

stowa

SANDBAG *Science*

INSTRUCTORS
START AT THIS
SIDE OF THE
BOOKLET!

WORK INSTRUCTION PLACING SANDBAGS FOR **INSTRUCTORS**

*This publication
was made possible by:*

stowa

Interreg  Co-funded by
the European Union
North-West Europe

FlashFloodBreaker

 **DIJK
BEWAKING**
waterveiligheid in goede banen

INSTRUCTION

SANDBAG *Science*

DEAR INSTRUCTOR

This booklet is designed so that you can turn the side with pictures towards the group, while the instruction text can be read on your side.

INSTRUCTION

SANDBAG

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EXPLANATION FOR INSTRUCTOR

Instruction Instructors can use this booklet to instruct small groups (approximately 10 people) on how to properly stack sandbags.

- Tips**
- * Show the illustrations to the group during your explanation
 - * Keep it short: limit yourself to the instruction text
 - * Wear the protective equipment yourself
 - * Have some sandbags ready to demonstrate

Video Watch the instruction video (see QR code). The video is in Dutch, but you can change the subtitles to English.



SAFETY



SAFETY



Wear gloves when carrying sandbags.



Wear safety shoes to protect your feet.

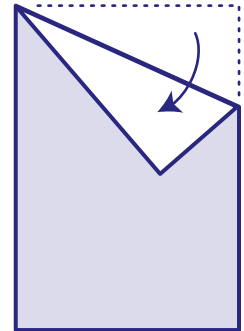
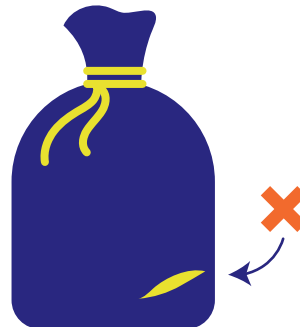
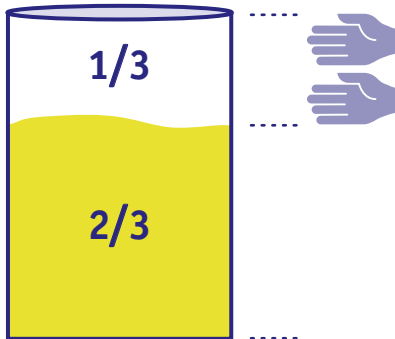


Wear a helmet near (running) machines.



Take good care of yourself and take care of others.
Eat and drink enough and take a break in time.

FILLING SANDBAGS



FILLING SANDBAGS



Fill the bags for 2/3 full with sand. The top 1/3 remains empty. Leave two hand widths of space above the sand.

