



# DEFENDER<sup>®</sup>

## installation handbook

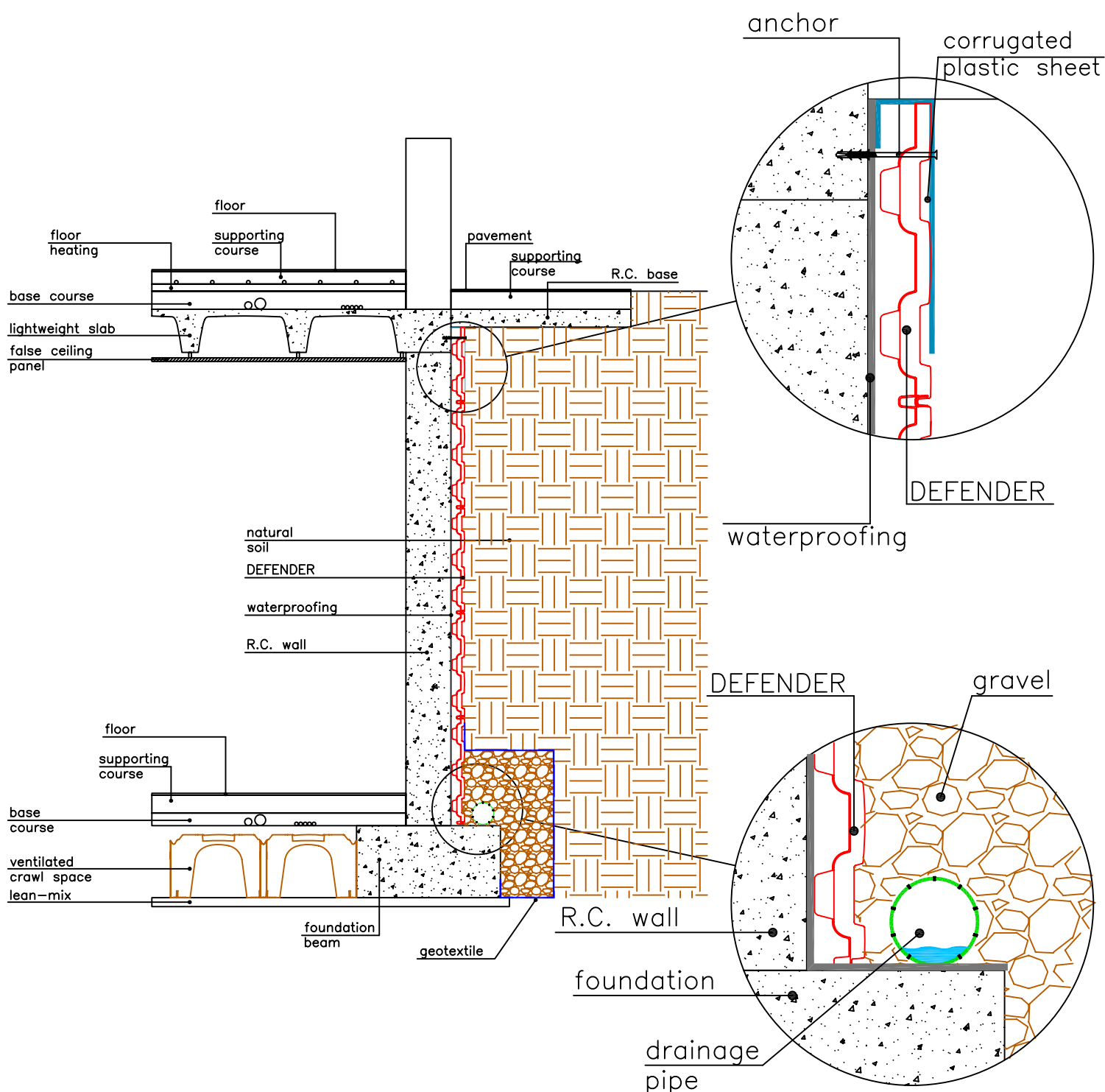


The basement wall- and foundation-waterproofing must be in place before the installation of DEFENDER® in order to create a good barrier to the infiltration of water.

DEFENDER® is installed starting from the bottom of the wall, the panels interlocking with the integrated overlapping joints.

