HONEL

Integrated Sub-surface Drainage Systems

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PDS
SURFACE WATER MANAGEMENT

IMPORTANCE OF EFFECTIVE WATER MANAGEMENT

WATER TRAPPED WITHIN SURFACE LAYERS

Due to seepage and condensation water can collect on top of the structure's waterproof membrane, be it on a bridge deck or road. Humidity and variations in temperature can cause vapour pressure to build up under the waterproof membrane and over time this can result in breakage of the surfacing as well as causing damage to the internal components of the structure, such as the bearings and expansion joints.

Over time water penetrating the road surface will migrate to the lowest point on the deck, at which point ponding can occur.

WATER THE COMMON ENEMY OF STRUCTURES

Surface water when left unmanaged can lead to irreversible damage to the structure. It is essential to release seepage water and vapour pressure in order to maintain the integrity of the deck waterproofing and road surface.

THREE COMMON PROBLEMATIC EFFECTS WATER HAS ON STRUCTURES:

- **High Temperatures** - High temperatures during the day can evaporate trapped water, this generates a pressure gradient within the surfacing matrix.
- **Low Temperatures** - In winter months freezing water trapped within the structure surfacing can result in an increase in water volume, causing damage to the surfacing when the frozen water thaws.
- **Passage of Traffic** - Traffic, especially HGVs, causes a pressure wave within the seepage water, much like the effects of ice and water vapour, this can cause breakage of the road surfacing self cleansing ability of the system.

WHY SUB SURFACE DRAINAGE IS REQUIRED

All structures require a comprehensive sub surface drainage system if the maximum design life of the structure is to be achieved. Special care should be taken to ensure functionality and access for maintenance around key areas of the structure, such as the location of the expansion joints.

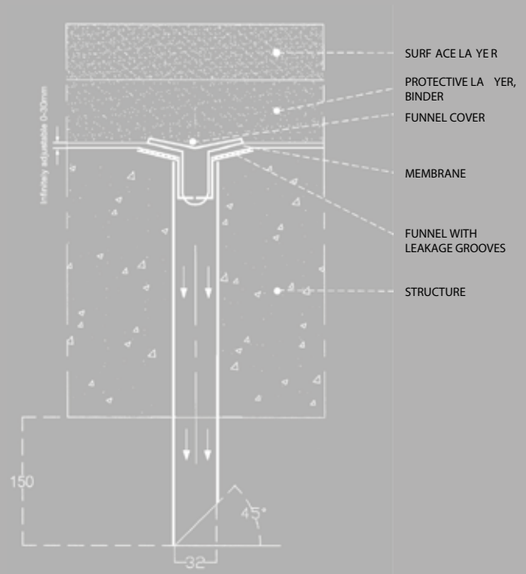
Poorly installed, inconsistent or unmaintained drainage can often contribute to failures such as deterioration of the concrete, bar corrosion and concrete spalling.

