

Solar systems by Schweizer:

Information leaflet – Installation safety with PV mounting system MSP-FR

Height safety measures / fall protection for MSP-FR

In accordance with the regulations on occupational safety, structural measures to prevent falls must be provided during the installation and regular maintenance of solar systems on flat roofs of buildings from a height of 3 m.

The MSP-FR-EW and MSP-EW-S PV mounting systems do not have any integrated fall protection devices. Systems for height safety / fall protection for work on flat roofs are special, vital facilities / work equipment that are tested and certified according to established standards. Their suitability for use, and use in practice, must be clarified by specialists on a project-specific basis.

Valid rules and regulations:

- Germany: DIN EN 795, DGUV regulation 38
- Austria: ÖNORM B 3417, Construction Workers' Protection Ordinance §8-10
- Switzerland: Construction Work Ordinance (BauAV), SN EN 795 (Personal fall protection equipment - Anchor devices), SIA 271

Safety concepts for flat roofs with solar systems, equipment classes

- Collective protection: Optimum safeguarding against falls from flat roofs is offered by what is known as collective protection. As a rule, these are temporarily or permanently installed side protection devices. The persons on the roof can move freely (equipment class 3).
- Rope and rail systems as fall arrest / restraint systems: For flat roofs with solar systems, the regulations require at least safety systems of equipment class 2 to be provided. As a rule, these are rail or rope systems to which the personal protective equipment of the fitters is secured. Systems without roof penetration are particularly advantageous when installing solar systems on existing flat roofs.

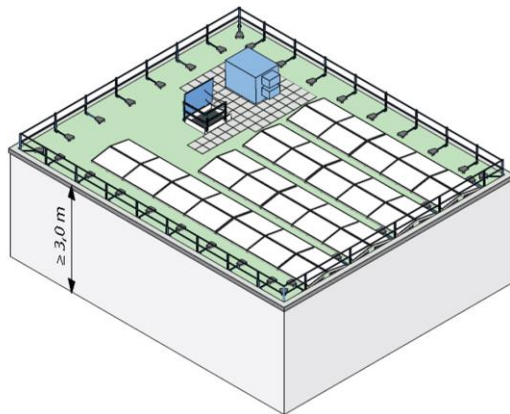


Fig. 1: Schematic diagram of collective security (source: [Building Envelope Switzerland])

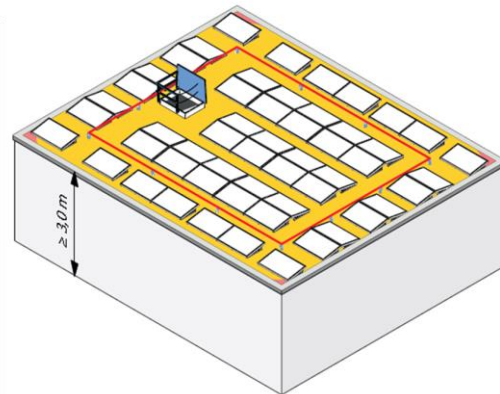


Fig. 2: Schematic diagram of restraint system (Source: [Building Envelope Switzerland])

Combination of rope safety systems with MSP-FR-EW / S

- Safety systems must be taken into account as early as the planning phase so that the space required for them can be maintained along with the prescribed distances.
- It is advisable that the perimeter be secured with a rope. Load-bearing individual attachment points (IAPs) can be used here, positioned at appropriate distances. These are typically placed at a distance of 2.5 m from the edge of the roof.
- If the area between the edge of the roof and the PV modules must be accessible, at least 60 cm must be provided as a thoroughfare.