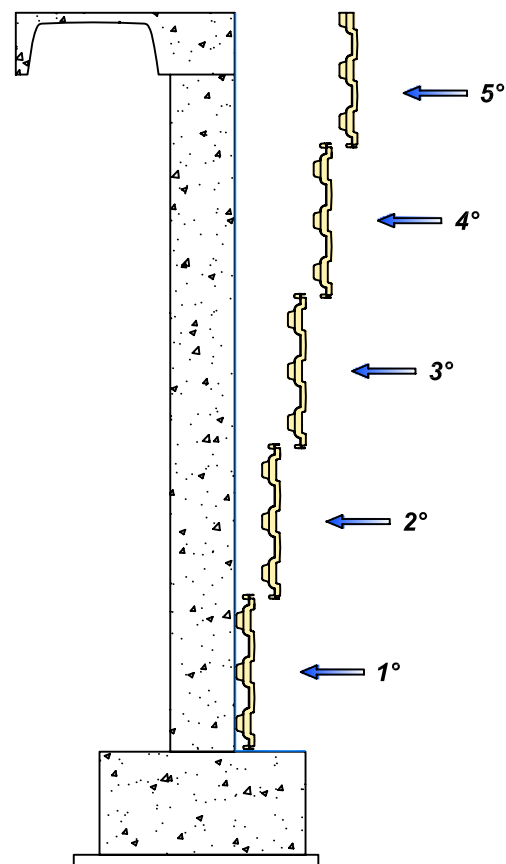
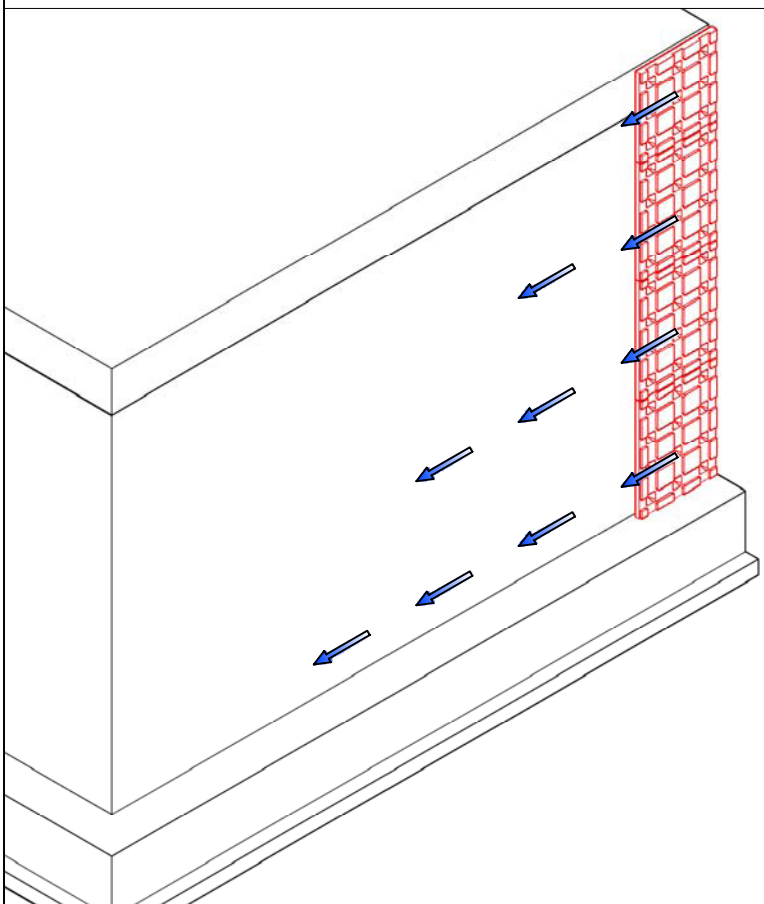
The top row of DEFENDER® will be sealed with an C-shaped sheet of corrugated plastic as shown below. To ensure that the system is properly fixed to the wall anchors should be used; chemical anchors are to be preferred over mechanical expansion anchors.

To ensure the drainage of water along the foundation it is best to install a drainage pipe along the whole perimeter of the building. The drainage pipe must be connected to a water retention and soak-away system. The drainage pipe must be covered by a layer of gravel, which must be separated by a geotextile from the natural soil.



