

# Plasmar Sleepers Installation Guide



## Retaining Wall

### Plasmar Sleeper Retaining Wall

Building a retaining wall using *plasmar* composite sleepers will result in an attractive, strong and long-life solution. Manufactured 100% from recycled industrial grade polymer material the *plasmar* sleepers overcome many of the problems associated with traditional masonry and timber retaining walls. *Plasmar* composite material will not warp or crack with earth movement, is immune from termites and impervious to rot and fungal attack.

Before you start building your *plasmar* retaining wall please make sure you consider the following....

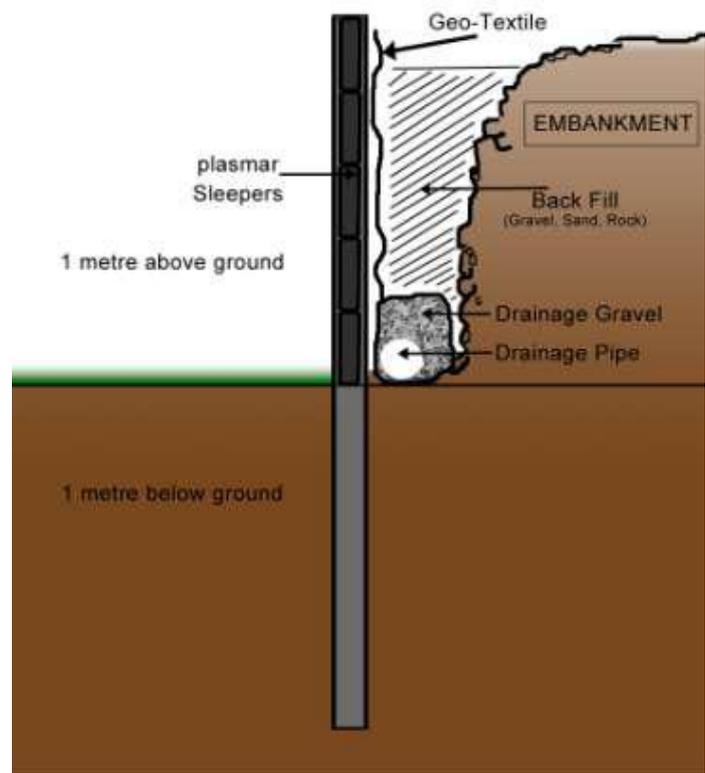
This information is provided for domestic retaining walls to a height of 1 metre only. When selecting the site, check with your local council for information on retaining wall specifications as wall heights do vary from council to council. Retaining walls, irrespective of height, may also require engineering certification if constructed near existing or proposed buildings. Special designs may be required for steeper slopes and poor soil conditions.

### How to install your plasmar retaining wall

The *plasmar* retaining wall sleeper has been designed for use with galvanized 100UC steel H sections and 100UC galvanized C end sections as the in-ground post supports. These have been chosen to ensure strength and longevity. The in-ground depth of the H and C section steel post supports should be equal to the above ground height of the retaining wall.

*Plasmar* long-life sleepers are a heavy duty product dimensioned 190mm x 90mm to provide a solid chunky look and are available in various lengths. We recommend, however, that a maximum length of 1.5 metres between supports be used in the construction of your retaining wall. The *plasmar* retaining wall is designed for ease of assembly with no nails, bolts or screws used in the construction.

The galvanized H and C sections should be cemented into the ground using an appropriate cement gravel and sand blend. A round post hole diameter of 400mm will ensure adequate space to cement the post firmly in place. Allow suitable curing time of 3-4 days before installing sleepers. *Before commencing work please verify that your underground utilities are safely away from the construction area.*



Drainage is a critical part of any retaining wall. All retaining walls must have good drainage installed behind the wall to avoid water retention. To install a quality drainage system you will need geotextile material,

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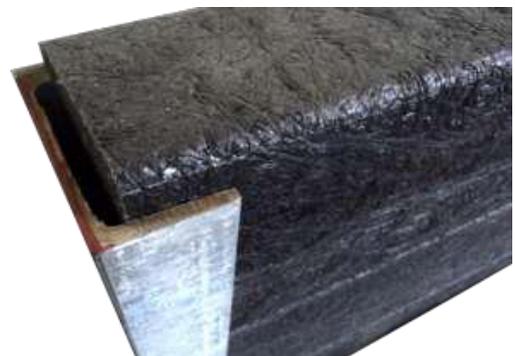
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agricultural drainage pipe and gravel. The geotextile material is included as part of your *plasmar* sleeper purchase.

The geotextile material has been provided to line the entire inside of your retaining wall and to support and cover your gravel covered agricultural drain pipe. Please note: The agricultural drain pipe should be installed approx 75mm from the base of the wall and drain away on a slight angle to a gutter. Do not connect the drainage pipe to a storm water drain.

If backfill is required it should be a free flowing material such as sand, gravel or rock.....clay is to be avoided.

Your *plasmar* retaining wall has been designed to eliminate splitting and cracking due to moisture variables and changing ambient temperatures. Expansion and contraction will occur naturally within the *plasmar* material to accommodate these changes, therefore, an expansion gap of 10mm must be provided on each end of the sleeper.



On sloping ground all sleepers must be at right angles to the steel support posts. This technique will ensure the correct strength is retained throughout the entire structure and will result in an attractive stepping effect with each panel.

## Technical information

*Plasmar* composite material is manufactured by Australian Composite Technology from 100% engineering grade recycled polymers. *Plasmar* contains no added chemical, colorants or fillers. The material has been tested by the CSIRO and proven to be non-leaching in potable and salt water. Strength and longevity tests predict a life expectancy between 50-100 years.

For ease of installation your *plasmar* sleepers have been pre-cut to size. Should any unforeseen cutting be required, however, you can use any woodworking saw to cut the material.

