



defender

protection of basement walls



- EXCELLENT DRAINAGE
- RESISTANT AND STRONG
- PRACTICAL ON-SITE





DEFENDER VISION

Housing comfort must be complete: we want to extend it not only to all houses, but also to every part of the house: therefore our intervention includes the protection of underground rooms and basement walls.

The starting point must still be Nature: it is essential to understand thoroughly the seasons cycle and its influence on the structure of the building in order to identify the best solution.

RECYCLING, OUR CHOICE

It is not enough to design innovative and successful products: we also commit ourselves to the study and selection of the most suitable materials to ensure high quality and respect for the environment.

Polypropylene (PP) is a recyclable material that can be obtained regenerating waste plastic. Solid and strong, it is very resistant to abrasion and tensile strength, providing an effective thermal insulation. Moreover, it does not suffer weathering.

Versatility and environmental respect:
POLYPROPYLENE IS OUR CHOICE.

Geoplast S.p.A. in Green Building Council Italia,
The Network of Green Building.





DEFENDER SUITABLE FOR:

the protection of basement walls through the creation of an air gap between the walls and the ground, thus saving the filling of the trench with gravel. Compared to traditional systems, **DEFENDER** is an essential product for the protection of foun-



ation walls because it allows costs reduction, guaranteed elimination of soil moisture, ease of installation and handling on-site and excellent resistance to compression of the soil.

- COMPLETE VENTILATION
- EFFECTIVE SHOCK PROTECTION
- VERSATILE AND STACKABLE
- BASEMENT WALLS WATERPROOFING
- EXCELLENT DRAINING CAPACITY
- INNOVATIVE LOCK SYSTEM

DEFENDER ADVANTAGES



It combines the advantages of dimpled membrane and gravel, suitable for better protection of the waterproofing and ventilation of the basement walls



resistant

Effective sheath protection from impact and puncture during backfill operations; excellent mechanical performance on the horizontal thrust of the soil



quick

Suitable for large areas, even with few elements thanks to the size of the panel. The reduced weight and bulk of the single panel facilitate handling and installation, even with a single worker



modular

Easier installation thanks to the modularity of the elements and the overlapping locking system



ventilated

The particular shape of the panel allows to create a ventilated gap of 70 mm that is essential for the creation of an anti-root barrier



permeable

Excellent draining capacity, thanks to the special overlapping locking system



stackable

The panels are easy storable and stackable on pallets

BASEMENT WALLS WATERPROOFING

Concept

DEFENDER is a panel in regenerated polypropylene (PP) that allows to create a protection barrier for basement and underground walls. The product has a double protective function:

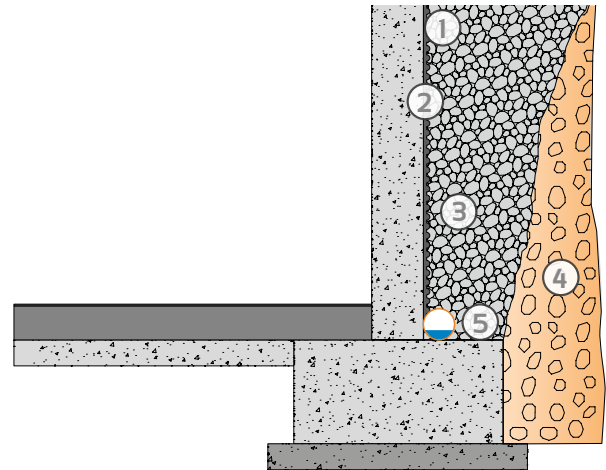
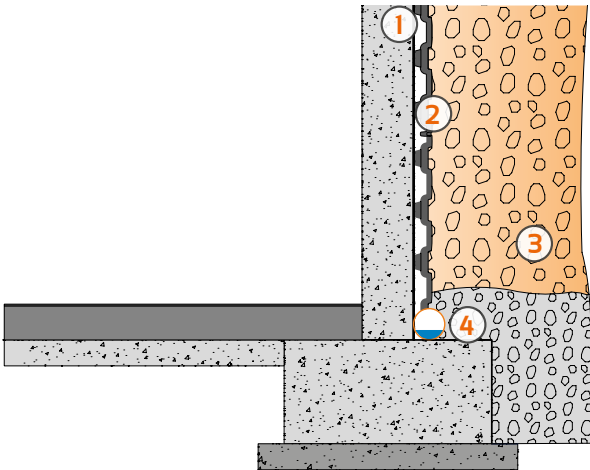
- Protection of the waterproofing during backfill;
- Creation of an air gap that reduces moisture problems and decreases the so-called cold-wall effect.