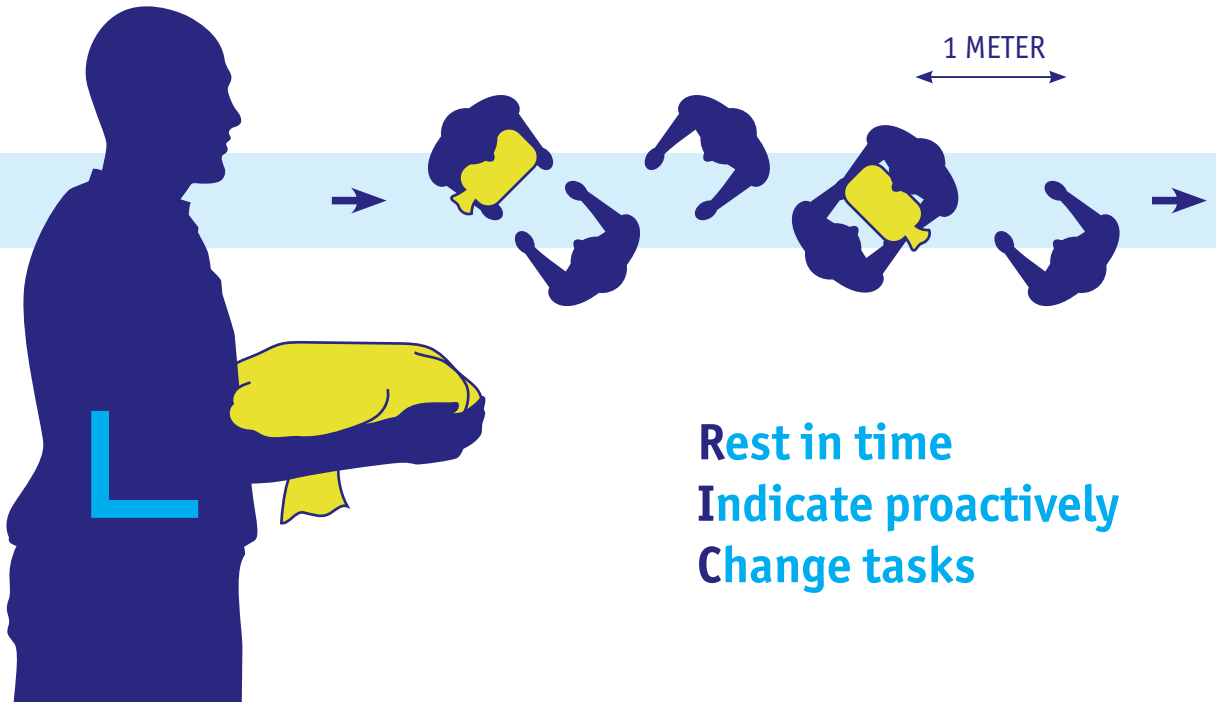


Close the bags with a binder so that the sand cannot wash out. Do not close the bag too low and do not use torn bags. When available, use sewn-up sandbags.



If you only have open bags, fold the flap over like an envelope. When stacking, secure the folded flap under the bottom of the bag next to it.

WORKING IN A CHAIN

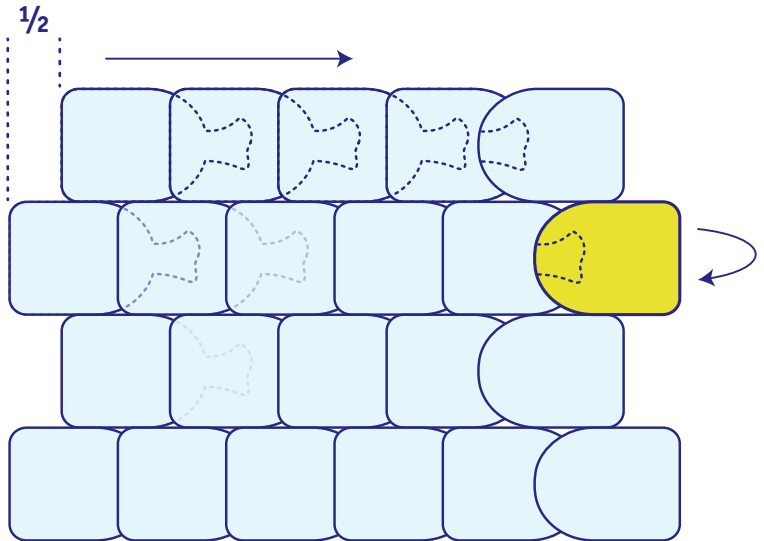
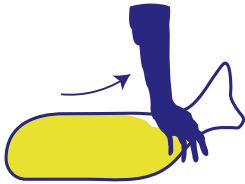


Rest in time
Indicate proactively
Change tasks

WORKING IN A CHAIN

- Carrying** Hold the bag close to your body and pass the bags with bended forearms; like the forks of a forklift.
- Positioning** Stand opposite each other, alternating when passing the bags along the chain. There is 1 person per meter. If possible, stand at the same height. Communicate well about the speed of picking up and putting away.
- Work RIC** Rest in time.
Indicate proactively what is needed: do not leave the people in the chain unnecessarily with full hands.
Change tasks regularly.

