FASET Guidance Document (Revision 3) Advice for Clients, Designers & Contractors When Specifying, Tendering and Installing 'Roof Over-Netting' Solutions

This document has been published by Fall Arrest Safety Equipment Training (FASET), the trade association representing the safety netting and temporary safety systems industries. The aim of this document is to provide guidance for clients, managers and employees when procuring, managing, supervising and installing safety nets installed over existing roofs (Roof Over-Netting).

Roof Over-Netting should be viewed as the last resort for providing a fall protection system when over cladding a roof, installing solar panels etc. Efforts should be made to create access to the underside of the roof so traditional safety netting can be installed beneath the roof before Roof Over-Netting is considered.

The Work at Height Regulations define a clear hierarchy in order to avoid or mitigate risks where reasonably practicable. Roof Over-Netting is deemed to come towards the bottom of the hierarchy than other fall arrest and protection methods, so all other options should be assessed before Roof Over-Netting is selected.

At the time of publication there is no British or European Standard for the installation or use of Roof-Over Netting. This Guidance should be used to formulate safe systems of work by all parties who specify, install and handover a Roof Over-Netting system.

Whilst every effort has been made to ensure that the guidance provided is accurate and up to date at the time of publication, it cannot cover all situations that may be encountered and it is the responsibility of all duty holders to ensure that a safe system of work is developed for the specific project needs.



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## Foreword from the National Federation of Roofing Contractors

This guidance has been produced by The Fall Arrest Safety Equipment (FASET) Roof Over-Netting Committee with the assistance of National Federation of Roofing Contractors (NFRC) Safety Health and Environment Safety Committee and the Health & Safety Executive (HSE), to assist in making roof working a safer occupation.

It draws on the experience of people who have spent many years in the roofing industry and, as such, the advice given in the document is a statement of good practice, which has been achieved.

While this document concentrates on safe working practices on industrial and agricultural roofs, much of the advice is applicable to work on other types of roof.

Working on roofs is an extremely hazardous activity. This is confirmed by the HSE's accident statistics, which also show that many of these accidents happened because those planning and carrying out the work lack sufficient skills, knowledge and experience.

Consequently, the work was carried out without the necessary planning or management and, often, without suitable equipment.

In addition, many designers of roofs do not do enough to design out risks. Neither do they consider how roofs will be built, the needs of the persons working on roofs, future maintenance needs nor future demolition/dismantling. Often, this results in the specification of inappropriate designs.

Some clients who have inadequate knowledge of their duties when commissioning roof work introduce or increase fall risks, which exist when working at height.

This guidance provides a source of essential information, by addressing the roles and responsibilities of all who may be concerned with working on roofs. It draws on existing good practice, which is already being followed by skilled, knowledgeable, experienced and trained clients, designers and roofing companies.

The recommendations in this document are intended to reduce the level of accidents by encouraging clients, designers and roofers to recognise their responsibilities and co-operate, to make working on roofs a less hazardous occupation. (The NFRC Health, Safety & Environmental Committee)

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## Introduction

The use of "Roof Over-Netting" systems is used within the UK Construction and Refurbishment Industry as a means of fall protection when the over-sheeting of an existing structure is specified or solar panels are to be installed and no other form of fall protection can be used. Roof Over Cladding means the existing roof covering is left in place and the new covering / panel is fixed above / through the existing structure.

The biggest risk when installing the new roof system or solar panels is falling through the existing fragile roof surface and Roof Over-Netting is a method of providing a form of fall protection for the persons fixing the new materials when other fall protection measures are not reasonably practicable.

During the installation of the safety nets, an appropriate safe system of work must be fully implemented. This will include design, design checking, production of risk assessments and method statements, competency checks, monitoring and supervision of the work to ensure that the safe system of work is followed as intended.

It should be noted that the safety nets used in Roof Over-Netting must comply with BS EN 1263-1: 2014 but they are being used in an application outside of the scope of BS EN 1263-2: 2014 and BS 8411: 2007.

This system of work should only be used where traditional Type S Safety Netting (rigged beneath the roof) is not feasible.

This guidance document has been produced at the request of the Health and Safety Executive and other interested parties.

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# **Clients, Principal Designers and Designers Responsibilities**

#### Work at Height Regulations 2005

The purpose of these Regulations is to prevent death and injury caused by a fall from height. If you are an employer or you control work at height (for example facilities managers or building owners who may contract others to work at height) the Regulations apply to you.

Employers and those in control of any work at height activity must make sure work is properly planned, supervised and carried out by competent people. This includes using the right type of equipment for working at height. Low-risk, relatively straightforward tasks will require less effort when it comes to planning.

Employers and those in control must first assess the risks.

Employees have general legal duties to take reasonable care of themselves and others who may be affected by their actions, and to co-operate with their employer to enable their health and safety duties and requirements to be complied with.

#### The Management of Health and Safety at Work Regulations 1999

The Management of Health and Safety at Work Regulations 1999 sets obligations for employers to ensure the safe management of health and safety at work through communication, assessment of risk and ensuring adequate controls are in place. When considering and managing the installation of roof over netting, it is essential that the principles of prevention are implemented throughout the design, planning and construction phase by all the relevant duty holders. The principles should be applied to minimise the risk of falls during construction and be relevant to all work activities to ensure risk assessments and safe systems of work have been implemented.

