

# Hazards associated with deep excavations



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## Health and Safety Task 2

P3 Describe a range of identifiable hazards associated with deep excavations and scaffolding when working from heights. Explain who may be at risk from these potential Hazards?

Working from Heights: When working from heights it is vital to remember to be very careful because of the numerous dangers when doing so, there is quite a lot of professions that work from large heights, but the most common one in the construction industry is scaffolding. So I'm going to give you some examples of hazards associated with scaffolding;

Falling from said height: The dangers here are obvious, depending how far you fall and what you hit when going down and of course how and what you land on all determine how much damage you will take. Now the simplest way to make sure people don't fall of scaffolding is by having safety rails and barriers all the way around the platforms but this can cost a lot of money if they make it completely protected all the way around, so they have to make the scaffolder's on site aware of any certain areas that are more dangerous than others for example a hole where ladders are from the area below, an area that isn't as well protected as it isn't an area of high traffic. When talking about falling from heights and who gets injured due to it this will rarely involve the public as they should not be climbing the scaffolding to be able to fall, so this will usually only effect the workers.

Objects falling from height: Objects falling from height is one of the main causes of injury and death in the construction industry, this is because of the nature of the items and the large heights that are used on site for example,

a lot of bricks and iron poles fall from the top of scaffolding that could be as high as a 30m building or even more, this is why P. P. E like hard hats were introduced because we identified hazards like this and realised this was the best plan of action. Objects falling from height can be very dangerous to the passing public when there is scaffolding being done on a busy main street for example, we now put measures in place so that the public has to be a certain distance away, as well as having netting they're to try and catch the falling debris. Obviously workers are also injured and killed from falling objects quite regularly as well.

### **Deep Excavations:**

Deep Excavations is where you have dug a rather large hole that requires foundations to keep the ground from caving inwards and crushing what ever is inside. Now obviously this is very dangerous job because there are a couple of major risks that are involved for example, the ground caving in around you, lack of oxygen in the tunnels, and digging in areas of danger.

Ground Caving In: There is a great risk of the ground caving in while digging, the way around this problem is by creating foundations as you go along, these foundations will keep the sides from caving in, this is the most common danger when doing deep excavations, as sometimes people don't make strong foundations and the foundations could break leading to a cave in.

Lack of Oxygen: There is a chance when working so low down that there will be a lack of oxygen, obviously we have found ways around this with Oxygen

tanks and so on but, there is still a fear that the oxygen will be thin and cause you to pass out.

Digging in areas of danger: There is also the danger of digging in dangerous areas when digging for example an electricity cable running along the ground, or major water pipes could also cause serious problems if damaged when digging. So it is very important to check the area that you are digging in properly to make sure that there isn't anything that could cause problems when digging.

P4 Review and evaluate the main principle features of a risk assessment for these situations and determine the main differences between risks and hazards?

### **Risk Assessments:**

There are four principle features of a risk assessment these are;

Every employer must take an assessment of the risk to their works and non-employees at work, the risk assessment that has been taken must then be reviewed in case there is any changes needed to it, and then specific risk assessments must be carried out on young persons employed at work. These principles are very important they are what makes risk assessments work, if you don't stick to certain principles for example things could go wrong; Every employer must take and assessment of the risk to their works and non-employees at work, this is arguably the most important of the four as this is the base foundations for the rest, it is important to remember that the risk assessments that are taken are also for the public not just for employees. Secondly the undertaken risk assessment must be reviewed this is due to

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the fact that there could be a few risks missing, or on the other hand they might have added a few risks that weren't there at all.

There is also five main points to consider when doing a risk assessment these are: Identify the hazards, decide who might be harmed, evaluate the risks and precautions to be put in place, then record your findings and review your previous risk assessment and update it.

Difference between a Risk and a Hazard: A Hazard is something that potentially has the ability to cause harm for example things like hot water/steam, electricity whereas a Risk is the likeliness of that said Hazard happening, for example electricity is being transferred threw a wire this is a potential hazard, there is no risk until the wire for example has been damaged, now there is a risk of being electrocuted so it becomes a risk.

M1 Carry out a risk assessment for the task associated with the construction of a retaining wall. Remember to consider the 5 steps to a risk assessment.

Introduction: First before I actually do a risk assessment I'm going to quickly explain what a retaining wall is and make a diagram so it will be simpler to understand where I have found the risks and why I see them as risks.

Retaining Walls: A retaining wall is a style of wall that is used more specifically for holding back dirt/stone back from a certain building/area; retaining walls if erected properly can be incredibly effective at fighting back erosion of the soil around the retaining wall. They are built by digging down and creating foundations and building the wall from the foundations up.

D1 Justify your risk assessment strategy with accident records and data available and explain how you have taken all reasonable and practicable steps for control measures monitoring that you believe essential.

### **Measures In Place**

I believe that we have taken all steps that are essential to control the dangers surrounding building a retaining wall, with a deep excavation for the foundations of the wall. We have found every hazard that we deem worthy of risk and rated said risk, we have put measures in place to make sure that these risks are avoided for example; when digging an deep excavation there is great risk that the ground can cave in from the sides, we get around this by making sure that we have safe solid foundations, making sure that they are maintained is vital as its no good having foundations if there going to break due to negligence. It is clear that it's essential to have the right controls in place as the construction industry is a very dangerous place. So in conclusion I believe we have managed to cover every risk there, and as long as we stick to what measure that have been set we should be a lot safer than before.

### **Data on accident records**

It is important to back up the risk assessment with recent data as to prove that there is a decline in people getting hurt and that the measures that we are putting in place over the years are making a difference. The first set of results shows the amount of injuries due to falling from heights in the construction industry between 1996 - 2008, the second set of results show the amount of injuries due to falling from heights in the construction industry

between 2008 to 2009; it shows the three main types of injury, Fatal, Major and over 3 day injuries.