

# Building a sandbag wall

Although new styles of flood protection products have been developed in recent years, sandbags still provide valuable defence against flood water. However, it is vital they are used correctly if they are to provide full benefit. This leaflet provides instructions on how to use sandbags to ensure maximum protection for your community.

Many local authorities hold stores of sandbags for parishes to use in the event of a flood. It is important to locate the nearest store and agree arrangements to gain access in an emergency.

Filling sandbags and building a wall can be strenuous so it is very important that all those involved are fit enough to help. The local flood plan should include a list of volunteers from the community who are willing and able to carry out the work.

## Required equipment

Building a sandbag wall up to 600mm high requires approximately 80 filled (never overfill) sandbags per linear metre of wall to be built.

- To build a sandbag wall identify firm and level ground, free from obstructions.
- If the wall or dam is going to be in place for a long period of time PVC (e.g. Visqueen) sheeting should be used to form a barrier on the wet side of the wall.
- If time and conditions permit sandbags should be compacted after being laid, possibly using a vibrating plate.

It is essential that everybody involved in building a sandbag wall is equipped with the appropriate personal protective equipment, including gloves, steel toecap footwear and hard hat.

## Procedure for building sandbag walls and dams

- Lay alternate courses (Stretchers and Headers).
- Lay sandbags with seams and bag mouths facing inwards, as this is where moisture enters the bags.
- Shape the sandbags into rectangles before laying them.
- Use half-filled sandbags to enable you to stagger joints.
- Have the neck of the sandbags facing the same direction.

There are two ways of laying sandbags - Headers (Figure 1) and Stretchers (Figure 2).

Headers should be used on first, third and fifth courses etc. Stretchers are used on second, fourth and sixth courses etc.

Figure 1: Header course (Viewed from above)

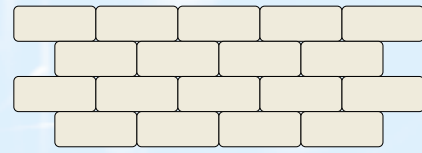


Figure 2: Stretcher course (Viewed from above)

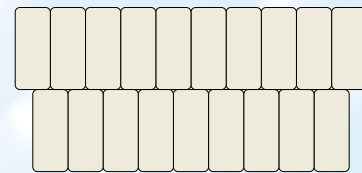
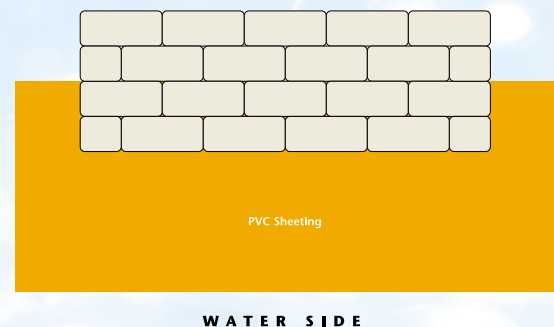


Figure 3: Polythene sheet in place (Viewed from above)



**ENVIRONMENT  
AGENCY**

### Instructions for building sandbag walls/dams

Before starting to build a sandbag wall or dam; decide on the required height and how long the wall will be in place.

For this exercise, the wall is to be 600mm high and will be in place for a long time.

1. Level the site.
2. As the wall is going to be in position for a long period of time, lay out a roll of PVC sheeting (e.g. Visqueen sheet). Position the PVC sheet so that the lead edge falls approximately along the centre line of the wall, with all the spare sheet showing at the front (water side) (Figure 3).
3. Shape the sandbags into uniform rectangular shapes.
4. Lay the outside bags first and finish in the centre. This will help to "tie in" the outside bags.

5. Always lay sandbags so that all joints are crossed, possibly using a half-filled or three-quarter filled sandbag at the start of a row (Figure 4).
6. After laying every course, consolidate the sandbags. This can be done using feet or, on alternate courses, using a vibrating plate.
7. For the first course, and all alternate courses, use a Header course.
8. For the second course, and all alternate courses, use a Stretcher course (Figure 5).
9. When the sandbag wall reaches the appropriate height pull the PVC sheet up and over the top of wall.
10. Place a course of sandbags on top of the PVC sheet (Figure 6).
11. To lay sandbags in a doorway, it may be necessary to empty some of the contents out or shape the sandbags to achieve a good fit without overlapping (Figure 7).

Figure 4: Header course - part filled sandbags  
(Viewed from above)

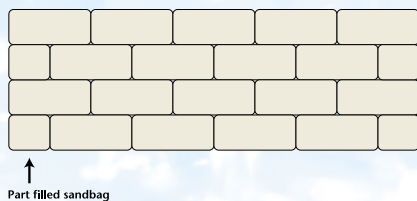


Figure 5: Alternate Header and Stretcher courses  
(Viewed from above)

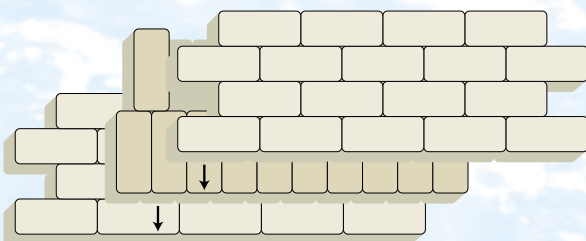


Figure 6: Completed sandbag wall (Viewed from end)

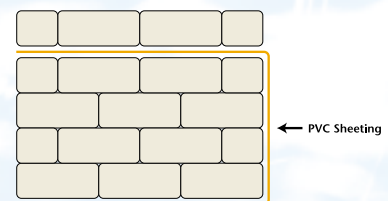


Figure 7: Sandbag wall across doorway  
(Viewed from water side)

