

A construction site at dusk or dawn, featuring a large concrete pump truck with a long, articulated boom extending over a grid of steel rebar. Several workers in safety gear are visible on the site. The scene is bathed in a warm, orange light. A semi-transparent dark rectangle is overlaid on the center of the image, containing the title text.

PUDLO Cavity Drain Membrane Guidance Document

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INTRODUCTION

PUDLO Waterproofing Systems has been at the forefront of protecting structures from water ingress for over 140 years. To expand on our widely used Type B (structural integral) concrete, we have launched our first successful membrane system (Type A) in 2016.

Since then, PUDLO has launched several waterproofing membranes, PUDLO TS TR & TF Membrane, PUDLO Self Seal, PUDLO GB Reinforced, PUDLO Liquid Tank / Liquid GB as well as PUDLO GP Ultra+ / Ultra Seal / Ultra Tank which was the first of its kind in the UK to provide protection from both gas and water, in accordance with BS 8485:2015.

2018 saw another new, exciting product range introduced to our waterproofing offering, the PUDLO Cavity Drain System.

PUDLO Waterproofing Systems can now provide a three-tier waterproofing solution, giving our customers complete peace of mind.

The life expectancy of the PUDLO Cavity Drain System is 50 years.



PUDLO CD 20

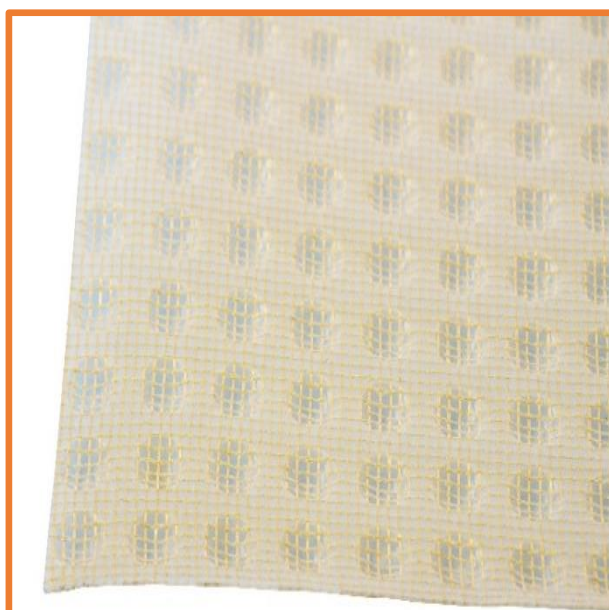
THE PUDLO CAVITY DRAIN SYSTEM

The PUDLO Cavity Drain System is manufactured in the UK and comes in the following sizes:

- PUDLO CD20 - 20mm studded membrane, which is suitable for both floor and wall applications when used in a PUDLO Cavity Drain System (Type C) installation. PUDLO CD20 is the largest studded membrane within our range.
- PUDLO CD20 provides the highest capacity for drainage at 14 litres/m² and can withstand a load resistance of 180 kN/m² - to support load-bearing walls built off the slab.



PUDLO CD 08



PUDLO CD 08M

- PUDLO CD08 - 8mm studded membrane which is suitable for floor applications when used in a PUDLO Cavity Drain System (Type C) installation. PUDLO CD08 is the smallest studded membrane within our range.
- PUDLO CD08 provides the medium capacity for drainage at 4 litres/m².
- PUDLO CD08M - 8mm studded membrane which is suitable for wall applications when used in a PUDLO Cavity Drain System (Type C) installation - allowing direct application of various plaster finishes, adhesives and plasterboards. PUDLO CD08M is the smallest studded membrane within our range.
- PUDLO CD08M provides the medium capacity for drainage at 4 litres/m².

