Megaflo®

Installation Guidelines

QUALITY - SUPPORT - EXPERTISE

GEOFABRICS®

GENERAL

Megaflo® geocomposite panel drain has a unique shape and ribbed panel design. It provides a high-strength, rapid and cost effective subsoil drainage system. Its slim 40mm wide profile and rigid core requires a minimum cover of only 100mm under normal 156kPa loading.

This guideline covers;

- installation in trenches
- backfill requirements
- backfill specifications
- fittings
- other information.

Trenching plant requirements vary according to application. Road construction generally requires backhoe or excavator equipment, utilising bucket or rock saw attachments.

Sports fields require only narrow trenching, with narrow bucket or chain digger equipment.2

INSTALLATION IN TRENCHES

1. Trench

Trenches should be constructed to line and level to achieve a minimum 100mm cover for general load applications, with trench width of at least 100mm.

Road installations of **Megaflo**® geocomposite panel drain require a minimum 100mm cover or as specified in construction drawings. Road installations must have a trench width of 100mm minimum or a width as specified in construction drawings.

A bedding layer at the trench invert is not required for **Megaflo**®**'s** due to its rigidity and stiffness. Its stiffness provides bridging of any minor irregularities in the trench base profile. When installing in trenches through rock, care should be taken to eliminate sharp protrusions on side walls and the trench base.

2. Geotextile

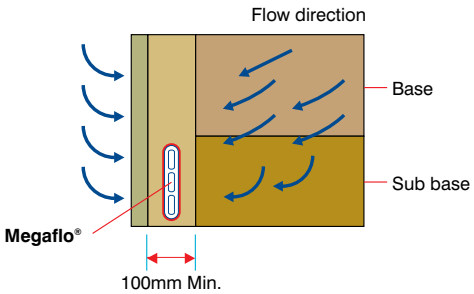
Geotextile lining for trenches is optional. If a lining is used, **bidim**® geotextile filter fabric must line the sides, base and top of the trench, with an overlap similar to trench width. Fabric encapsulating the specified drainage backfill should be closed off and overlapped prior to backfilling to finished surface levels.

3. Megaflo®

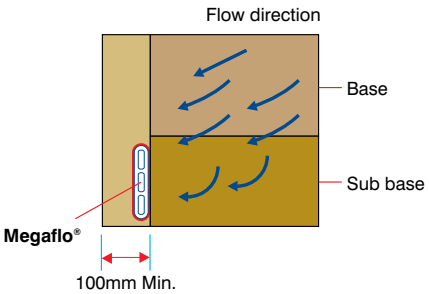
Road edge drainage applications require **Megaflo**® to be located against the side wall of the trench, closest to the direction of water infiltration, or as specified in construction drawings. Where site conditions result in water draining from both sides, **Megaflo**® should be located in the centre of the trench. **Megaflo**® can be supported vertically in the trench by prefabricated ligatures or wooden stakes placed at approximately 10 metre centres or by the use of purpose made positioning forks.

Sports ground installations require central positioning support for **Megaflo**® during backfill, where prefabricated ligature guides or purpose made positioning forks can be used to assist in backfilling **Megaflo**®. Further information may be obtained by contacting a Geofabrics' office.

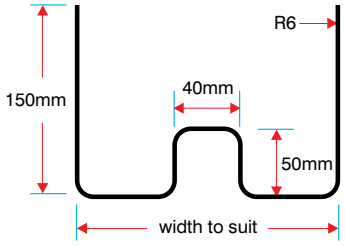
Trench Fork for **Megaflo**®



Flow Bi-Directional
Drainage - Both Sides



Flow Uni-Directional
Drainage - Single Side



Trench Positioning
Ligature Guide

BACKFILL REQUIREMENTS

Backfilling operations need to be undertaken with care, as during installation the surrounding backfill material will create load not only on the drainage core but the geotextile filter. **Megaflo®'s** ribbed design helps the filter wrap resist damage during installation.