### The Construction (Design and Management) Regulations 2015

Whatever your role in the construction process, CDM aims to improve health and safety in the industry by helping you to:

- sensibly plan the work so the risks involved are managed from start to finish
- have the right people for the right job at the right time
- cooperate and coordinate your work with others
- have the right information about the risks and how they are being managed
- communicate this information effectively to those who need to know
- consult and engage with workers about the risks and how they are being managed

### **Temporary Works**

Safety nets used in a Roof Over-Netting systems are classified as items of temporary works as defined by BS 5975: 2019: *Code of practice for temporary works procedures and the permissible stress design of falsework*. The Contractor's temporary works procedures should therefore be used to control the implementation and design risks.

Procedures should ensure that:

- A design brief has been prepared by the site team.
- A competent designer has been appointed to carry out the design.

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- The designer has considered how the nets are attached to the supporting structure and that the supporting structure has adequate strength and stability to resist the design forces.
- The design checker is competent and has a degree of independence from the designer.
- The design is built in accordance with a safe system of work where hold points are controlled using a permit to work system.

Safety nets used in a Roof Over-Netting situation must be certified and tested to BS EN 1263-1: 2014 and attached to the supporting structure in accordance with BS EN 1263-2: 2014 and BS 8411: 2019.

## **FASET Testing**

With the assistance of the HSE, FASET carried out a number of drop tests into safety nets laid over fragile cement fibre sheets, skylights and voids, secured to a robust primary structure. During the testing, the mass was dropped into the net at three different locations of the roof structure, with records of the damage to and the deflection of the net recorded.

The testing was carried out between August 2014 and March 2015 with reports produced separately by FASET and the HSE.

**Note:** During the testing, the safety net was attached to a designed perimeter scaffold. If this method of attachment is not being used, a Temporary Works Coordinator must ensure the correct Temporary Works Designs have been carried and checked.



Figure 1. Front cover of the FASET test report for the second day of testing



Figure 2. One of the drop tests from August 2014

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The conclusion of both FASET and the HSE was that the testing confirmed Roof Over Netting installed in this manner provided a safe fall protection system.

### **Suitability of Safety Netting Materials**

Safety nets installed as a Roof Over-Netting system must comply with BS EN 1263-1: 2014 and be attached to the supporting structure in accordance with BS EN 1263-2: 2014 and the Temporary Works Design. Roof Over-Nets left in situ and encapsulated into the finished structure will not need an annual test after encapsulation. It is imperative that the safety nets installed comply with the test and inspection requirements of BS EN 1263-1&2: 2014 and BS 8411: 2019. At the time of installation, any Safety Net installed for Roof Over-Netting must have an in-date test for a period of the anticipated roofing programme of works plus one month.

Nets should be selected and inspected by a competent person and be prepared ready for unrolling / unfolding etc. before delivery to site.

### **Riggers Competence & Responsibilities**

The Safety Net Riggers must have an appropriate level of knowledge, skills and experience to rig nets for Roof Over-Netting.

The Rigging Team must consist of at least one CSCS Blue Skilled Safety Net Rigger card holder, who must have held that card for a minimum of three years. There should only be one CSCS Red Trainee Carded Safety Net Rigger within the team at any one time who must be under the supervision of the Blue Skilled Worker CSCS Safety Net Rigger.

In addition to the above, a competent individual from the company installing Roof Over-Netting should prepare a site-specific Risk Assessment and Method Statement (RAMS) for the works which considers the practical aspects identified by the FASET Guidance and identifies a "Project Manager".

The Project Manager should be responsible for ensuring the RAMS have been communicated to the whole Safety Net Rigging Team before work commences, and that the RAMS have been signed by each Rigger. The Project Manager also has a responsibility to ensure that any scaffold structure used for either access or safety net anchorage has been handed over by the scaffolding company and is within its statutory inspection in accordance with the Work at Height Regulations. The Project Manager also needs to ensure an effective exclusion zone beneath the installation area has been created and is being maintained for the duration of the safety net installation works, as per the RAMS.

## Safety During Safety Net Installation

The Safety Net Rigging Company should ensure that the Client is aware that whilst work is being carried out on the roof, either by the rigger or the roofing contractor, an exclusion zone must be created beneath.

**NB:** The size of the exclusion zone needs to be assessed in relation to the foreseeable risks and could cover an area larger than the actual area being worked on as broken roof sheets can spread significantly after impact.

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The Safe System of Work developed by the Safety Net Rigging Company needs to consider a number of aspects which includes:

- Access to the roof structure.
- Loading of materials to the roof structure.
- Fall prevention / protection measures, such as perimeter scaffolds, edge protection, safety lines, harnesses and restraint lanyards, walk boards etc.
- Weather conditions.
- The method of placing the safety net on the roof.

The RAMS Must also identify a suitable rescue plan, and this should be understood by all of the Safety Net Riggers and the Client.

It is imperative to check that all nets are installed as per the Temporary Works Design prior to a handover certificate being issued.

## **Safety During Roof Installation**

The Client should ensure that the Roofing Contractor understands that their works has the potential to damage the Safety Net and effect the integrity of the it. The Client should be satisfied that the Roofing Contractors Safe System of Work avoids damaging the Safety Nets.

The Client and Roofing Contractor should understand that if a Safety Net is damaged by materials or an impact, the net will need to be repaired or replaced.

The Roofing Contractor should never cut a hole in a safety net.

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