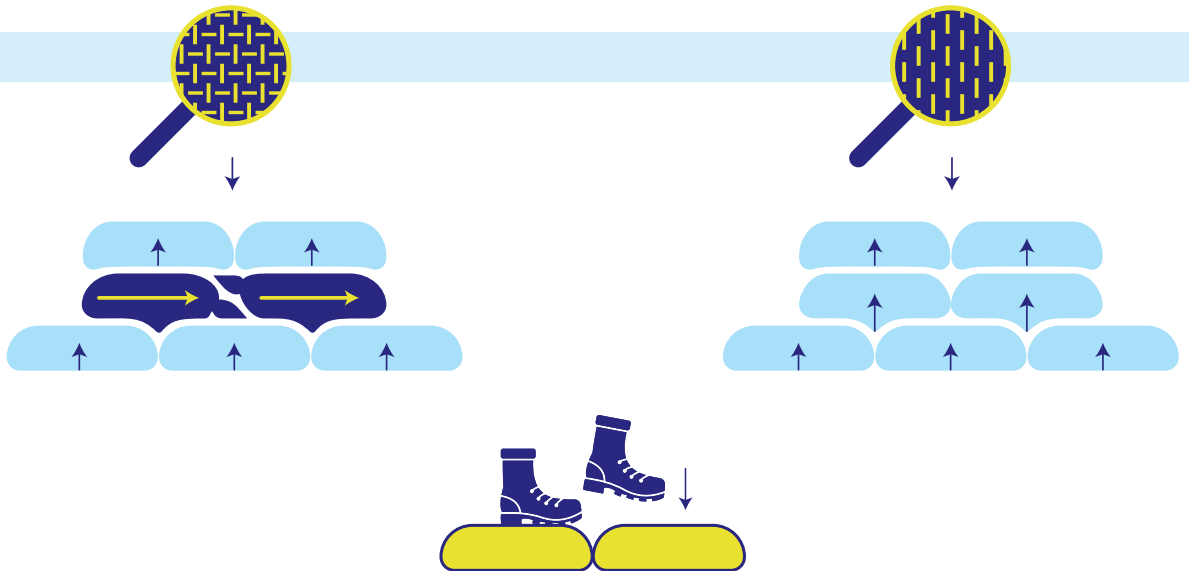
WALL: layer 1



WALL: layer 1

- Placing bag** Lower the bag with its bottom to the ground. The sand will be at the bottom. Hold the top of the bag so that it remains empty.
- Placing row** Lay the row in half-brick pattern: the next row is offset by half a bag from the previous one.
- Cover top** The bags are to be placed 'butt on top': place a full bottom on the empty top of the previous bag. Turn the last bag in a row over and place it with the top folded down.
- Fixing** After the top is covered, walk over the bags firmly for a good fit.

WALL: 2ND/3RD layer



WALL: 2ND/3RD layer



If the fiber of the bags provides crosswise resistance (jute), stack the layers crosswise on top of each other.



If the fiber of the bags gives resistance in one direction (plastic), stack the layers in one direction on top of each other.

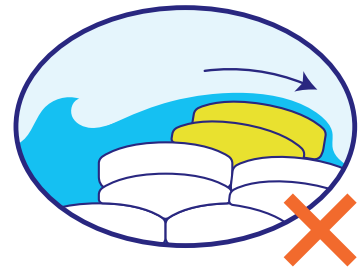
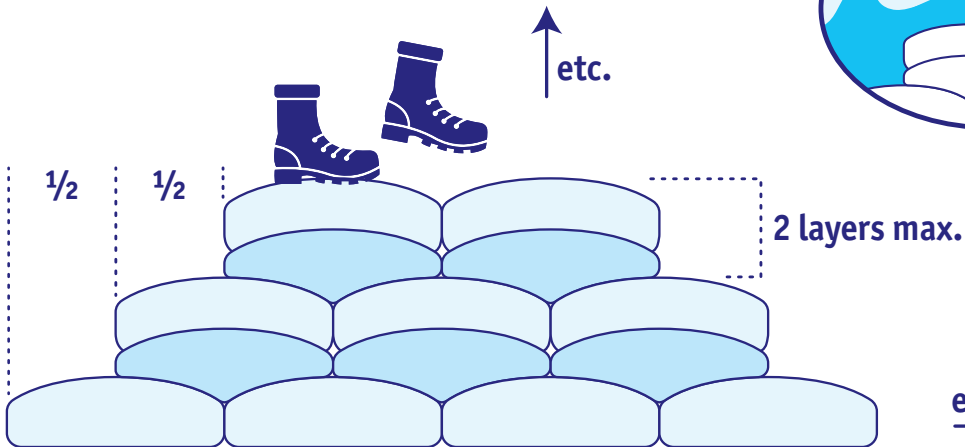
3rd layer

Lay the 3rd layer in the same way as the 2nd layer.

Fixing

Walk over every new layer firmly for a good fit.