PUDLO Cavity Drain System comes with several added benefits:

- BBA approved & CE marked
- Complies to BS8102:2009
- Quick and easy to install
- Membranes can be easily cut
- Waterproof and salt inhibiting
- Resistant to root and salt contaminants
- High quality product
- No drying out process for decoration. Can take place immediately (CD08M)
- The final product is ideal for challenging applications in the construction industry where long-term waterproofing performance is required.

Note: PUDLO can assist with sump and pump requirements. However, PUDLO is not responsible for the maintenance of such sumps. These pumps can be serviced by a specialist company at an additional cost. Please contact PUDLO for more information.

ACCREDITATIONS & INSTALLERS

Our entire PUDLO Cavity Drain System, including its ancillary products associated with the Type C system, complies with building regulations.

Recommended installers (third-party)

PUDLO works with several specialist installers of PUDLO Cavity Drain System. A person/company is considered a recommended installer only after:

- Having actively attended a technical session (hands-on) with PUDLO Waterproofing Systems.
- Having satisfactorily completed their first job, following the technical session

Installers of the PUDLO Cavity Drain System are all familiar with such Type C systems. We only work with third parties who are expert in waterproofing, professional and have technical knowledge to provide the end-user with a robust waterproofing system.

PUDLO Cavity Drain System is covered by a 20-year product warranty, with a separate 12-year installation warranty issued to the client directly by the recommended installers (or what has been agreed between client and installers).

Note: In the event the client requires an all-encompassing, 20-year performance warranty directly from DB Group (Holdings) Limited (strictly applies only where PUDLO CWP is used as part of a dual system), please contact PUDLO directly to discuss your specific project requirements. We are always contactable and happy to assist.

THIRD PARTY ON-SITE QUALITY CONTROL

It is important to ensure that the PUDLO Cavity Drain System is installed by skilled and trained operatives to achieve optimal performance on the first attempt. The works will be executed on the instruction of the contractor and must always be completed by a fully trained and competent person.

Note: The PUDLO Cavity Drain System is not covered under the PUDLO Premium QA System. However, we can put several measures in place to ensure the client is left in safe hands with the third-party specialist installers.

ANCILLARIES

As well as the membranes (PUDLO CD20, CD08 & CD08M), the PUDLO Cavity Drain System comes with several ancillaries that are vital to achieving optimal performance. If any one of these products is installed incorrectly, it may result in failures in the waterproofing system.

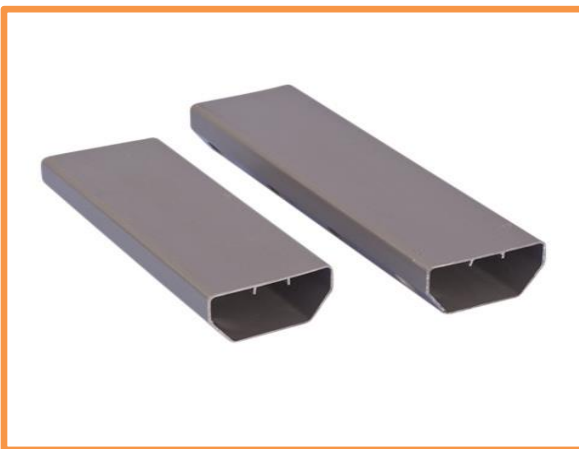
Channels

The PUDLO Cavity Drain channels are all designed to stop water seeping into the rear of the channel. Depending on the situation present on site, they come with a flange or non-flange option. Below are images and a brief description of each, as part of the PUDLO Cavity Drain System.