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Planning with SPT from Schweizer

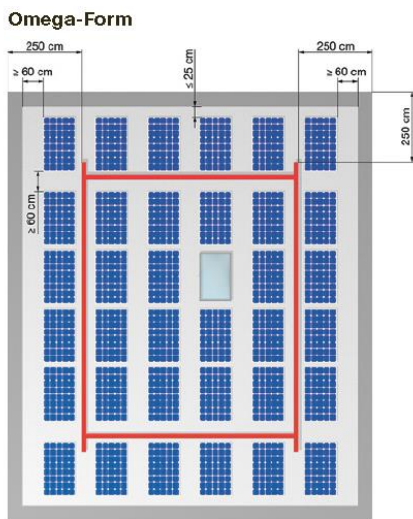


Fig. 3: Requirements for Omega-shaped restraints

Fig. 3 gives a schematic representation of the ideal situation with the dimensions for an Omega format rope safety device. In the Schweizer planning tool (<https://proMSP.solar>) the planning of such rope safeguards can be carried out manually. For this purpose, in the 'Arrangement' function, suitable fault areas on the roof can be defined in keeping with the elements as shown in Fig. 4. The minimum distance to the roof edge can be determined using the 'Construction' function. Figure 5 shows an alternative solution in which the gables of the MSP-FR-EW are divided into two supports with a lane for rope protection. The statics are guaranteed for a 'lane' of up to 500 mm. Suitable for this is the connecting channel art. no. 20679.

Examples

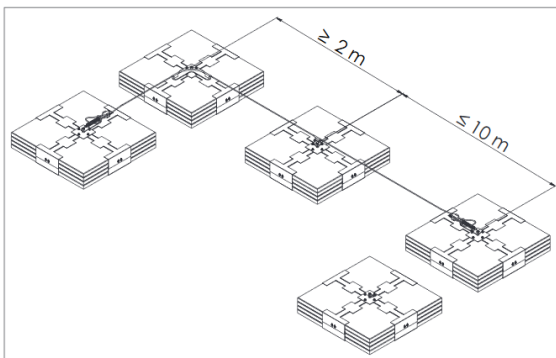


Fig. 4: Stonekit load system with rope system from Grün GmbH (www.gruen-gmbh.de) in combination with MSP-FR-EW.

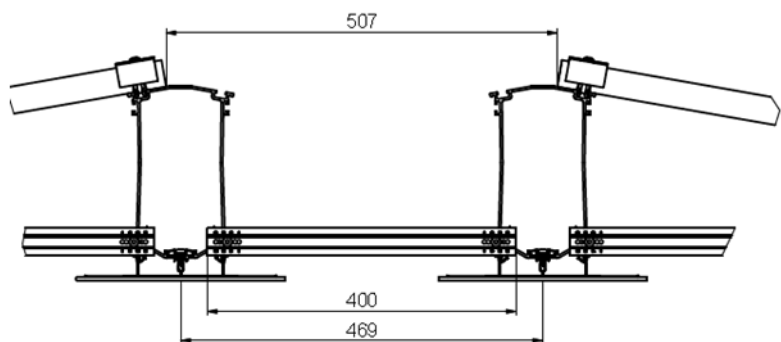
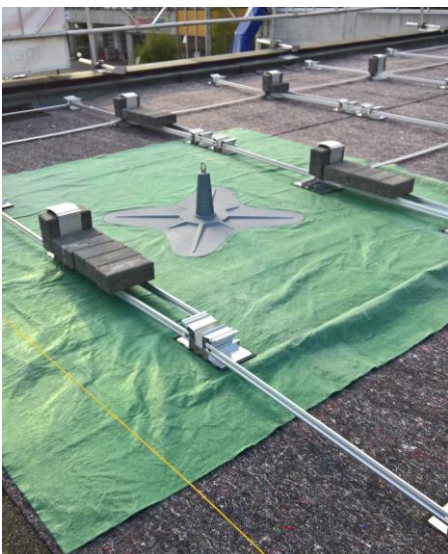


Fig. 5: DiaSafe Line System in combination with MSP-FR-EW/S (proof of delivery: SOPREMA AG, www.soprema.ch)