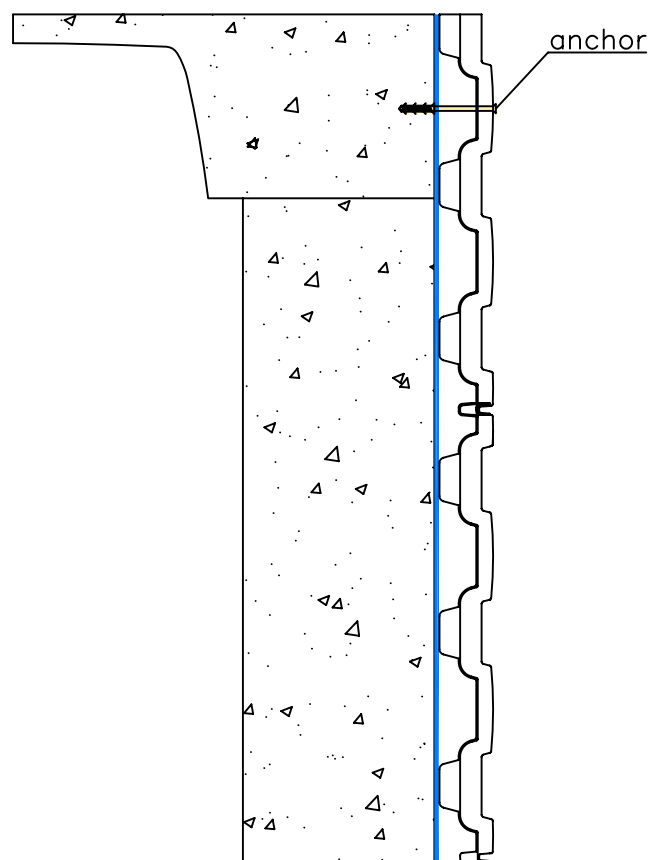
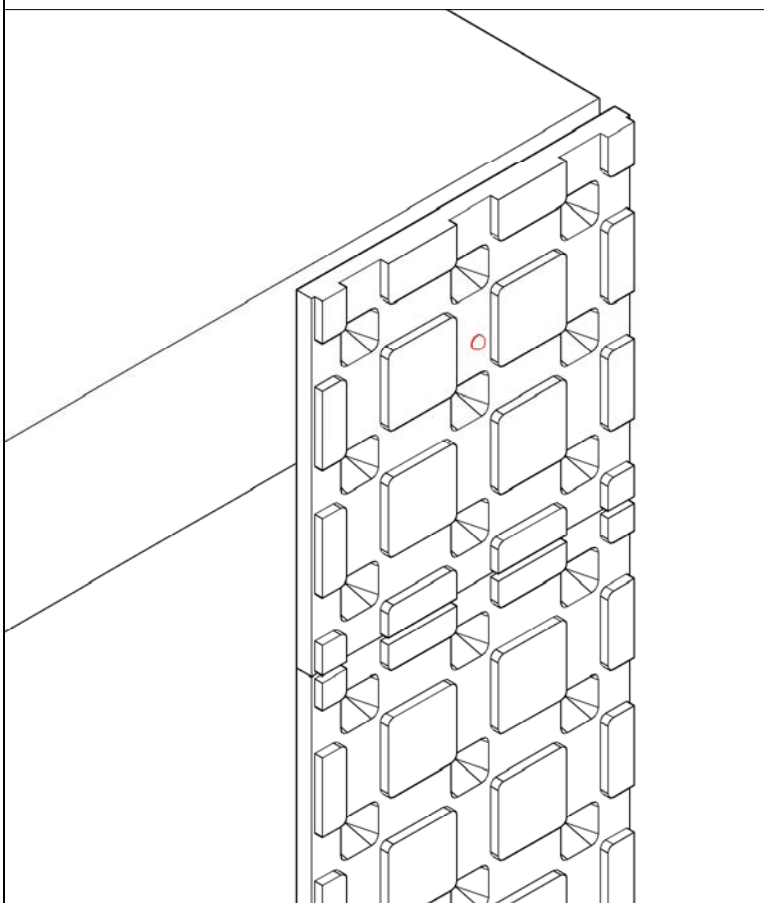
## OPERATION No.1:

*after having placed the waterproofing, install the DEFENDER® panels as shown below.*



