

Frequently asked questions (FAQ)

As a consultant, a property developer or someone who is responsible for site health and safety, you should be concerned about the potential risks from WWII unexploded bombs (UXB).

UXBs can be an emotive subject, and, occasionally, unscrupulous companies will take advantage of a customer's inexperience of dealing with such issues.

This document deals with frequently asked questions and offers a realistic view of the potential risks that apply to most situations in the UK. However, it is impossible to address the full variety of ordnance types and site conditions.

If you have more specific questions or details of a site, please feel free to contact us for advice.



Have you ever considered to what extent hidden UXB may affect the safety of your site crew?

QUESTION

What's the difference between UXBs and UXOs?

A UXB is an unexploded bomb, while UXO refers to any type of unexploded ordnance and so includes ammunition.

When trying to detect WWII UXBs, do I need to search for both ferrous and non-ferrous UXBs?

Airdropped ferrous bombs constitute the main risk. The smaller non-ferrous bombs were primarily incendiaries (fire causing) and had little ground-penetrating ability, so are unlikely to be present.

Can I detect a buried UXB from ground level?

The commonly found WWII 50-kg bombs are detectable at depths of less than 2 m, while larger bombs, such as the frequently used 250-kg bomb, can be detected to depths over 4 m depending on the level of geophysical noise.

What is geophysical noise?

This is a term applied to the interference picked up by detection equipment from other materials in the ground. The effect is to mask the signal that may be from a UXB.

What do I do if I don't believe the claim a bomb detection company is making?

Ask them to prove their claim and get further advice from other companies.

How can some companies state a higher detection capability than others?

Some companies don't understand or consider the effect that actual site conditions may have on the detection capabilities of their equipment.

What do I do if I find a suspicious item?

Stop, don't disturb it and get help.

Has anyone ever died or been injured by digging up a WWII UXB?

Yes. There have been numerous incidents since the war, although the most relevant and probably most famous was in September 1994 in Berlin, where a piling rig hit a bomb and killed 3 people and seriously injured 8 other people.

Why do you recommend using probing methods when looking for bombs?

Compared to most drilling techniques, probing offers less shock and disturbance into the ground and so reduces the chances of a bomb detonating.

If our site was not a direct WWII target, surely there is no risk from UXBs?

Your site could still have been bombed as a result of the blanket and tip-and-run bombing raids that were common during WWII.

Can a bomb be found under a building?

Yes. It was quite common for bombs to penetrate the ground and then travel down and laterally until they came to rest.

Why bother to address the UXB issue if no one has been killed recently?

Because something may happen if you don't address the risk. Ignoring the risk from UXBs is not an option and may, under certain health and safety legislation, be illegal.

ANSWER



Are historical records for bombs always reliable?	No. They are often incomplete and should be used with care.
Is there any legislation that forces me to address the UXB risk?	Yes, you are required to ensure that works are conducted in a safe manner under general health and safety legislation and the CDM Regulations.
What if I do nothing?	You may be putting yourself, your colleagues and your contractors at risk, but more commonly the consequence could be that your company will incur expensive downtime. You don't have to conduct a comprehensive UXB detection survey for the site, but being aware of the risks is prudent.
Why don't all companies address the UXB risk?	A few companies still don't recognise the risk. The more responsible companies address the UXB risk routinely.
What happens if you have conducted a UXB survey and identified an anomaly with the characteristics of a bomb?	It will either be removed, or left in the ground if it won't be disturbed.
I've heard that bombs become unstable and dangerous with age?	No. On the whole they remain as stable as the day they were dropped.
What is an abandoned bomb?	In the UK, abandoned bombs are those UXBs that are known to exist and so appear on the official abandoned bomb list held by Central Government. These are not to be confused with UXBs marked on historical maps and lists etc. UXB cited on other sources may no longer exist so always refer to the official list.
Do I need to conduct a desk study?	Only if you are unsure of the risk. However, always conduct an abandoned bomb search and make use of the free regional bomb maps available at www.zetica.com .
Is it true that if a site has been developed since the war, all risk of UXBs must have been removed?	No, a UXB will remain until it's either dug up during construction, or found and removed as part of a UXB detection exercise. If past site excavations were not on the bomb's position or did not go sufficiently deep, then the UXB will remain.
What types of UXB should I be concerned about?	In the UK, it is generally accepted that the main risk is from bombs ranging from 50 to 1000 kg. The most commonly found types are 50kg and 250 kg bombs.
Can you tell if a buried object is a bomb or something else by using geophysics?	Only to a limited extent. Geophysical techniques can help to give an idea of size and shape, but in general, something like a buried oil drum will still look like a UXB.
What will happen if I disturb a bomb during excavation works?	You might get away with it, but don't disturb it any further. Most accidents occur once ordnance has been found and people get curious.
What are the chances of a piling or drilling rig causing a bomb to explode?	High. There are certain circumstances where the type of bomb could mean that piling or drilling straight through it will not cause it to detonate. However, guaranteeing that the bomb you drill through is one of these is impossible. So always take precautions to avoid piling or drilling through bombs.
What's the difference between EOD and EOC?	Military specialists are responsible for explosive ordnance disposal (EOD), while explosive ordnance clearance (EOC), i.e., finding the ordnance and dealing with any finds, is undertaken by civilian companies in the UK.
What parts of the country have the greatest risk from UXBs?	Major cities, industrial centres and other areas on the bombers' flight paths.
Can you detect bombs in made ground and fill materials?	In principle yes, but only if there is not a high ferrous metal content in the surrounding materials.
The detection radius or detection depth of your equipment seems to change, why is this?	If the background magnetic noise is high, it can mask the signal from a UXB so this is just a reflection of site conditions.
The depth at which you say we need to detect bombs changes, why?	This relates to changes in site conditions and reflects changing site geology.
Can a WWII bomb explode without disturbance?	This is considered unlikely. Some change in the conditions surrounding the bomb is required to cause it to detonate.
At what depths can a UXB be found?	For most of the UK, UXBs are found within 10 m of ground level, but in soft silts, they may have penetrated to depths in excess of 20 m.