BACKFILL SPECIFICATIONS

Well graded, washed sand is the recommended backfill material. Backfill should be placed in maximum 150mm lifts to 95% standard compaction.

Washed sand backfill can be watered in for effective compaction. Compacted granular material around **Megaflo®** should incorporate a cover layer to 150mm above the drainage panel. Further material should be placed in lifts to complete filling to finished surface level.

Washed sand and single size aggregate backfill materials should be placed with **Megaflo®** in accordance with the following guidelines.

No fines concrete backfill should be placed in accordance with the relevant specifications.

WASHED SAND

Typical specification for coarse washed sand;

Australian Standards Sieve Size (mm)	Particle Size Distribution (% passing by mass)
9.5	100
4.75	90 - 100
2.36	70 - 100
1.18	40 - 65
0.6	12 - 40
0.3	0 - 16
0.15	0 - 4
0.075	0 - 3

The data and specifications contained in this table are obtained from the manufacturer's laboratory testing. To ensure this information is current please contact your local branch of Geofabrics Australasia.

AGGREGATES

Typical Specification for 10 - 7mm aggregate;

Australian Standards Sieve Size (mm)	Particle Size Distribution (% passing by mass)
13.2	100
9.5	0 - 10
6.7	85 - 100
4.75	10 - 30
2.36	0 - 2
1.18	-
0.75	-

The data and specifications contained in this table are obtained from the manufacturer's laboratory testing. To ensure this information is current please contact your local branch of Geofabrics Australasia.

NO FINES CONCRETE

No fines concrete may be required where high structural loads, wheel loads or settlement of other backfill material may compromise pavement life or integrity. A single-sized 10-20mm stone, water to cement ratio of 0.5 and cement density of 250kg/m^3 is appropriate for installation with **Megaflo®**.

FITTINGS

Megaflo® is joined using HDPE couplers secured with lugs aligned with the **Megaflo®** panel ribs. Couplers should be inserted beneath overlapped geotextile wrap to maintain integrity of the filter on the **Megaflo®** panel.

End outlet or side outlet fittings can be located as required.

They allow transition options to 100mm diameter HDPE flexible round pipe or 100mm diameter DWV uPVC pipe. End caps should be fitted to end points to prevent soil or backfill material ingress.

Fittings available to suit all **Megaflo®** sizes are:

- joiner coupling
- end outlet fitting
- side outlet fitting
- end cap
- lay flat fittings (Meg170, 300 & 450mm for retaining walls & golf applications).
- special fittings available on application.

Refer to the **Megaflo®** Fittings Flyer for standard and nonstandard fittings.

OTHER INFORMATION

1. Outlets

Outlet drainage from **Megaflo®** side or end outlet fittings is generally 100mm DWV uPVC pipe. Outlet lines should be laid to a minimum 4.0% grade or at a grade higher than the grade of the through pipe and constructed with a suitable headwall and/or pest resistant flap/gate.

2. Cleanout points

Cleanout assemblies, where required, are designed to connect to **Megaflo®** side and end outlet fittings. These should be located as specified. Refer to Geofabrics' standard drawings.

3. Standard drawings

The above guidelines should be read in conjunction with Geofabrics' **Megaflo®** subsoil drainage standard drawings, No. MEG001 – MEG008. Drawings are available for the range of **Megaflo®** standard and lay flat fittings. Refer to the **Megaflo®** CAD drawings available on the Geofabrics website.

4. Megaflo Ultra

Megaflo® Ultra is a high load capacity drainage panel designed for landfill and mining applications. Consisting of a slotted high strength HDPE core wrapped with **bidim®** nonwoven filter geotextile, **Megaflo® Ultra** is produced in sizes 170mm, 300mm, 450mm and 900mm. **Megaflo® Ultra** is available with made to order, alternative geotextile grades.

Horizontal and vertical orientations should have alternative backfill specifications, which are application specific.

Megaflo® Ultra is joined using HDPE couplers secured with high strength U pins. Other standard outlet fittings should be assessed for compatibility with design loads as required.

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