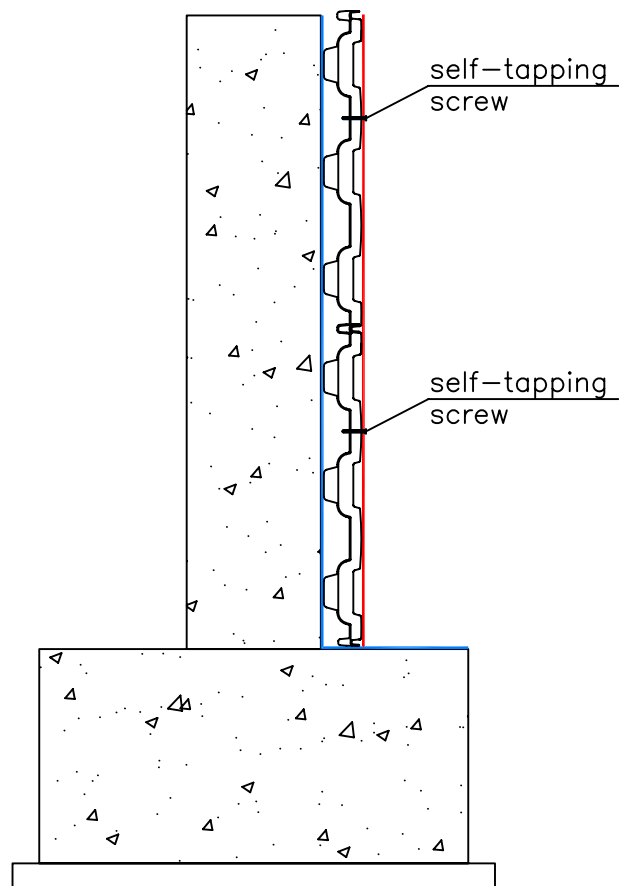
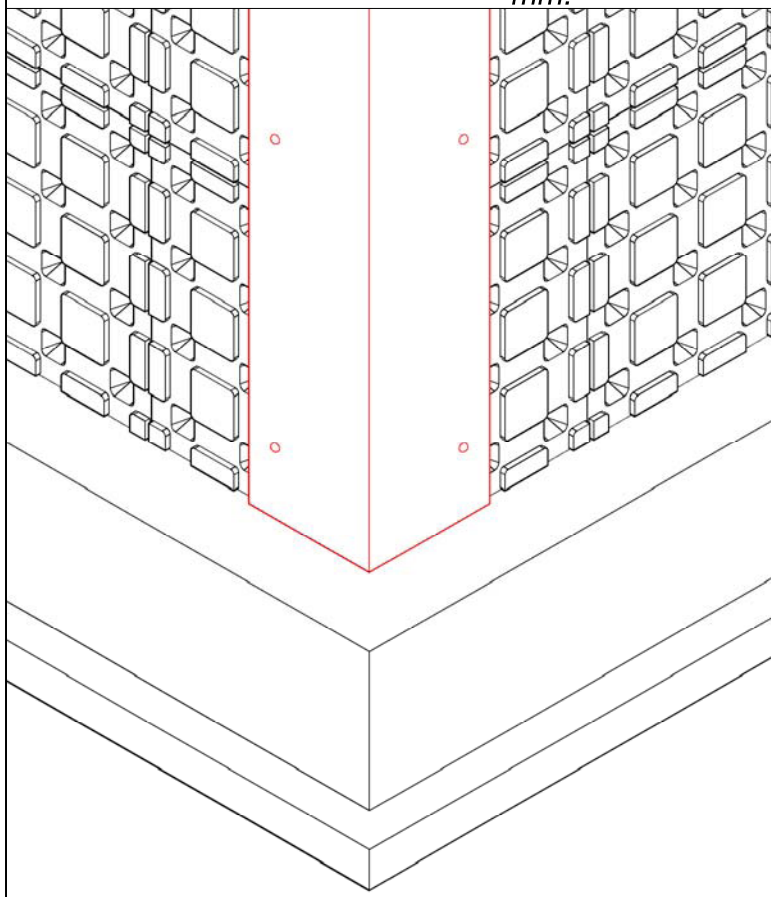
## OPERATION No.2:

*close to the ground floor level fix the top row of panels with anchors (chemical anchors are preferred over mechanical ones)*