DEFENDER SYSTEM

- ① Waterproofing
- ② **DEFENDER**
- ③ Backfill
- ④ Drainage pipe

TRADITIONAL SYSTEM

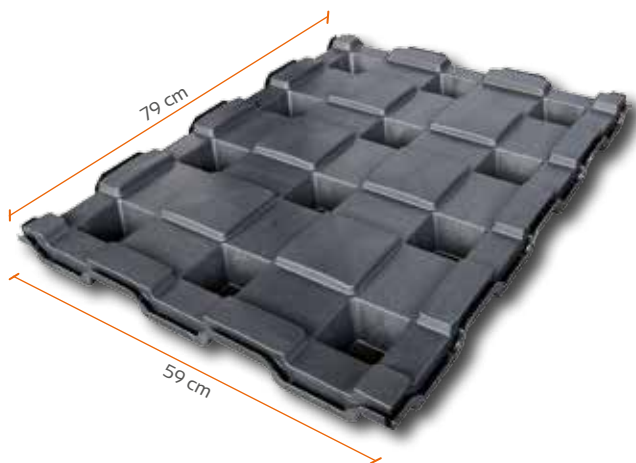
- ① Waterproofing
- ② Dimpled membrane
- ③ Gravel (500/800 mm)
- ④ Backfill
- ⑤ Drainage pipe



DEFENDER THE SYSTEM

Panel in recycled PP for the protection of basement walls

Thanks to its strengthness, **DEFENDER** allows the backfill directly with the material from the excavation. The special locking system avoids the panel to be dragged downwards due to the setting of the ground, thus preserving the effectiveness over time of the waterproofing system.



Actual size (mm)
material
weight (kg)
package dim. (mm)
No. items per pallet
Res. to compression (Kg/m²)

DEFENDER

790 x 590 x H70
Polypropylene
1.60
850 x 1200 x H2330
200
6.000



PROTECTION

Waterproofing of basement walls must be properly designed and executed. As remedial measures are hardly possible, the coating should resist as long as the wall: this is why a bad waterproofing (or no waterproofing at all) can cause considerable economic damage. The chosen materials should therefore maintain over time their impermeability to water and water vapor, rot-proof and mechanical strength, even when subjected to the traffic of the construction site.

