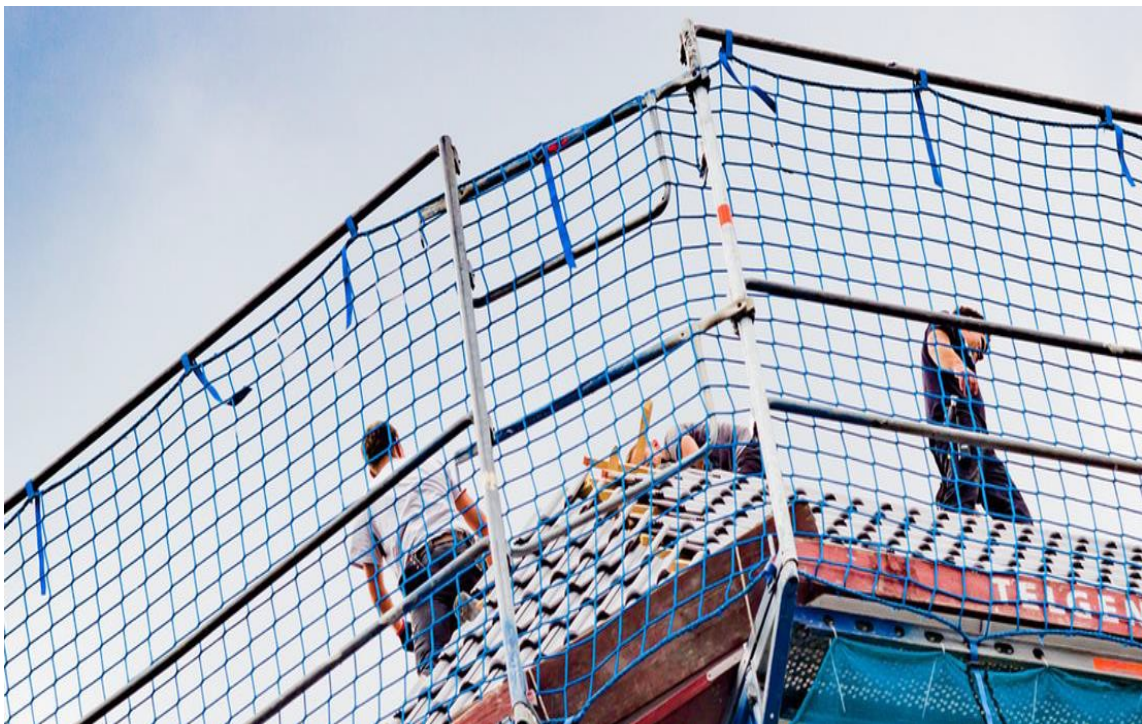




EN-1263-1 Skyddsräckesnät: System U Installations manual



CONTENTS

1. INTRODUCTION

2. DEFINITIONS

- 2.1. Net
- 2.2. Safety net
- 2.3. Mesh
- 2.4. Perimeter rope
- 2.5. Tie rope
- 2.6. Coupling rope
- 2.7. Test mesh
- 2.8. Support structure
- 2.9. System U safety net

3. DESCRIPTION OF THE COMPONENTS OF THE SYSTEM U SAFETY NET AND ANCILLARY ELEMENTS

- 3.1. Main components:
 - 3.1.1. Net
 - 3.1.2. Perimeter rope
- 3.2. Ancillary components:
 - 3.2.1. Tie rope
 - 3.2.2. Coupling rope
 - 3.2.3. Straps

4. INSTALLATION, ASSEMBLY AND DISMANTLING

- 4.1. Installing safety nets
- 4.2. Assembly of safety nets
- 4.3. Dismantling of safety nets

5. STORAGE, INSPECTION AND REPLACEMENT

- 5.1. Storage of safety nets
- 5.2. Inspection of safety nets
- 5.3. Replacement of safety nets

6. TEST MESH TESTING

1. INTRODUCTION

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Safety nets are used as collective protection in building and assembly work, as devices intended to stop the fall from height of people and objects during the construction of buildings, warehouses, bridges, etc. This allows total mobility of the workers above the area covered by the safety net in all work and transport operations.