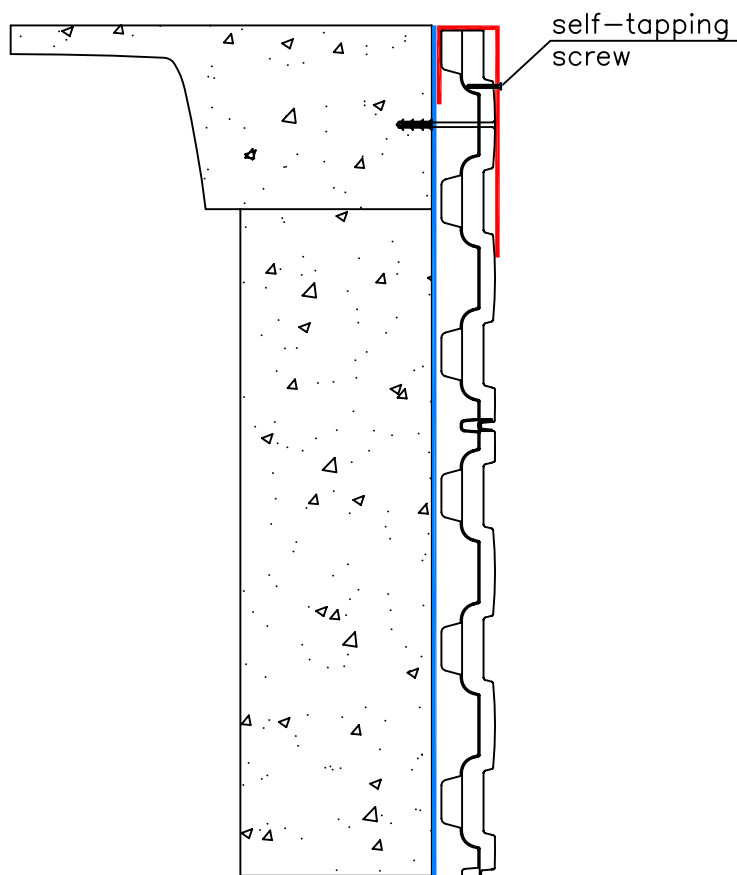
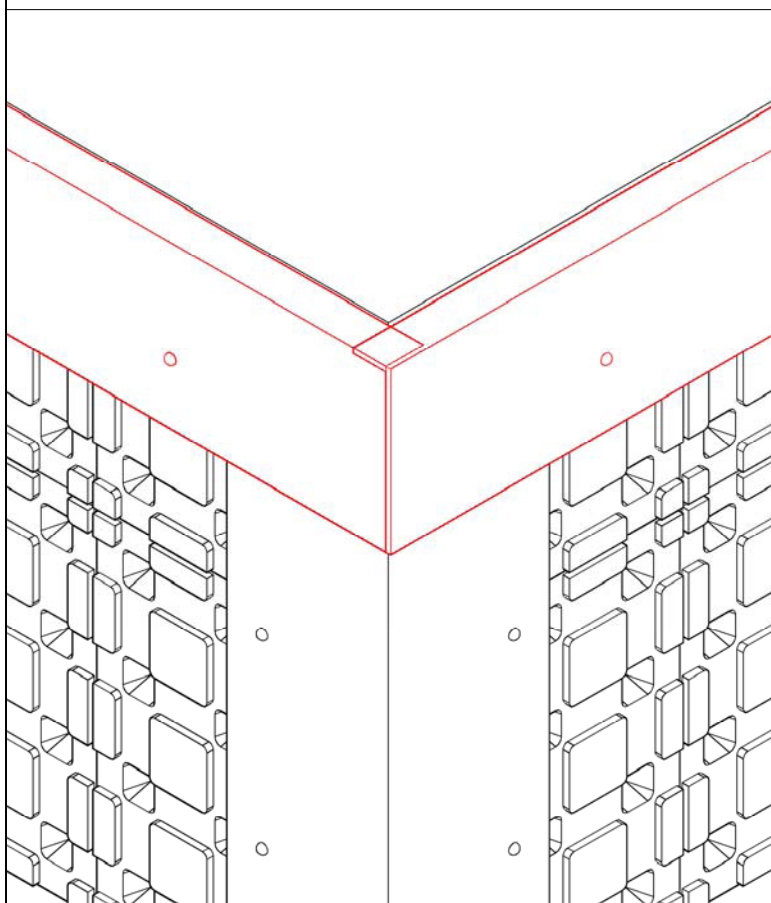
### **OPERATION No.3:**