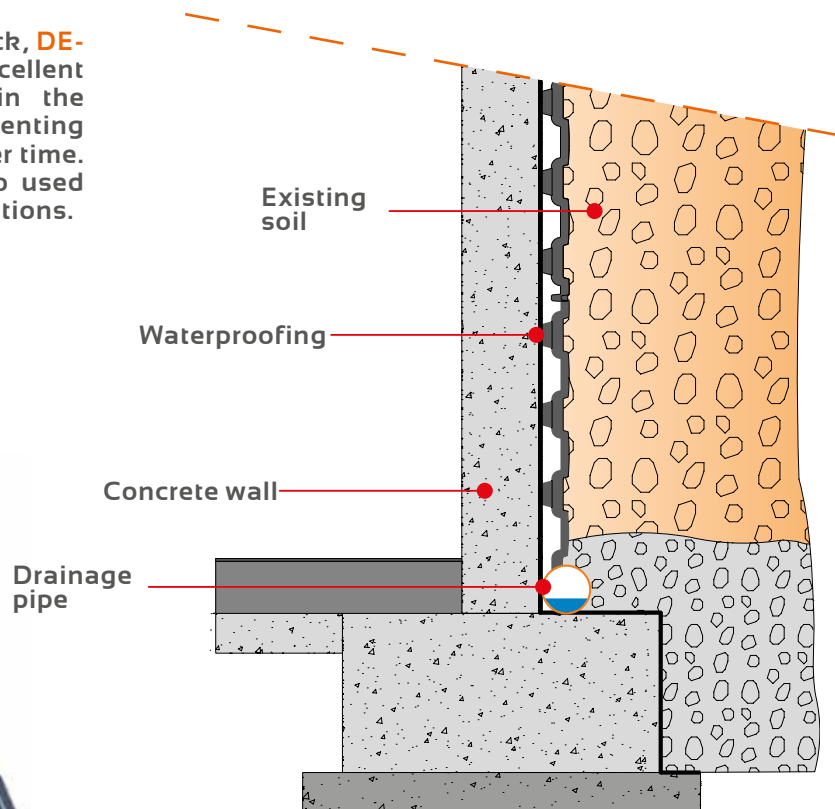
DEFENDER panel is the best solution to these requirements.

No moisture
Dry walls
Protected sheaths

DEFENDER VENTILATED AIR GAP

The complete ventilation guaranteed by the air gap created with **DEFENDER** panels produces better environmental conditions in the basement, less moisture problems and reduced cold-wall effect. Thanks to

the air gap 70 cm thick, **DEFENDER** ensures excellent drainage capacity in the lower section, preventing water stagnation over time. The gap can be also used for pipes and installations.



Locking system



The innovative locking system facilitates the installation and guaranteed the locking of the panels. The overlap at the edge of the panels prevents water from entering. DEFENDER elements don't require any kind of accessories.

INSTALLATION OF DEFENDER

DEFENDER is simple and cost-effective, easy to install and non-invasive as it does not require holes in the walls to secure the elements.

Thanks to the many round support points, the load is distributed evenly over the sheath without risking to damage or pierce it.



1 PREPARATION

Building of the wall in concrete and installation of the waterproofing (or bituminous) sheath. Set up a water collection tube at the base of the wall.



2 INSTALLATION

Installation of the panels from the right to the left. Use adhesives if compatibles with the sheath.



3 CUTTING

If necessary, **DEFENDER** formwork can be easily cut with angle grinders or circular saws to match edges and the top of the walls.



4 SEALING

Positioning of the sealings in plasticboard on the top and on the corners in order to protect the air gap from infiltrations. Create a superposition of at least 200 mm on the panel, securing it with screws.



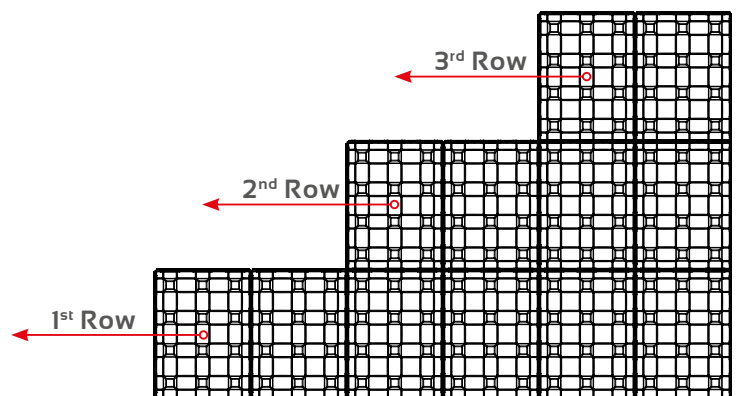
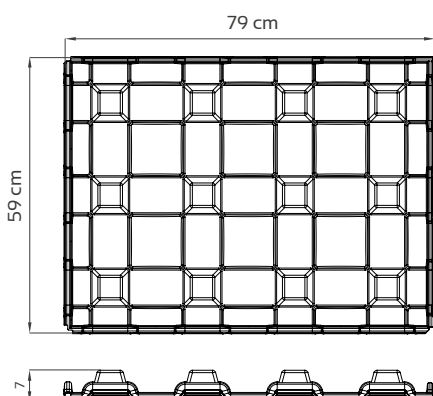
5 FLEXIBILITY

The flexibility and the particular locking system of **DEFENDER** formwork allow an easy installation even on curved surfaces.



