

Safety Net Installation Information



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Applicable standards and rules and regulations

Fall arrest safety nets must comply with the safety requirements of EN 1263-1. For the erection or assembly of fall arrest nets EN 1263-2 and DGUV 101-011 are applicable here.

HUCK's fall arrest nets comply with EN 1263-1

① Use

Safety nets are used to protect people who fall. Typically, they are used for building work at great heights, e.g. the construction of indoor facilities (see photo 1) and overhead cables or as a safety feature on scaffolding. They allow workers to move around freely.

② Labelling

Every safety net must be labelled clearly in accordance with EN 1263-1 (see photo 2). The label must include the following information:

- Date of manufacture and name of manufacturer
- Net class in accordance with EN 1263-1
- Precise item designation (item number)
- Minimum energy absorption capacity or minimum tensile load of test mesh in accordance with ISO 1806
- Number of the inspection authority that certified the net.



Front of Label ②



Back of Label ②

③ Annual inspection

On every HUCK safety net, there are lead seals with the same identity number on the safety net label and test mesh (see photo 3). This ensures that the safety net and test mesh belong together. No more than 1 year after the date of manufacture, the first test mesh must be sent to an authorised tester (e.g. the manufacturer). This tester verifies whether the net still has the necessary strength/ energy absorption capacity and produces documentary evidence of the results.

No. 9700: Inspection cost per test mesh

④ If the test results are positive, you will receive a new test badge bearing the identity number, which you then attach to the relevant net (see photo 4). The net can then be used for another year. Please also refer to the section on "when to discard nets".

Installing and dismantling personal safety nets

Nets may only be installed by workers who have been trained to FASET standards. Protection must be provided for those undertaking installation (safety harness, platform lift).

Necessary bracing forces

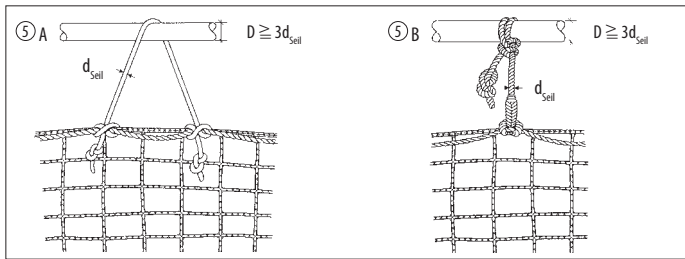
Safety nets are to be attached to load-bearing structures. For measuring each suspension point a characteristic load P of at least 6 kN with an angle of $\alpha=45^\circ$ must be adopted. For measuring building components three characteristic loads of 4 kN, 6 kN and 4 kN at unfavourable points must be considered. The suspension points must be within 2.50m of each other.



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Test badge showing identity number and next inspection date. ④



A): Double-strand suspension rope Z (breaking strength ≥ 15 kN)
 B): Single-strand suspension rope L (breaking strength ≥ 30 kN)

5 Suspension

Nets are suspended with suspension ropes, snap hooks, net thimble straps or safety net thimble clips. For attachment types other than suspension ropes a safety factor of 2 must be used. For single rope suspension (Photo 5B) with suspension ropes the rope breaking force of the suspension rope must be at least 30 kN, for double suspension (Photo 5A) it is possible to suspend the net with 15-kN ropes. Snap hooks, which comply with DIN EN 362 "Personal fall arrest safety equipment - fastening elements", DIN EN 12 275 "Mountain climbing equipment; carabiners; safety requirements and test methods" or with DIN 5299 "snap hooks in semiround wire, round wire and forged" may be used. Further safety information can be found in the DGUV information sheet on safety nets.

Dimensions/minimum size

The values specified below assume a minimum size of 35 m², whereby the length of the shortest side must be at least 5 m. If minimum sizes are not complied with, specific evidence is required (see DGUV 101-011, Annex 1).

6 Fall height/Minimum fall arrest width

Safety nets are preferably to be suspended underneath the work place being protected. If for technical reasons and structural conditions safety nets cannot be directly erected under the work place, the fall height H (vertical difference in height between the building edge and the area of impact in the safety net) should not exceed 6 m due to the physical properties of the safety net. On the outer edge up to 2 m (Hi1) the permissible fall height should not exceed 3 m.