*wrap the corners with L-shaped sheets of corrugated plastic, fixing them to the DEFENDER® panels with self-tapping screws of max. length 50 mm.*



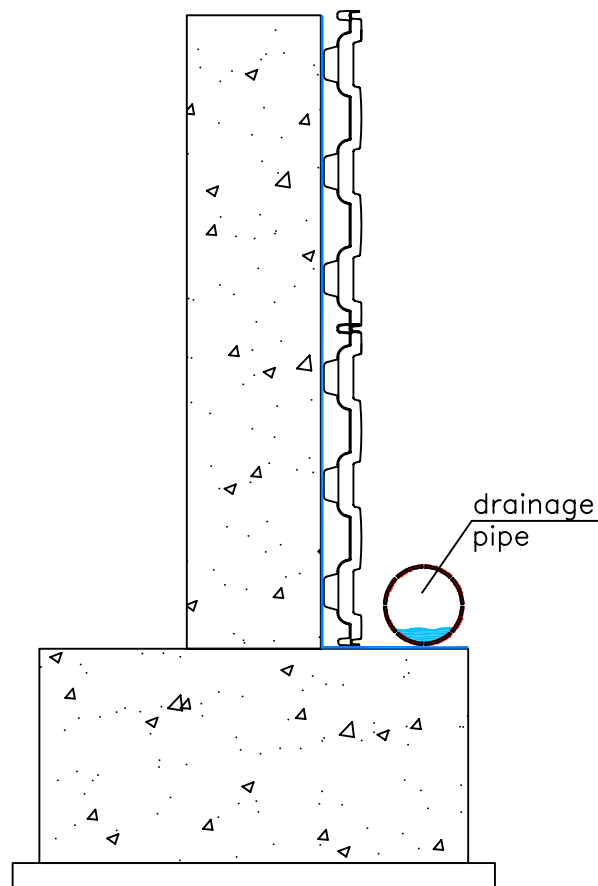
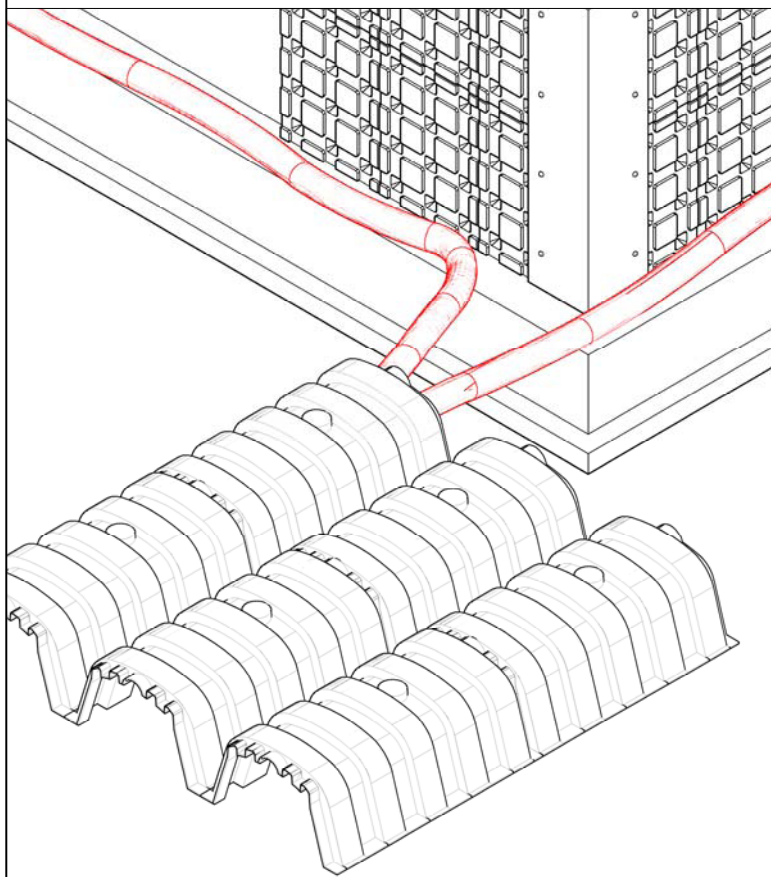
### **OPERATION No.4:**