6 BACKFILL

After the installation, perform the backfill directly on the panels taking care not to damage them with the grab tool.



DEFENDER APPLICATIONS



THE PANEL

Installation of **DEFENDER** on already installed waterproofing sheath.



THE CONNECTOR JOINTS

Positioning of sealing elements in corrugated plasticboard on the edges of the planimetry.



BACKFILL

Backfill with the material from the excavation.



Special application **with concrete**

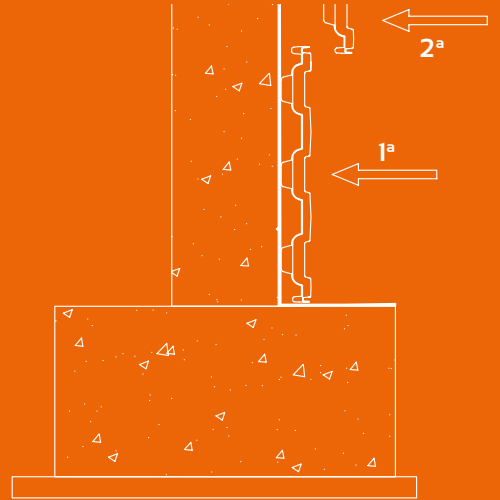


Thanks to its strengthness, **DEFENDER** can be used as formwork for concrete structures near the building. During outside interventions this product can be used to build walls foundations, sidewalks, stairs or ramps, boundary or retaining walls. **DEFENDER** does not deform and maintains the continuity of the air gap around the basement of the building, also acting as a joint.

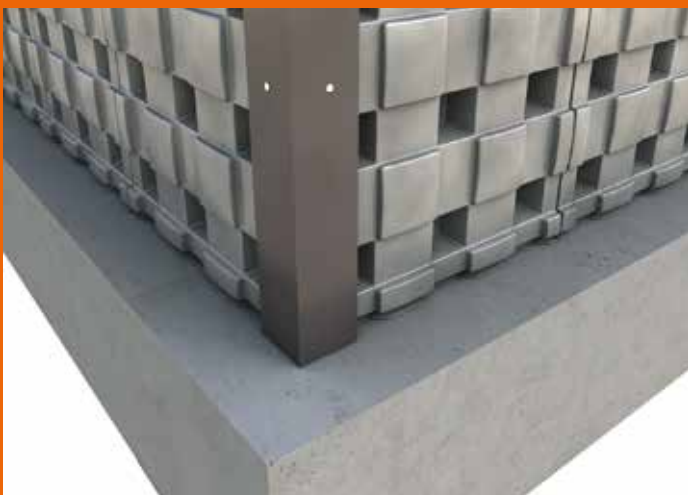
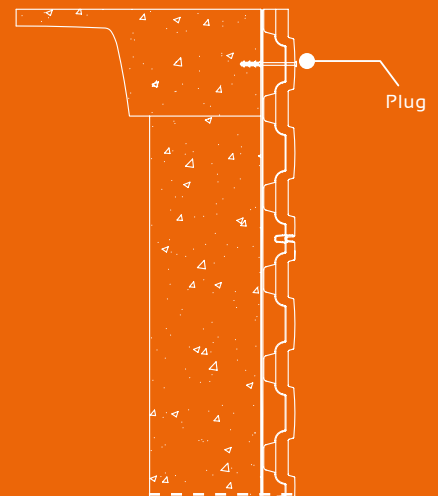
INSTALLATION REQUIREMENTS



