

## PERMACHANNEL INSTALLATION SPECIFICATION

### DELIVERY AND STORAGE

- **Delivery:** Permachannel will be delivered to site on pallets. Palletised load measurements are approx. 1.0m x 0.8m x 1.0m high and each pallet will contain 20nr Permachannel.
- Pallet weight circa 850kg.
- Permachannel is delivered with gratings in position.
- Deliveries shall be unloaded using mechanical handling equipment.
- **Storage:** Position pallets on stable, even level ground
- Stacking of pallets is not recommended.
- Store away from direct source of heat or ignition
- Transit banding not to be removed until at point of installation

### EXCAVATION AND BEDDING PREPARATION

- **Base:** To be trimmed smooth and free from sharp objects and projections. For optimum capacity the Permachannel should be installed with zero gradient but it can be installed to shallow gradients should the drainage design require.
- The Permachannel should be laid on a 200mm deep concrete bed with a minimum 150mm thick haunch to both sides. A 30N/mm<sup>2</sup> concrete mix is recommended.
- **Tolerance:** Local subgrade below concrete bed tolerance of  $\pm 5$ mm within any 3m direction.
- The commensurate level for the Permachannel installation should allow for the height of the Permachannel and the depth of the concrete bedding plus a further 3 to 5mm below the finished level to protect the Permachannel and prevent ponding.
- Ensure the membrane encapsulation from the Permavoid tanks (if required) spans below the Permachannel installation with sufficient length to return up the rear of the Permachannel run.

## INSTALLATION OF PERMACHANNEL

- **Reference:** Permachannel
- Installation to be carried by suitably qualified installer in accordance with the manufacturer's recommendations.
- Check installation plan / details to confirm Permachannel orientation in relation to Permavoid tank(s).
- **Manual Handling:** It is recommended to remove the gratings and stainless steel diverter plate prior to installation to reduce the handling weight from 42kg to 29kg. Consult your employer for specific manual handling advice.
- Align using a builder's line or suitable laser alignment equipment.
- When positioning the Permachannel, insertion of the stainless diverter plate will assist alignment. The diverter plate should be positioned such that it spans the ends of adjacent Permachannel units to divert rainwater runoff into the central Permachannel treatment chamber.
- Install the Permachannel connections units along the length of the Permachannel run, 1nr connection unit required per 1m of Permachannel, installed where adjacent Permachannel units butt against each other to form a 40mm diameter outlet.
- Install connection unit by firstly removing the fresh concrete bed (before hardening) in immediate area and inserting 'o' ring (supplied with connection unit) into the rebate of the 40mm diameter outlet from the Permachannel and then insert 40mm diameter spigot into the Permachannel aperture.
- Ensure connection unit is seated in a vertical position if installing Permachannel ahead of the Permavoid tank or is butted against the Permavoid tank if installing the Permachannel after the Permavoid tanks.
- Redundant Permachannel outlet, if not used must be blanked prior to placing concrete haunch. 40mm blanking plugs are available from the Permavoid distributor if required.

- Place the concrete haunch to the front and rear of the Permachannel.
- The channel elements must be kept clean during installation.
- Trafficking over laid material to be kept to a minimum.

## **SURFACE FINISH OPTIONS**

- It is recommended the grating be installed within the Permachannel prior to construction of the pavement.
- **Concrete:** between the minimum 150mm concrete surround and the concrete slab, an expansion joint must be inserted, as structural engineer's specification.
- **Bituminous Bound:** To avoid damaging the channels during compaction of the surfacing the concrete surround must be haunched as high as possible (45degrees back to the Permachannel). The bituminous bound surfacing can be installed against the side of the channel. The finished level following compacting has to be 3 to 5mm above the height of the grating.
- **Modular Paving:** the concrete surround must be terminated to allow for the thickness of modular paving i.e. blocks / flags. For light loading the modular paving may be laid adjacent to the Permachannel, however must be bedded the minimum 150mm concrete surround. For heavier loadings the minimum 150mm thick concrete surround must be terminated at ground level.