

Archaeological excavation sites

Safer activity advices



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THE ARCHAEOLOGICAL EXCAVATION CAMPAIGN

Are you an archeologist or are you studying to become one? Are you conscious of the construction site risks?

An archaeological excavation is like a movable construction site which follows all the organizational prevention and protection work measures according to D.Lgs. 81/08, title IV.

Moreover, D. L. 363/98, compares it as a laboratory where students perform practical activities included in the study plan, therefore “student” is equal to a “worker”. The supervisor oversees activities carried out in a movable construction site, the scientific project manager oversees works during the archaeological excavation campaign, so the scientific project manager is the supervisor.



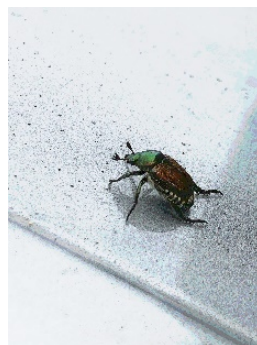
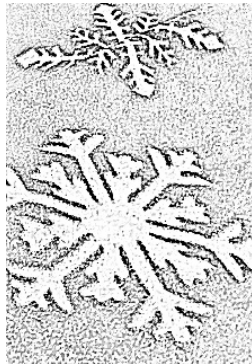
The working activity implies:

Work environment
Work surface
Equipment
PPE
Aids

WORKING ENVIROMENT

The activities take place mainly in open environments.

Workers are exposed to different kinds of risks, related to the weather (hot/cold), mosquitos and small



animal bites, all of them have different severity outcome. The design of the site's layout and its reclamation may reduce risks. Training and accurate information can prevent the majority of unpleasant events. Furthermore, a specific training on PPE use is mandatory.

WORK SURFACE

The archaeological sites are often realized in wide or restricted areas, frequently with deep excavations, then the risks of falling from a high position



may easily happen; also, the ground may not be flat, and workers may stumble due to an equipment wrong placement.

PORTABLE LADDERS

Portable ladders need to be certified EN 131. Before using a ladder, it's important to check that every safety equipment is correctly located and ready to be used.

When climbing upwards: do not place objects on the rungs or steps and do not climb the ladder with busy hands; avoid using metal ladders if there are any electric charges in the range of 5 meters from it.



Over an unstable ground, place the ladder on a load distribution board.

Climbing either upwards or downwards, both hands need to be free in order to be able to hold on to the ladder, both aligned and facing it.



Use the ladder one person at a

time and without excessive loads; while using a straight ladder, be aware of the slope which needs to be optimal. While using a step ladder (which should not be higher than 5 meters) chains with enough strength or other devices to prevent the ladder opening over the prefixed limit and passing people underneath it, are needed.

Moreover, to guarantee a stable working space, the step ladder should end with a platform and the pillars of the ladder should be extended by 60/70 cm.

EQUIPMENT

Archeologist's tools are numerous and with different complexity. They can include from a shovel to a laser spirit level, with risks of crushing, abrasions and cuts. Every tool needs to be correctly used and needs to be put back in its right place in order to avoid a stumbling block.



PPE– Personal Protective Equipment



The student/worker must be equipped with the appropriate PPEs, which are:

- hard hat
- safety shoes
- dust mask
- cut resistant gloves.

AIDS

Aids like ropes or hoists are needed to move heavy loads.



Open spaces measures also need specific equipment like laser spirit level. Who uses these tools needs to be adequately trained.

Due to working in open spaces, a first aid kit is needed. In an extremely hot environment, it is necessary to keep oneself hydrated with adequate drinks to prevent heat strokes.

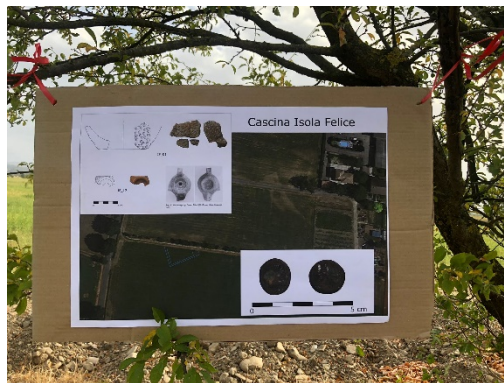


ADVICE TO REDUCE RISKS RELATED TO THE TASK

To avoid falling from the edge of a full depth excavation site, it's needed to:

- prepare temporary parapets, at the edge;
- place caution signs
- accurately illuminate the spaces during night activities.

