



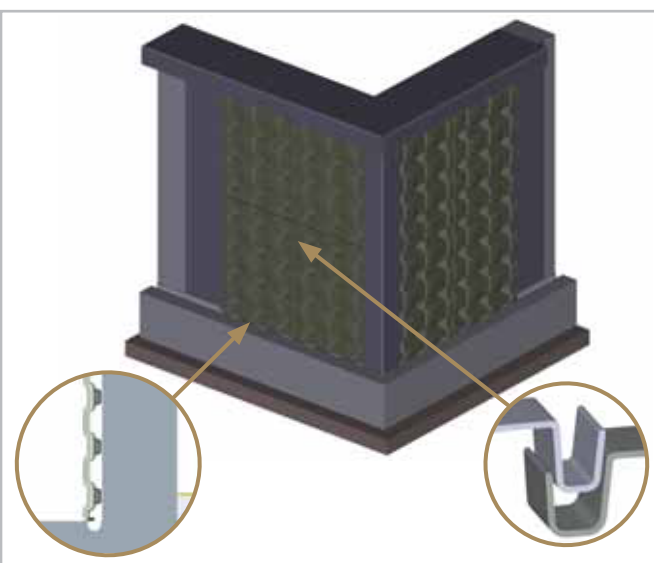
DEFENDER® SPECIFICATIONS



DIMENSION (cm) (in)	79X59XH7 (31.1x23.2xH2.8)
WEIGHT OF EACH ELEMENT	1.6 kg (4.28 lbs)
COMPRESSION STRENGTH	6,000 kg/m ² (8.43 psi)
IZOD STRENGTH	80-100 J/m
PACKAGE DIMENSION	80 x 120 x H230 cm (31.5 x 47.2 x H90.5 in)
NUMBER OF ITEMS PER PACKAGE	220 pcs. (103.5 m ²) (123.8 sq yd)

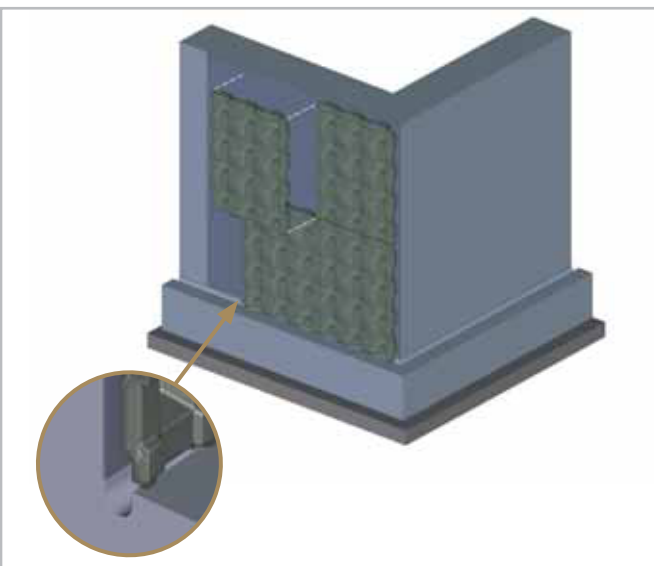
HOW TO INSTALL

1. Build the reinforced concrete foundation and basement walls
2. A drainage pipe should be placed along the base of the foundation walls
3. Install the waterproofing
4. Install **DEFENDER®** following the instructions of the user manual
5. Fix the upper panels to the wall
6. Fold a strip of corrugated plastic sheet over the top of the last row to prevent material to fill the gap between **DEFENDER®** and the wall
7. Wrap a strip of corrugated plastic sheet around corners
8. Backfill the dig



TECHNICAL PROPERTIES

1. The overlapping joint runs along all the edges of the panel, making installation fast and easy
2. **DEFENDER®** can be cut with simple tools such as construction saws etc. to adjust for corners and the top part of the wall
3. **DEFENDER®** is installed by placing the various elements from the right-hand side to the left, and from the bottom upwards, according to the printed arrows.
4. The panels of the topmost row are fastened to the wall with metal anchors
5. Fold a strip of corrugated plastic sheet over the top of the last row with an overlap of 20 cm (7.87 inch), fixing it to the **DEFENDER®** panels with screws or glue
6. Wrap a strip of corrugated plastic sheet around corners with an overlap of 20 cm (7.87 inch), fixing it to the **DEFENDER®** panels with screws or glue



Disclaimer: the values shown in this brochure are for guidance only. They are not meant to be used for design criteria. Their use and reliance thereon for any purpose by anyone is entirely voluntary and at the sole risk of the user. GEOPLAST is not responsible for any loss, claim, or damage resulting from their use.

CUSTOMER SERVICE: PROJECT DEVELOPMENT

Send your projects in DWG format to ufficiotecnico@geoplast.it

ASSEMBLY HANDBOOK AND TECHNICAL SPECIFICATIONS

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DEFENDER



The defense of basement walls



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building

ST. 03/2010
REV.000

DEFENDER® ADVANTAGES

THE ADVANTAGES OF DEFENDER®

- **DEFENDER®** unites the advantages of both dimpled mat and gravel in a single product, defending the waterproofing and creating an air gap around basement walls.
- It eliminates the need for the traditionally-used gravel to provide drainage and the dimpled mat to protect the waterproofing: this way a cost saving up to 20% may be achieved.
- Thanks to the air gap created by **DEFENDER®** around the waterproofing, a thorough ventilation in all directions grants better environmental conditions inside the basement rooms, which means a lower level of moisture and a decrease of the so-called cold-wall effect.
- The special overlap connection system, which runs along all edges, provides the system a good water-resistance.
- **DEFENDER®** provides an effective protection of the waterproofing during backfill, and has good mechanical resistance to the pressure of earth against the foundation. Besides, it is also a valid barrier against roots: overall it guarantees a long life to the waterproofing preventing dangerous damages.
- The rounded feet of **DEFENDER®** avoid damage to the waterproofing.
- **DEFENDER®**'s dimensions (80x60 cm) (31.5x23.6 inch) grant a high productivity (approx. 20 m²/h/man) (23.9 sq yd/m), making it possible to cover a large surface with a limited amount of parts. The low piece-weight makes handling and installation fast and easy.
- **DEFENDER®** can be easily cut with widely available construction saws, and simple corrugated plastic sheets are used to seal corners and the topmost row of panels.

DEFENDER® PRODUCT DETAILS



DEFENDER® A COMPARISON

	DEFENDER® SYSTEM	TRADITIONAL METHOD
1	WATERPROOFING	WATERPROOFING
2	DEFENDER®	DIMPLE MAT
3		GRAVEL (50/80 cm) (19.7- 31.5 inch)
4	BACKFILL	BACKFILL

DEFENDER® SYSTEM

TRADITIONAL METHOD

SAVE UP TO 20% VS TRADITIONAL METHODS



INSTALLATION OF DEFENDER IS QUICK AND EASY