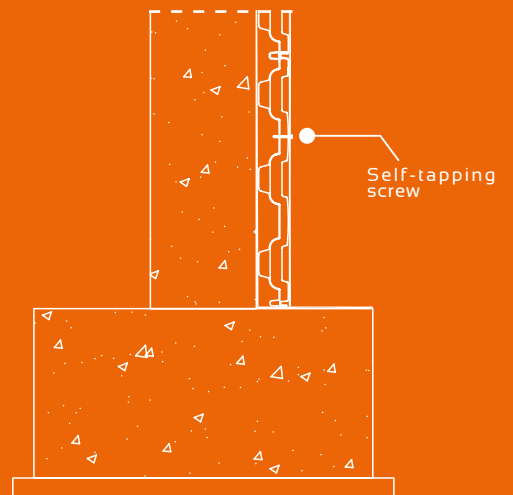
After installation of the waterproofing, begin the installation of DEFENDER as in the image on the right.



Fasten the top panel with a plug (prefer chemical over mechanical ones) near the curb of the slab.

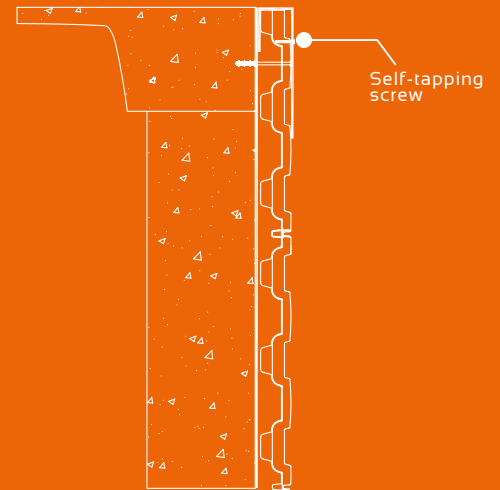


Apply a sheet of plasticboard near the corners and fasten it to DEFENDER with self-tapping screws (50 mm or less).

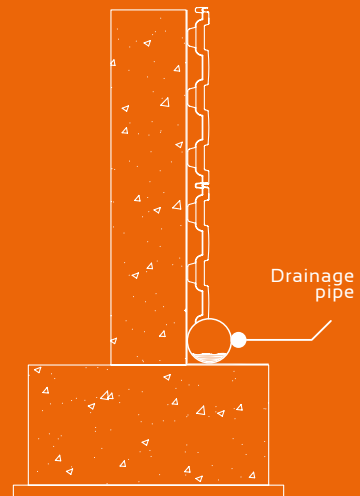




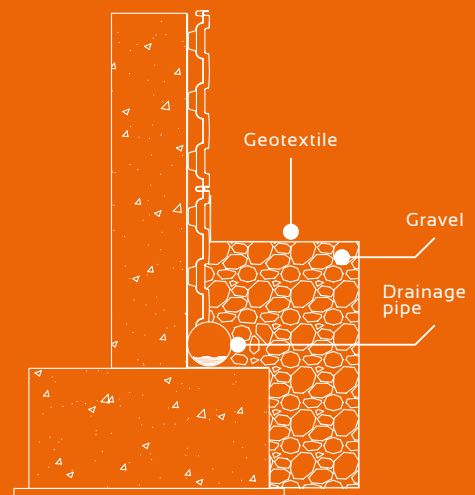
Place the corrugated plasticboard sheet on top of DEFENDER panels and fasten them with self-tapping screws.



Lay a drainage pipe along the perimeter of the building and close to the wall to discharge water into a drainage basin.



Before the backfill, pour gravel on the drainage pipe. Then lay geotextile over it.





GEOPLAST S.p.A.

35010 Grantorto PD - Italia - Via Martiri della Libertà, 6/8
tel +39 049 9490289 - fax +39 049 9494028
e-mail: geoplast@geoplast.it - www.geoplast.it