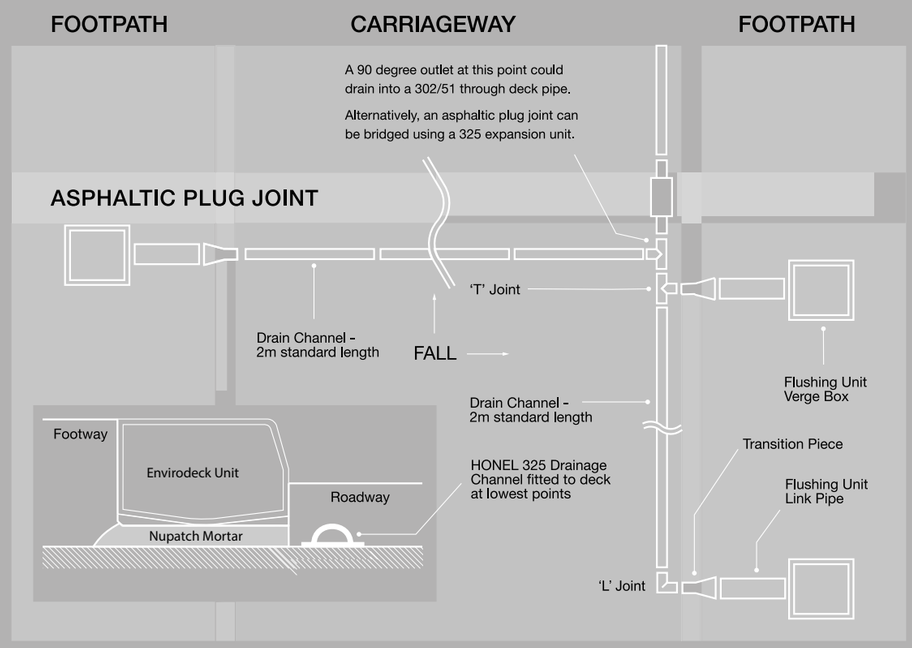
HONEL 302

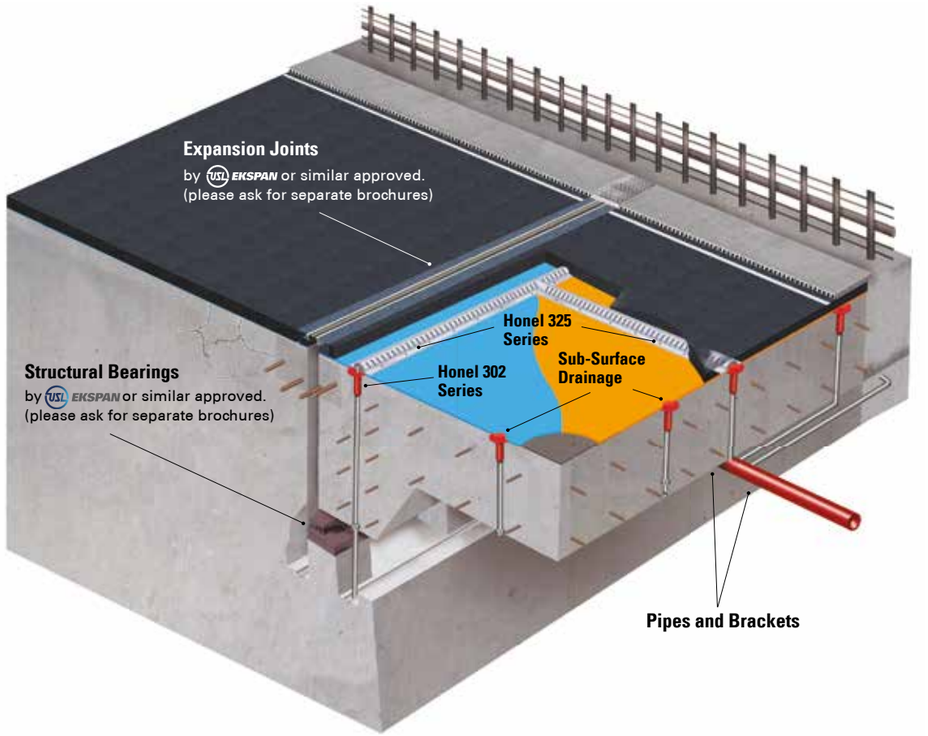
The Honel 302 Series Sub-Surface Drainage System is designed to prevent the common issues caused by sub-surface water ingress, hence reducing the requirement for costly repairs.

HONEL 325

Use of Honel 325 system enables collection and direction of water flow at the membrane surface. This minimizes the need for through deck drain points and subsequent collection pipes.







ABOUT

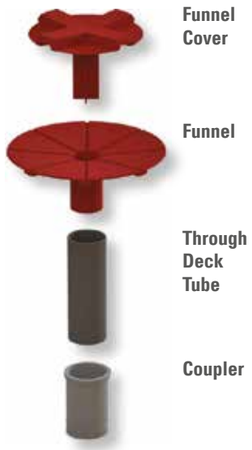
The 302/51 and 302/02 through deck drain units are designed to provide 'spot drainage' points wherever needed or to be used in conjunction with Honel 325 channel system to provide a wider area of water collection. Corresponding 325 straight outlets will fit into the 302/51 or 302/02 funnels to create a comprehensive sub surface drainage solution.

The through deck system is provided in two sizes, 50mm and 32mm diameter. The 32mm 302/02 system is ideal for retrofit applications to overcome ponding or to drain a bridge deck between pre-stressed beams.

Most highways applications favour the 50mm diameter 302/51 system due to its increased discharge capacity.

RETROFIT
(302/02 32mm)

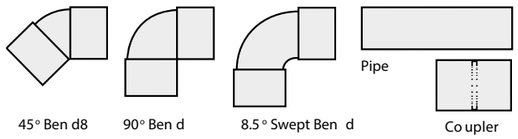
NEW DECKS
(302/51 50mm)



HONEL 302/02 & 302/51 PIPE COMPONENT AND ACCESSORIES

A number of component uPVC bends and fittings are available for use with the Honel 302 through deck system.

Please contact us for further information.