This manual is a guide to the installation and dismantling of safety nets. System U safety nets are subject to Framework Directive 89/391/EC and its transposition into Spanish legislation via Law 31/95 on the Prevention of Occupational Risks, which determine the principles for preventive action, prioritising collective protective measures over the use of individual protective measures.

Furthermore, Directive 92/57/EC and its transposition to Royal Decree 1627/97 on the minimum provisions for Health and Safety in construction, indicate the use of safety nets among other protection systems against falls from height.

The European Committee for Standardization (CEN/TC53) has prepared, at the request of the European Commission, an EN standard on safety nets in two parts, as follows:

UNE-EN-1263-1. Safety nets. Part 1: Safety requirements, test methods.

UNE-EN-1263-2. Safety nets. Part 2: Safety requirements for the positioning limits.

Unlike other systems contemplated in the UNE EN 1263 standard, the aim of System U is to prevent falls from the working area where it is installed, providing vertical protection up to approximately one metre in height from the floor.

The European standard UNE EN 13374 (Temporary edge protection systems) allows the use of System U as intermediate protection.

2. DEFINITIONS

The EN-1263-1 standard establishes the following definitions:

2.1. Net

A net is a connection of meshes.

2.2. Safety net

A net supported by a perimeter rope or other anchoring elements or a combination of these designed to catch people who fall from a certain

height.

2.3. Mesh

A mesh is a series of ropes arranged in a geometric pattern to form a net.

2.4. Border rope

This is a rope that is passed or sewn through each mesh around the perimeter of a net and determines the dimensions of the safety net.

2.5. Tie rope

The rope used to secure the border rope to an appropriate anchor point.

2.6. Coupling rope

The rope used to join safety nets together.

2.7. Test mesh

A separate piece of mesh, which is attached to the safety net, to determine deterioration due to aging and which can be removed without altering the performance of the net.

2.8. Supporting structure

The supporting structure must be designed to be able to absorb kinetic energy.

2.9. System "U" safety net

Safety net anchored to a structure for vertical use.

3. DESCRIPTION OF THE COMPONENTS OF THE SYSTEM U SAFETY NET AND ANCILLARY ELEMENTS

3.1. Main components

3.1.1. Net

The net has a mesh with dimensions of less than 100 mm and its twines are made from high tenacity polyamide or polypropylene fibres that are tested according to the requirements indicated in the UNE-EN-1263-1 standard.

3.1.2. Border rope

The border rope is sewed through the perimeter meshes of the net and it is tested according to the requirements indicated in the UNE EN-1263-1 standard.

3.2. Ancillary components

These elements are used to anchor the safety net and are as follows:

3.2.1. Tie rope

This is used to fasten the net to the structural elements of the building.

The tie rope is tested according to the requirements indicated in the UNE-EN-1263-1 standard.

3.2.2. Coupling rope

This is used to join safety nets together.

The coupling rope is manufactured from high tenacity polyamide. It is tested according to the requirements indicated in the UNE-EN-1263-1 standard, and has a minimum tensile strength of 7.5 kN.

3.2.3. Straps

These are used to anchor the safety net to the main guardrail.



4. INSTALLATION, ASSEMBLY AND DISMANTLING

4.1 *Installing safety nets*

System U safety nets are anchored to vertical elements (posts) separated from each other at a distance that allows compliance with the resistance requirement (UNE EN 13374).

4.2 *Assembly of safety nets*

System U safety nets should be used as intermediate protection and passed mesh by mesh between the main and lower guard rails (Figure A) or with straps for anchoring the nets to the main guard rail placed every 70 cm (Figures B and C).