Pay attention to give access to workplace bottom through ladders, while gangways should be used to move through the site.



Workers must wear covering clothes (pants should be inserted inside socks) resistant to insect bites. Avoid bright colored clothes. It's useful to sprinkle repellents on the uncovered body parts and or on clothes and not leave any food or drink residues. Some of the major risks are viper or tick bites and wasp or hornet stings (especially if the subject is allergic).

Working constantly in an open field with gaping wounds may also result in a tetanus infection so a tetanus vaccine is recommended. If the archaeological excavation is performed in an extreme environment (due to excessive humidity, cold or high temperature or sunbeams) be careful to assume the right behavior that was taught during training.

INFECTIONS FROM MICROORGANISMS AND ANIMAL STINGS/BITES

The risk may depend on the location of the site being in an unhealthy environment that needs to be reclaimed. It's necessary to follow the instructions given during training related to the most appropriate clothes, the use of repellents and PPEs given.

VIPER BITES: FIRST AID MEASURES

When bitten by a **viper**, do not carve around the bite, do not suck the poison, move the victim as little as possible and try to keep calm.



Immobilize the affected limb and go with the victim to an emergency department. If it's not possible to reach it (in an 1/1,5hrs), apply a band of about 10cm above the bite and loosen it every 30

minutes.

FIRST AID/PREVENTION MEASURES FOR TICK/WASP/SPIDER BITES

To prevent contact with **ticks**:

- wear light-colored clothes and cover the far ends with light-colored socks (or boots), wear long pants and preferably a hat;
- avoid touching the grass along path edge and don't go into high grass;
- at the end of the trip, do a visual and tactile check of body and clothes for ticks;
- brush the clothes before bringing them inside;
- use repellents and synthetic pyrethroids (most of them are easily available on the market);
- if found on the skin, ticks should be quickly removed (in 24h), because the probability of getting an infection is proportional to the time the tick stays on the victim.

Tick bites:

- don't apply heat or substances such as acetone, ammonia, ethyl chloride, ether, chloroform or vaseline before removing the tick, because they induce regurgitation in the tick which leads to a higher risks of pathogens being transmitted;



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- grab the tick with pliers as close as possible to the skin, carefully rotate counterclockwise and slightly pull it, be delicate to avoid the tick breaking;
 - apply disinfectants and antibiotics to the area only and exclusive after removing the tick, avoid substances that paint the skin (mercurochrome, iodine) as they could cover signs of infection;
 - if the tick's rostrum remains on the inside of the skin, remove it with the help of a sterilized needle;
 - the tick should be put in a closed box with ethanol to kill it, absolutely do not crush it as it would spread its egg in the environment.

Wasps, bees, hornets and spiders



wasps



bee



hornet



brown recluse spider

Examples: **brown recluse spider**: immediately wash with water and get to a hospital to check for loxoscelism. If possible, trap the spider without killing it in a jar so that it can be identified. **Karakurt bite**: immediately get to a hospital, do not go alone as there is a risk of an irregular heartbeat. **Bee/wasp/hornet stings or bites**: there could be an allergic reaction, so it's best to reach a hospital.

INCORRECT POSTURES



Workers could not pay attention on keeping the right posture being too busy working, and this could bring to some kind of repercussions on the locomotor system, if this happen for an extended period of time

An excessive work load leads the students/archeologists to go overboard, carrying too much weigh, often in an inadequate posture, risking a development of significant articular problems affecting spine column and discopathies

Here are some easy and simple movements to overcome this issue:

- use, as much as possible, suited knee supports and sittings;
- load balancing, putting the weight on the lower limbs, do not exceed the limit of 15kg for women and 25kg for men;
- take breaks and move outside of the workspace;
- do not carry excessive weights;
- do stretching exercises during and after the activity (ex. diagonally stretch the neck, rotate the shoulders, etc.).

Additional information on these LINKS:

[Europae Archaeologiae Consilium](#)

[Arches Project](#)

[Archaeology data service](#)

On workplace, it's necessary the first aid kit; then to keep contact one another when doing individual operation, it's suggested the app "**112 Where Are U**", which works using geolocation.

Bibliography: Corso sulla sicurezza nelle attività di campo, prof. Bogliani



CONTACTS AND INFORMATION

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