WALL: stacking in height

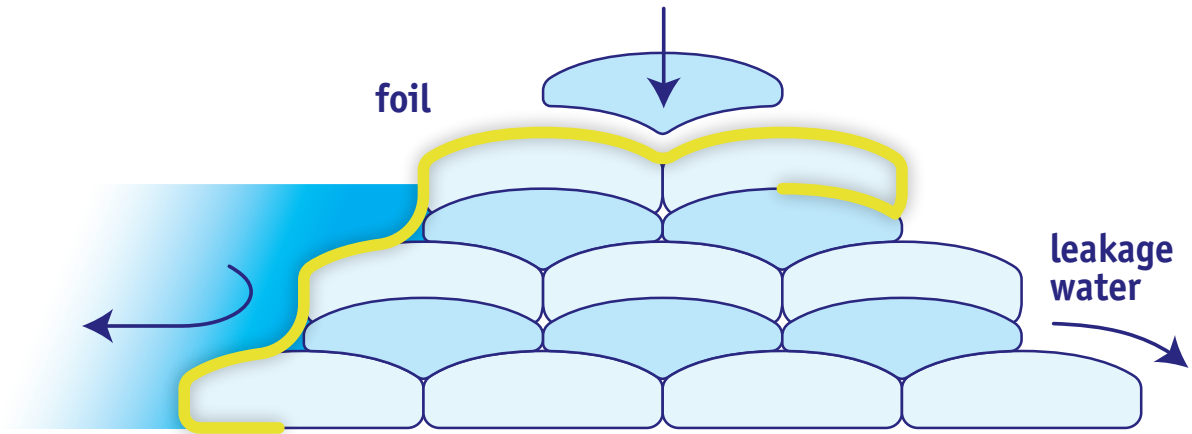


etc. →

WALL: stacking in height

- Pyramid** The top layer is always one bag narrower than the layer below, giving the stack the shape of a blunt pyramid.
- Place** Place a maximum of two layers on top of each other of a certain width. Place the next layer with half a bag width.
- Raising** If the stack gets higher, build the wall from the bottom up, layer by layer.
- Overtopping** Make the stack high enough that water cannot flow or splash over it, so that the back of the stack does not collapse.

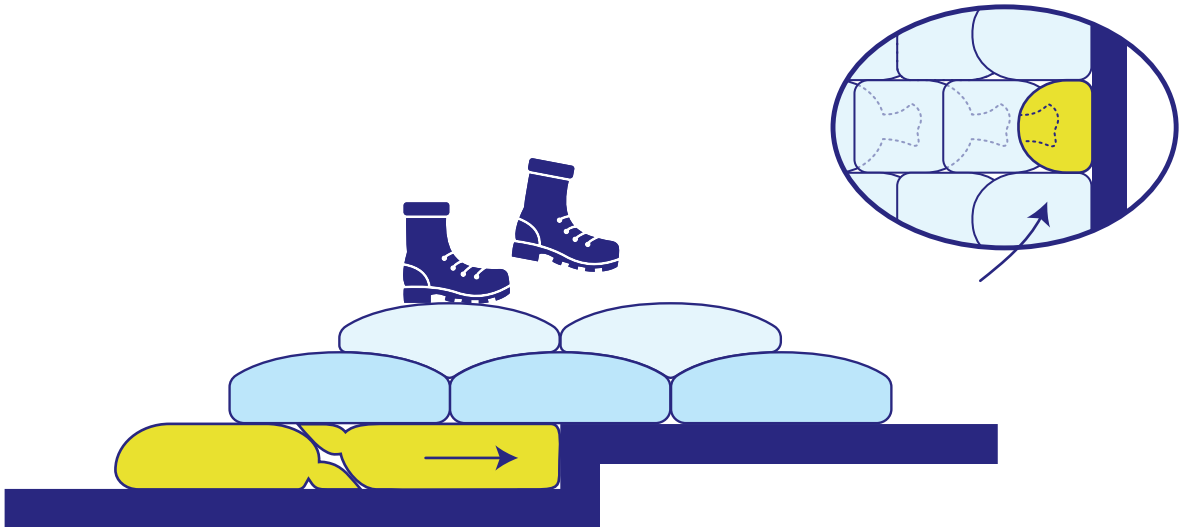
MAKING IT WATERPROOF



MAKING IT WATERPROOF

- Foil** A stack can lose strength if it becomes saturated with water. Therefore, use a waterproof foil on the water side to make a stack waterproof.
- Placing** Place the foil under the front, bottom row of bags. Tuck the top under a row of sandbags to prevent blowing away. Finally, weigh down with a final row of sandbags.
- Leakage** Leave the back side open so that any leaking water can always drain out.