7 Clearance underneath the safety net

Safety nets are to be suspended in such a way that during a fall persons cannot come into contact with the ground, hit fixed or moving objects and injure other persons in traffic routes. Deformation is related to the shortest side of the net and the fall height (see table 7 and photo 7). In addition to deformation a safety distance $S > 0$ must be maintained for traffic routes etc. With suitable certification from the manufacturer and a fall height of up to 2 m nets may be used with a clearance of 3 - 5 m under the edge from which a fall could take place. Installations by us are carried out by qualified skilled staff.

Connecting safety nets.

When safety nets are connected then joining rope is used in such a way, that the space between the join is not more than 100 mm and the safety nets cannot move more than 100 mm away from each other. It is also possible to connect safety nets by overlapping them. But then the overlap must be at least 2 m.

Replacement state of wear

Nets should not continue to be used in the following circumstances:

- Nets, through which a person has already fallen
- Nets, which can no longer meet minimum breaking force (refer to section on "annual inspections" too)
- Nets, which are defective (= Nets with considerable wear and tear, defective mesh, damage to rope edge or clips)

Storage/safety precautions

Store in a dry place, never store close to a heat source, avoid contact with aggressive substances such as acids and alkalis etc., do not expose to direct UV radiation. Nets and ropes must not be dragged over sharp edges. Objects that have fallen into the net must be removed immediately, since persons could become injured by these upon impact and the load-bearing capacity of the net become impaired.

Repair/defects

Damaged nets must only be repaired by suitably qualified staff at the manufacturer's plant. If defects are identified, safety nets may only continue to be used at the discretion of an expert or must be repaired properly. When using nets under extreme temperatures of between $< -20^{\circ}\text{C}$ or $> +50^{\circ}\text{C}$, please consult the manufacturer.

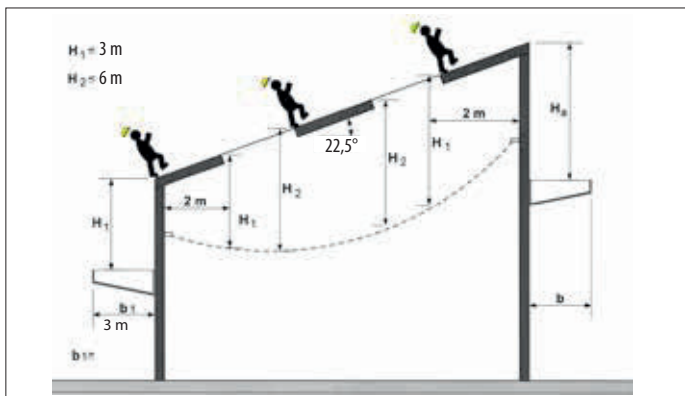
HUCK personal safety nets conform to DIN EN 1263-1.

Height of fall h (m)	1 m	2 m	3 m	4 m	5 m	6 m
Deformation f_{max} (m) if $l = 5$ m	2.65	2.85	2.95	3.00	3.05	3.10
Deformation f_{max} (m) if $l = 9$ m	3.35	3.55	3.75	3.85	3.95	4.00
Deformation f_{max} (m) if $l = 12$ m	4.20	4.40	4.55	4.75	4.90	5.00

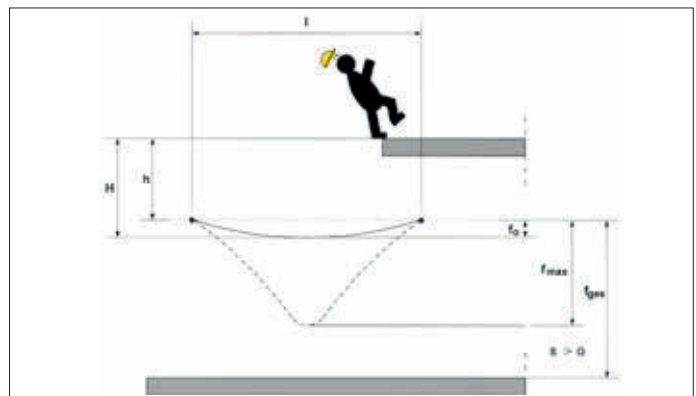
l = width of safety net (shortest side)

The width of the net is directly related to the height of the fall:

Height of fall H_a :	< 1.0	< 3.0	< 6.0	metres
Minimum net width b :	> 2.0	> 2.5	> 3.0	metres



Classification flat roof from pitched roof in accordance with European standard now 22.5° 6



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