THE TUBEWORKS PTY LTD

51 Temple Drive, Thomastown Vic 3074
PH: (03) 9457 5545 fax: (03) 94576027
Email: Sales@thetubeworks.com.au
ACN: 007 211 252 ABN: 33 007 211 252

Technical Data Sheet

EPH Collapsible Voidformer

Uses

EPH Voidformers are used to separate concrete slabs, ground beams and pile caps from unstable expansive reactive soils that can exert swelling pressures on structural foundations. EPH Voidformer panels provide a temporary support for concrete during curing but collapse with time as they are a bio-degradable cardboard product.

Advantages

- Environmentally friendly
- High load capacity when dry
- Light weight and easy to install
- Panels are easy cut into odd shapes
- Can be stacked to achieve greater void depths
- No assembly required

Description

EPH is a cardboard honeycomb panel which can be inserted in a plastic bag for some weather protection and has excellent dry strength properties.
It will support the weight of construction traffic, reinforcement and wet concrete until the cured concrete gains sufficient strength to be self-supporting.
Please note that the ground and atmospheric moisture conditions are critical to the successful utilisation of this product and **must be used only in dry conditions.**

EPH Voidformer panels are used to separate slabs and ground beams from reactive expansive soils. The EPH Panels will break down with the absorption of moisture and from soil bacterial attack to create a void under the slab or beam.
The EPH panels are made from 400 micron cardboard with a honeycomb cellular core between face sheets and because they are manufactured from cardboard which is glued they can easily cut on site to fit most situations.

Design Criteria

Geological data indicates that unstable expansive soils occur throughout Australia but in particularly in the eastern states.
Building foundations and ground slabs interrupt the natural evaporation of soil moisture and cause a build up of its moisture in the ground beneath the structure which leads to the swelling of the sub-foundation clays.
Tests by the Queensland University of Technology (QUT) show that the time required for swelling pressures to cause damage is generally a min of 14 days or longer.
Upward movements of the soil vary with the depth and type of clay deposits.
Exploration of the soil profiles for any structure should be undertaken by experienced and properly qualified soil testing engineers.

Approximated void former depths for known heave values:

Potential Heave	Void Former Depth
60 mm	100 mm
100 mm	150 mm
150 mm	200 mm

Working loadings

The following working loading is suggested using fully dry materials; any moisture contaminating the material will reduce this working load.

Standard EPH Panel - 3.0 tonne/m²

Installation Instructions

Transport and Site Storage
EPH voidformers are made from 400 micron
cardboard and throughout their use weather conditions must be taken into consideration when storing panels on site. Moisture either induced or natural, is the key to deterioration and hence they MUST only be used in dry conditions with the utmost care being taken to keep moisture away from the product until the concrete has achieved its self supporting strength otherwise prematurecollapse will occur. Delivery of void formers to site MUST be organised so that they can be used immediately to minimise exposure to the elements.
Transport, store and handle the product in such a manner as to keep it off the ground and undercover in order to keep it dry and allow the air to circulate and prevent condensation
at all times.

Bar chair positioning

The concentrated loading from bar chairs must be spread to avoid puncturing the face sheet.
Flat based chairs can generally be used straight on the surface.
Wire leg type bar chairs will require bar chair plates under them to prevent puncturing the surface sheets.
Generally more bar chairs are required to reduce the puncture loadings on the EPH Voidformer panels

Installation

Use minimum 0.2 mm thick polythene sheeting on the topside of the panels to help protect the void former from the elements and the wet concrete. This also helps protect the underside of the slab from moisture. The panels should be placed together so that the concrete cannot fall down between the panels. The polythene sheet is to be lapped 150mm at joins and taped. Take the polythene sheeting down the sides and across the bottom of beam trenches. The plastic bag around the panels is to be slashed prior to placing polythene overlay.
Minimise the traffic over the panels where possible and use planks over them for heavy traffic areas to reduce chance of surface puncture. Use bar chair plates (min 200 mm diameter) under bar chairs to distribute the load of the reinforcement prior to placement of the concrete. Care should be taken when pouring concrete so that concrete is placed evenly over panels and not dropped or heaped in one spot to minimise excess loads. Concrete should not be poured from heights greater than 400-450 mm. If any doubt on the bar chair loading, increase the number of bar chairs. Take care when applying construction loads so damage to the panels by dislodging and distortion of the internal partitions and external covers, is avoided.

Note: Panels **MUST** be installed and concrete poured as soon as possible, preferably the same day. Any time delays could jeopardise the satisfactory use of the material.
Any panels that are damaged or become wet during and after installation must be replaced. It is important to remember that concrete should not be poured over voidformers if they are not dry or in good condition.

Limitations

EPH voidformers are designed for a particular purpose and sometimes delays to construction may be necessary to accommodate the nature of the product. When contractors are using voidformers, they should remember the product limitations and take great care and consideration during construction to avoid problems.Customers should satisfy themselves as to the suitability of the product for its intended use.

EPH Panel Specifications.

Panel size is 2400x800mm (1.92m2 per sheet)
Panel size is 2400x1200mm (2.88m2 per sheet)

EPH Panels are available in thickness of:

- 50 mm
- 75 mm
- 100 mm
- 125 mm
- 150 mm
- 175 mm
- 200 mm
- 300 mm

EPH Panels can be supplied (at additional cost) wrapped in 100 micron heavy duty plastic bag if required

Important notice- Product disclaimer

This Technical Data Sheet (TDS) summarises to the best of our knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. The Tubeworks does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.