungsfestigkeit: NPD

Feuerwiderstand: NPD

Herstellung: nach der Bauteilspezifikation und EN 1090-2, EXC1 – EXC2

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EN 1090-1

Aufständerung Süd, beschwerungsoptimiert (BO-Süd 15° SR HSL)

Verstärkung Stütze, Modulaufnahme

Geometrische Toleranzen:		EN 1090-2
Schweißeignung:		NPD
Bruchzähigkeit:	1.4301 S235	unbedenklich bis -40°C nach Z-30.3-6
	1.0242 S250GD	27 J bei 20 °C
Brandverhalten:	Material in Klasse A1 eingestuft	
Freisetzung von Cadmium:		NPD
Freisetzung von radioaktiver Strahlung:		NPD
Dauerhaftigkeit:	1.4301 S235	unbeschichtet, NPD
	1.0242 S250GD	275 g/m² Zink je Seite (sendzimirverzinkt)

Tragfähigkeitsmerkmale:

Tragfähigkeit: Bemessung nach EN 1993-1 und 1999-1 siehe Entwurfsvorgaben und Berechnungen
Es gelten die für Deutschland festgelegten NDP.

Ermüdungsfestigkeit: NPD

Feuerwiderstand: NPD

Herstellung: nach der Bauteilspezifikation und EN 1090-2, EXC1 – EXC2

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