Figure A

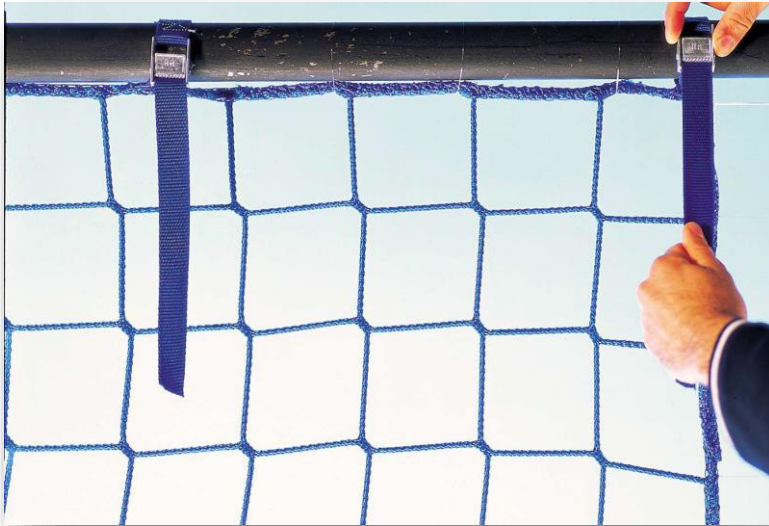


Figure B



Figure C

The nets will be sewn with a type O coupling rope, mesh by mesh, leaving no gaps larger than 10 cm.

The area to be protected must be totally closed, placing the net in such a way that the impact caused at the time of action does not leave the opening unprotected, that is, in the event of an impact by a worker, the net does not yield too much.

4.3 Dismantling of safety nets

The workers who participate in the dismantling of the safety nets must be provided with appropriate personal protective equipment (harness connected to the lifeline).

Once the work has been completed the safety nets can be dismantled by following these steps:

- 1.- Remove the straps from the main guard rail.
- 2.- Remove the nets from the main guard rail.

5. STORAGE, INSPECTION AND REPLACEMENT

5.1 Storage of safety nets

Safety nets are manufactured from high tenacity polypropylene fibres treated with solar protection. They are very resilient to the action of the sun and offer excellent resistance to abrasion. In spite of this, the following precautions must be taken:

- The nets will be stored in dry rooms and away from damp areas, on wooden shelves or in closed containers. If a net has become wet, allow it to dry before storing.
- The nets will be protected from UV radiation.
- Do not store where they are exposed to heat sources or in areas where they may come into contact with materials or substances that could cause damage (bases, solvents, oils, soldering equipment, radials, etc.)
- If they are likely to come into contact with soldering particles, protect with flameproof tarpaulin.

5.2 Inspection of safety nets

It is important to establish inspections of the safety nets in order to detect:

- Cuts or nicks in the mesh
- Absence of debris in the net
- Rust caused by metallic elements
- Threads or fibres damaged owing to abrasion, etc...

5.3 Replacement of safety nets

The safety net should be replaced in the following cases:

- If a person has fallen onto the net the net will be replaced by a new one and the replaced net will be sent to the factory for inspection.
- In case of falls of materials onto the net, if there is no cutting or nicking of fibres or twines and the materials consist of rubble, bricks and small elements: immediately remove the elements that have fallen onto the net.
- If there is no cutting or nicking to fibres or twines and the materials are heavy elements it is advisable to replace the net with a new one and send the replaced net away for inspection. In the case of cutting or nicking of fibres or twines remove the net and install a new one.

6. TEST MESH TESTING

The safety nets include a test mesh to control the condition of the net wing to natural aging.

This test mesh, which has the same serial number as the safety net being used, must be sent to our address three months prior to the expiry date indicated on the label of the net, in order to perform a test on the sample and determine its aging.

The minimum tensile strength of the test mesh is indicated on the label of the safety net.

If the deterioration is greater owing to high sun exposure, we recommend to replace the safety net.