*place the C-shaped corrugated plastic sheet over the last row of DEFENDER® and fix with self-tapping screws to the panels.*



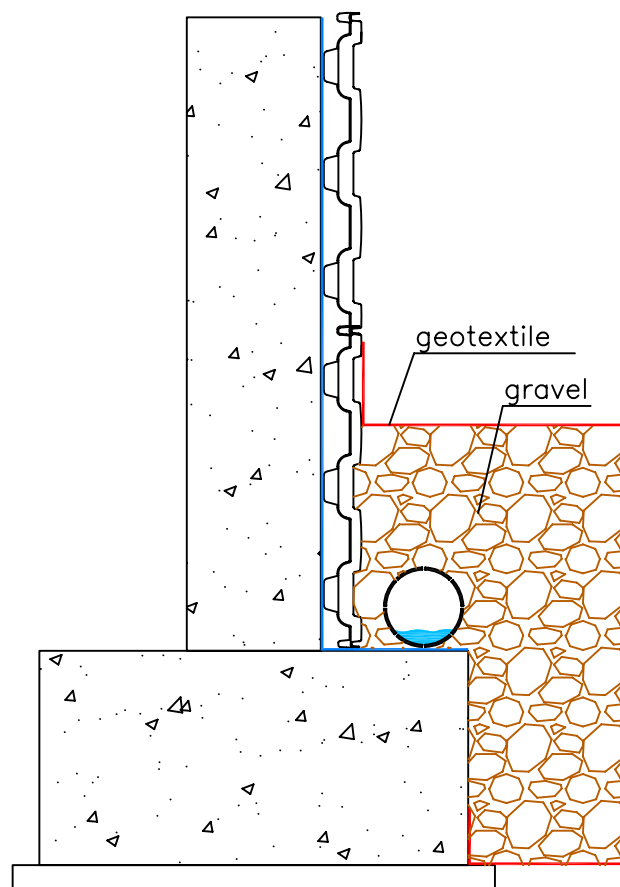
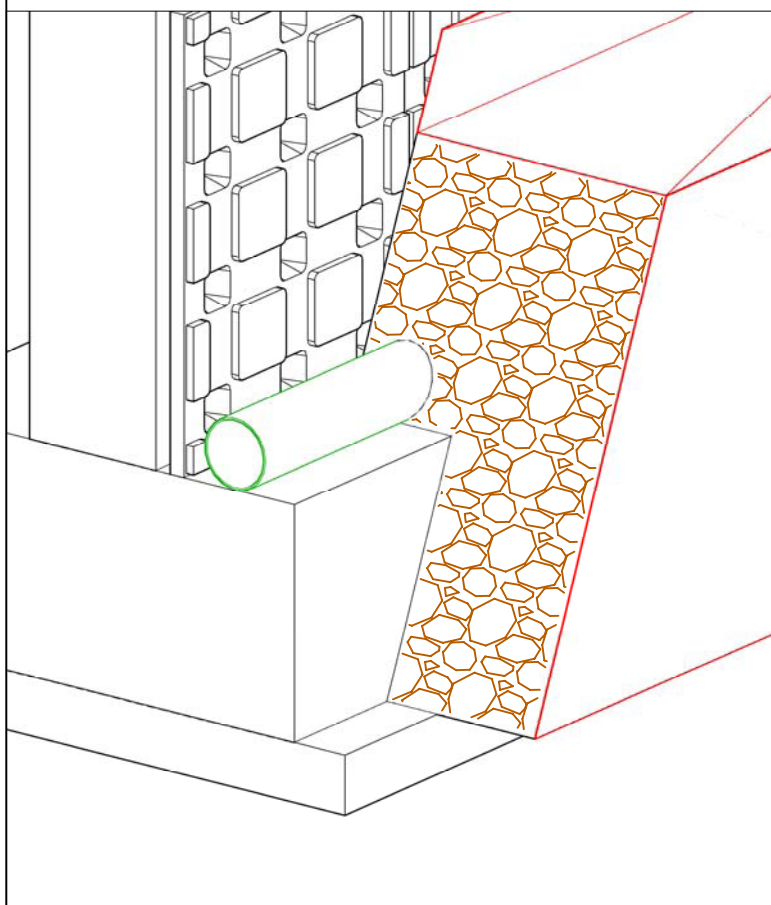
## **OPERATION No.5:**