ABOUT

Honel 325 is a durable galvanised mild steel section designed to efficiently remove water away from the bridge deck. The channel is supplied in two-metre lengths for ease of installation and is compliant with the National Highways requirements.

The 325 channel is installed directly onto the waterproofing layer. The channel is Tarmac heat proof and we recommend coverage of a minimum of 80mm.

A compatible flushing box is also available to ensure that the 325 channel is easily maintainable, ensuring the system's integrity and life time operation.

DRAIN SECTION

Can be fitted to any required length. The standard unit is 2m long. Channel end caps are used at all open ends to prevent ingress of blacktop and debris.

OUTLETS

All of our outlets are designed to be compatible with the 325 sub-surface channel and the 302 through decks. They are available in a straight outlet format as shown, or at a 90 degree crank as well as a four-way X piece.

OUTLETS ARRANGEMENTS

Below the bridge deck the drain units can be linked to water collection pipes or allowed to drain free below via the drip nose attachment. e.g. over non navigable rivers and streams.

JOINTS

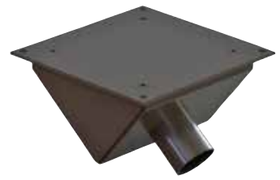
We provide a number of different joints to enable interconnectivity of the channel throughout the deck surface. Joints available are the T joints as shown, as well as left and right hand 90 degree cranked, and left hand and right hand 45 degree Y joints.

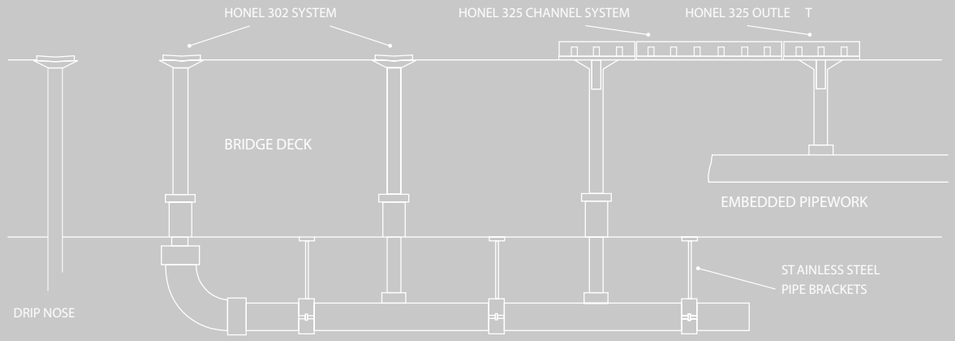
TRANSITION PIECES

The transition piece as shown connects the 325 channel to the flushing unit.

FLUSHING UNIT VERGE BOX

The flushing box allows access to the installed 325 sub-surface drainage system to enable jetting equipment to remove any silt build-up. This ensures that the system is working to its full capacity throughout its service life.





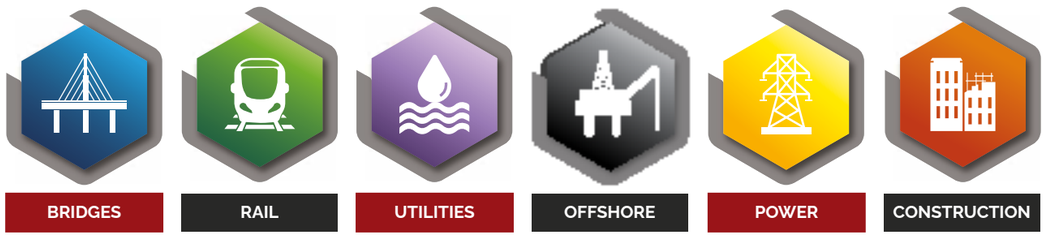
Our Product Categories

- Structural Waterproofing
- Mechanical Expansion Joints
- Structural Bearings
- Bridge Deck Drainage
- Line Markings
- Concrete Repairs
- GRP Grating, Access Platforms and fencing
- Surface Mounted Tactile Paving
- Resin Injection
- Ironwork Reinstatement Products
- Pipe Rehabilitation

USL Speciality Products

USL Speciality Products manufacture and supply specialist construction products to support, preserve and enhance critical Infrastructure assets, specifically in the Bridge, Rail, Utilities, Offshore, Power and General Construction market spaces.

Our products are supplied to fully trained specialist contractors who deliver complex infrastructure projects to strict quality, budget and time constraints.



Our Brands
Trusted to Deliver Excellence

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SURFACE WATER MANAGEMENT

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