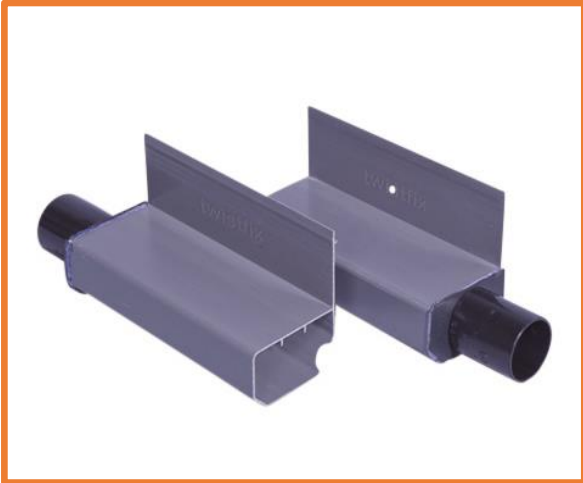
PUDLO CD Perimeter Channel

The PUDLO CD Perimeter Channel is a PVC drainage channel designed to control the flow of water ingress for below ground sub-structure basements. The PUDLO CD Perimeter Channel comes with a vertical flange which is fitted at floor level, in wall-to-floor junctions



PUDLO CD Floor Channel

The PUDLO CD Floor Channel is very similar to the PUDLO CD Perimeter Channel but comes without the flange. These channels move water to the sump chamber or drain. The channel can be used in stepped footings as well as to drain centrally across the floor.



PUDLO CD Drainage Outlet

The PUDLO CD Drainage Outlet is used to take water from PUDLO CD Perimeter Channels directly to the sump chamber or existing drain. Underneath the channel is a 32mm bend connection.



PUDLO CD End Outlet

The PUDLO CD End Outlet comes in both a left and right return, depending on where it is situated. The connectors take water away through an external wall to lower level drainage. This is ideal for houses (structures?) built into a hill where lower drainage is



PUDLO CD Flush Point

The PUDLO CD Flush Point allows the PUDLO Cavity Drain System to be easily maintained and cleaned. The flush point also acts as an inspection point. The flexible pipe enables the PUDLO CD Flush Point to be bent. Even with floor slabs in place, this port allows for easy access.

Plugs

When installing PUDLO Cavity Drain System, it is important that the fixings to hold the membrane in place are installed with care. It is one of the fundamental parts of the cavity drain system.



PUDLO CD Plug S

The PUDLO CD Plug S comes in a 70mm length with the added advantage of a waterproofing seal already attached. The head is serrated, which can take plaster or dot and dab. These plugs are used to secure the PUDLO CD20 & CD08 membrane to walls.



PUDLO Plug P

The PUDLO Plug P comes in a 60mm length. The plugs are quick and easy to install and, due to their length, are suitable for both single skin and cavity walls. These plugs are used in conjunction with CD08M (mesh) membrane.

Note: PUDLO Plug P is also available with seals.

Rope & Tapes

PUDLO Waterproofing Systems have sourced the highest quality tapes and rope to complement the PUDLO Cavity Drain System and to provide our customers with a quality, robust system to give the end-user peace of mind. All tapes use HP 600 grade bitumen which provides a long-term solution for sealing.

Prior to selecting our tape, each will go through rigorous water testing to be used with all of our HDPE membranes.



PUDLO CD Tape

The PUDLO CD Tape comes in a 28mm x 22m roll. PUDLO CD Tape is a high-quality butyl double-sided tape. PUDLO CD Tape is used to seal two sheets of PUDLO CD20 / CD08 / CD08M membrane together on floors and walls.



PUDLO CD Corner Tape

The PUDLO CD Corner Tape comes in a 150mm x 20m roll. PUDLO CD Corner Tape is used on membrane wall-to-floor junctions and with the PUDLO CD Perimeter Channel. The tape is sticky on one side, allowing it to be used to tape external joints and oversealing floor joints.



PUDLO CD Rope

The PUDLO CD Rope comes in a 10mm x 5m roll. PUDLO CD Rope can be used to wrap around the head of a PUDLO CD Plug or to form a waterproof joint seal on floor and wall membrane systems.

BS 8102:2009

When it comes to waterproofing below ground, two key elements are vital to successfully keeping everything dry and performing correctly. Firstly, the design should be carried out in consultation with a professional who is CSSW accredited. Secondly, the design should be done in accordance with BS 8102:2009

‘Code of practice for protection of below ground structures against water from the ground’.