*install a drainage pipe all along the perimeter of the building and connect it to a water retention and soak-away system.*



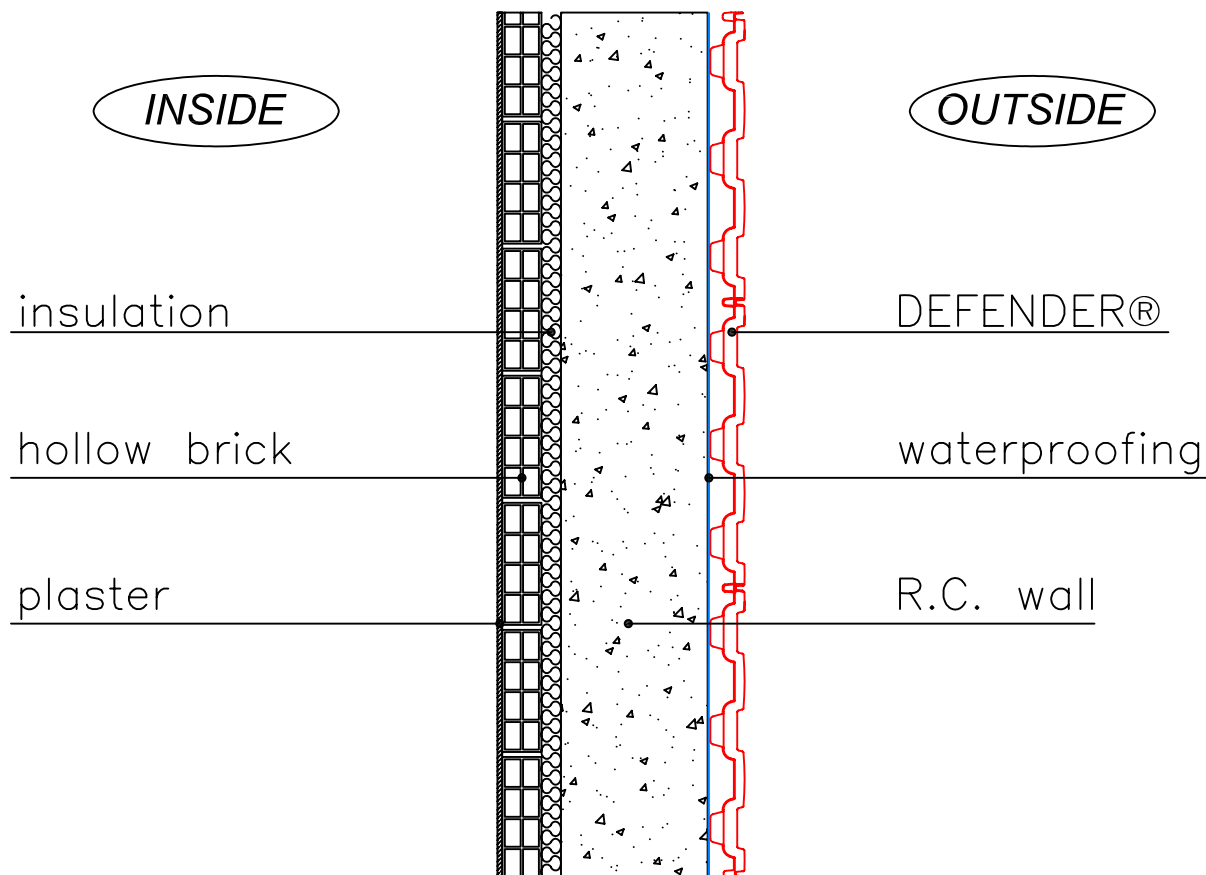
## **OPERATION No.6:**

*before backfilling with natural soil cover the drainage pipe with gravel, wrapping the package with geotextile*



**APPLICATIONS OF DEFENDER® FOR BASEMENT WALLS WITH INSULATION:**

**1) INSULATION ON THE INSIDE**



**2) INSULATION ON THE OUTSIDE**

