

# Fall prevention systems: rules and practical use

Photo presentations by Jos van der Borgt  
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## Explanation of the photo presentations

### Photo presentation 1: Impression working at height. Dutch vision.

**Slide 1** Opening slide.

**Slide 2**

As I said, working with protection systems also depends on culture. Rope access systems are more common knowledge in countries with mountains, where they are used for climbing.

**Slide 3**

As you can see: in Holland are no mountains. It is flat a flat country, nearly 60% of it is 3-6 metres below sea level.

**Slide 4**

We have more and more high buildings.

**Slide 5**

Here you see common houses. For roof maintenance you need ladders and scaffolding.

**Slide 6**

We also have many flat roofs: for companies, apartments, schools and so on.

**Slide 7**

Even houses with a roof made of reed need scaffolding and ladders. Or even a crane, as you will see later on in my presentation.

**Slide 8**

In France and Germany are many houses with slate roofs.

**Slide 9**

Windmills! For maintenance we are used to lifting the roof and mills with a crane and put them on the ground. This is what we call an example of a 'safety-first-strategy'. Thus preventing falling from height at source.

**Slide 10**

There is always a risk of falling, with small but even more with sized ladders.

**Slide 11**

We mostly use a crane for bringing materials on to the roofs.

**Slide 12**

The use of rope access systems is almost a passion for climbers and sailors. But it is not common practice for most building workers.

**Slide 13**

Yes, we can fly. But we cannot use these for working at height.

### **Slide 14, 15**

A fall from a flat roof gives multiple problems: you fall against several objects, as you can see on these two slides.

Therefore the best choice is to restraint work so that falling is impossible.

### **Slide 16**

Oil platforms, bridges, pylons and other tall buildings, may be the context where the use of rope access systems for working at height is the best option.

### **Slide 17, 18, 19, 20**

And you can always use a tower wagon or crane; plenty of them around.

## **Photo presentation 2: Safety-first-strategy in The Netherlands**

### **Slide 21** Opening slide

### **Slide 22**

At the left side a ladder is fixed at the top; also at the above right side.

At the corner right side below, you see a ladder through which you can walk upon the platform. I saw them here in Kiev too, on several apartment roofs.

### **Slide 23**

Here you see a mark at the eaves, where you can safely fix your ladder at the top. We recommend it to building owners, unfortunately it is not compelled by law.

### **Slide 24, 25, 26**

Here you see several solutions for securing the ladder.

### **Slide 27**

The ladder top at the base. It is specially needed when floors are slippery.

### **Slide 28, 29**

Here a few examples from a so-called 'cage ladder'.

When you reach the platform you see a guard rail from 2 or 4 metres. This will bring you to the safe zone.

### **Slide 30**

Here you see some examples from a tower of stepladders.

### **Slide 31, 32, 33, 34**

Examples of scaffolding; mostly for working at or on the roof.

### **Slide 35, 36**

We also recommend building workers to create a safe place to enter the roof. Best is 4 metres from the edge.

### **Slide 37, 38, 39**

And now some examples of semi-permanent guard rails.

### **Slide 40**

It is best to integrate the guard rails into the design.

At the above right side you see a famous architectural design from a Dutch factory built in the sixties: Van Nelle Fabriek Rotterdam.

**Slide 41**

Another semi-permanent system.

**Slide 42**

Pay special attention to securing the corners.

**Slide 43**

An example of the use of nets.

**Slide 44**

You see, these situations are extremely dangerous when no measures for fall prevention are taken.

**Slide 45**

This way of using the net is not only wrong but also forbidden; a falling worker cannot be caught.

**Slide 46**

It is good to use pictograms as a warning signal against falling through window or dome placed on the roof.

**Slide 47, 48, 49, 50**

Examples of marking safe zones on the roofs.

**Slide 51**

A kind of a cherry picker

**Slide 52**

Unfortunately we see this too much. It is absolutely forbidden.

**Slide 53**

They know how to do it! In the working place they also wear a harness.

**Slide 54**

Currently we are in discussion with the manufacturers of these machines about the development of a working place with a movable front so you can safely enter the roof. If this solution is possible and permitted we have a kind of elevator for people (and materials) working on the roof for a short time.

**Slide 55**

Also for working with reed is a platform available.

**Photo presentation 3: Use of fall equipment in The Netherlands.**

**Slide 56** Opening slide

**Slide 57**

To allow the use of a harness or an individual protection system against falling from height, a special training is required. For several occupations, e.g. window cleaners and roofers, it is obligatory to follow this training one or two days yearly or every three years.

**Slide 58**

More and more gardeners are working on roofs. And they also have to use fall protection.

**Slide 59, 60**

As I said, there are many kinds of anchor points.

**Slide 61**

A full body harness must fit the individual user.

**Slide 62**

Always use energy absorbing.

**Slide 63**

A removable anchor point.

**Slide 64**

Another one, based on 25-kg modules.

**Slide 65**

This is an element you can use as a single point or in a system.

**Slide 66**

And here we see a system that allows you to safely walk the edge and use several machines and installations on the roof. In the rail is a bull you can fit your rope system.

**Slide 67, 68, 69**

Here you see the school and training centre for roofers and special training for working at height. It is funded and run by Dutch roofing industry employers and the trade unions.

**Slide 70, 71**

Finally, some people who also need a lot of training for working at height.

**Slide 72** Thank you for your attention.