SIDEWALK or WALL

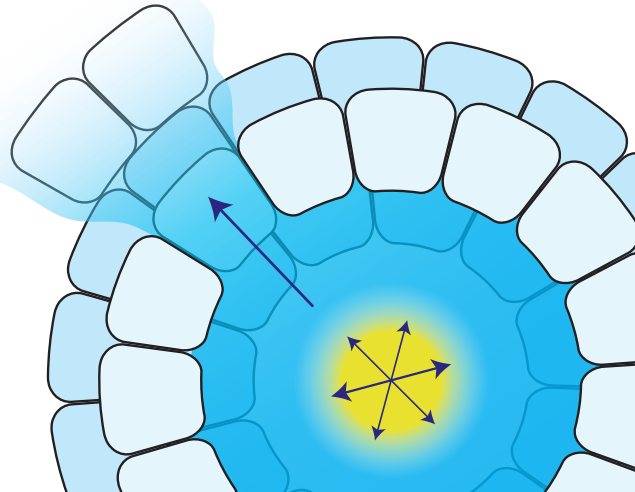
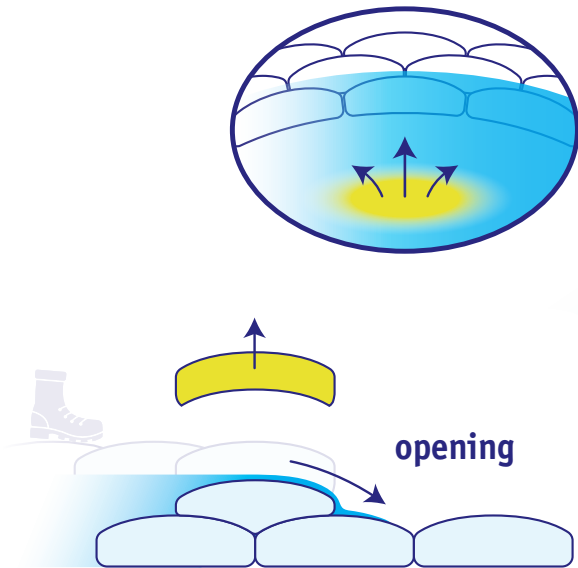


SIDEWALK or WALL

Connection If the sandbags have to be connected to a wall or sidewalk, it is important that the 'butts' of the bags are placed against it to prevent leakage.

Half filled If necessary, use half-filled bags to maintain the half-brick bond. Again, the 'butt' against the wall/edge and the bow folded downwards to prevent leakage.

MANAGING A SAND BOIL



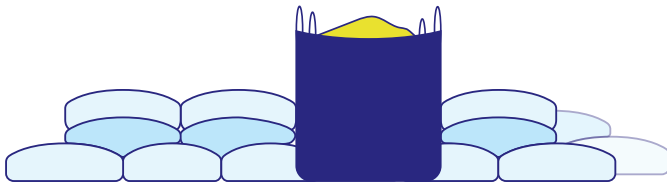
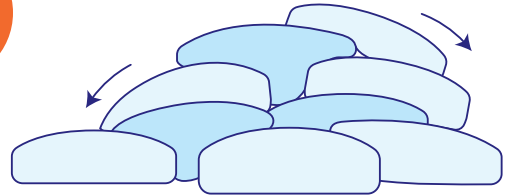
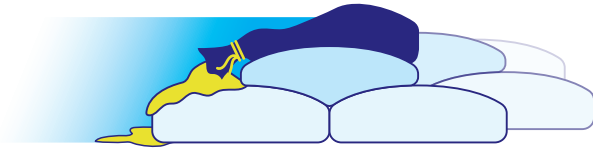
MANAGING A SAND BOIL

Sand boil If water flows fast enough under a dike through a sand layer, a sand boil can occur. This flow must be slowed down by counter pressure with water.

Ring Stack a ring of sandbags around the sand boil. By making the ring higher, water pressure is created in the ring. This slows down the water flowing out of the ground, causing the sand to settle. Stack the ring high enough that the water will still flow, but no more sand comes out.

Opening With an opening in the ring of sandbags, you regulate the water level. Place extra sandbags under the opening to prevent erosion.

PAY ATTENTION!



PAY ATTENTION!

- Debris** Do not stack sandbags on rubbish or sand.
You risk leakage or instability.
- Noose** Don't put the noose facing the water.
You risk loosening the noose.
- Sloppy** Do not stack the bags sloppily and loosely.
You risk instability of the stack.
- Alternate** Do not alternate sandbags with big bags or other types of bags.
Any transition between different bags is a weakness.

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WORK INSTRUCTION PLACING SANDBAGS FOR VOLUNTEERS