PUDLO Waterproofing Systems’ technical and commercial teams are TechICT / AMICT and /or CSSW accredited, we are happy to consult on the design where instructed. There are three different types of waterproofing and three different grades, as listed below:

1. Type A - Barrier protection, where groundwater is stopped at the point of entry by the application of a waterproof membrane
2. Type B - Structurally integral protection, where the basement structure is designed and built to be watertight in its own right
3. Type C - Drained protection, where the structure allows limited ground water to penetrate and then diverts the water in a controlled manner to pump or drainage. (This system should not be used where hydrostatic pressure is present)

BS8102:2009 defines three separate grades of waterproofing for the intended use in the table below:

Grade	Example of Use	Performance Level
1	Car parks, plant rooms (excluding electrical equipment), workshops	Some leakage and damp areas are tolerable, depending on the intended use. Local drainage may be necessary to deal with leakage
2	Plant rooms and workshops requiring a drier environment (then Grade 1), storage areas	No water penetration, damp areas tolerable; ventilation might be required
3	Ventilated residential and commercial areas including offices, restaurants, leisure centres, etc	No water penetration acceptable. Ventilation, dehumidification or air conditioning necessary, appropriate to intended use

- A) Leakage and damp areas, for some forms of construction, can be quantified by reference to industry standards, such as the ICE’s Specification for Piling and Embedded Walls
- B) Archives, landmark buildings and stores requiring a controlled environment need special consideration, e.g. see BS5454 regarding archives

PUDLO Cavity Drain System falls under Type C - Drained Protection

When it comes to performance, it is vital that the system is installed by a fully trained and competent individual. PUDLO Waterproofing Systems prides itself on maintaining the highest standards and only works with companies/individuals who work to the same standards.

Note: To complete the PUDLO Cavity Drain System, it is important that a sump and pump are installed, otherwise the system will not work and will flood the basement area. Please refer to pump literature, available on request.

SUMPS & PUMPS



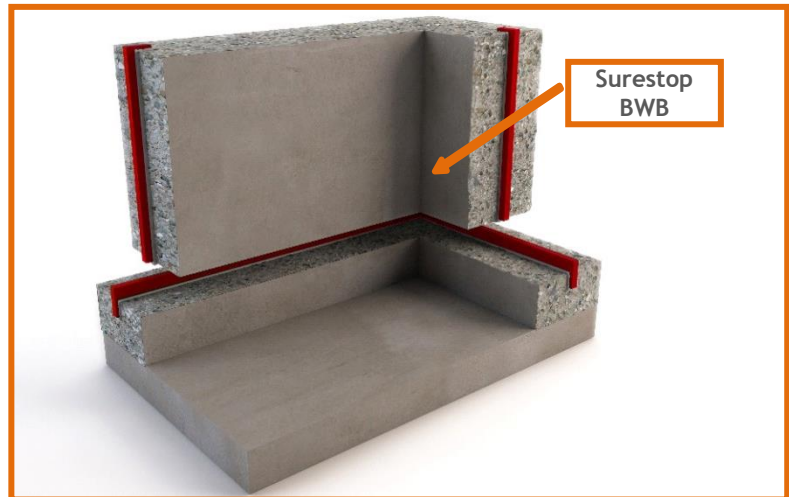
PUDLO Waterproofing Systems works in conjunction with Edincare Pumps, who will be on hand to provide support with the full design and installation of our sumps and pumps.

Our range of groundwater pump systems can cover both single storey and multiple storey basements, using either our PUDLO CD Pump or our PUDLO CD Pump Pro.

Note: To complete the PUDLO Cavity Drain System, it is important that a sump and pump are installed, otherwise the system will not work and will flood the basement area. Please refer to pump literature, available on request

SURESTOP BWB

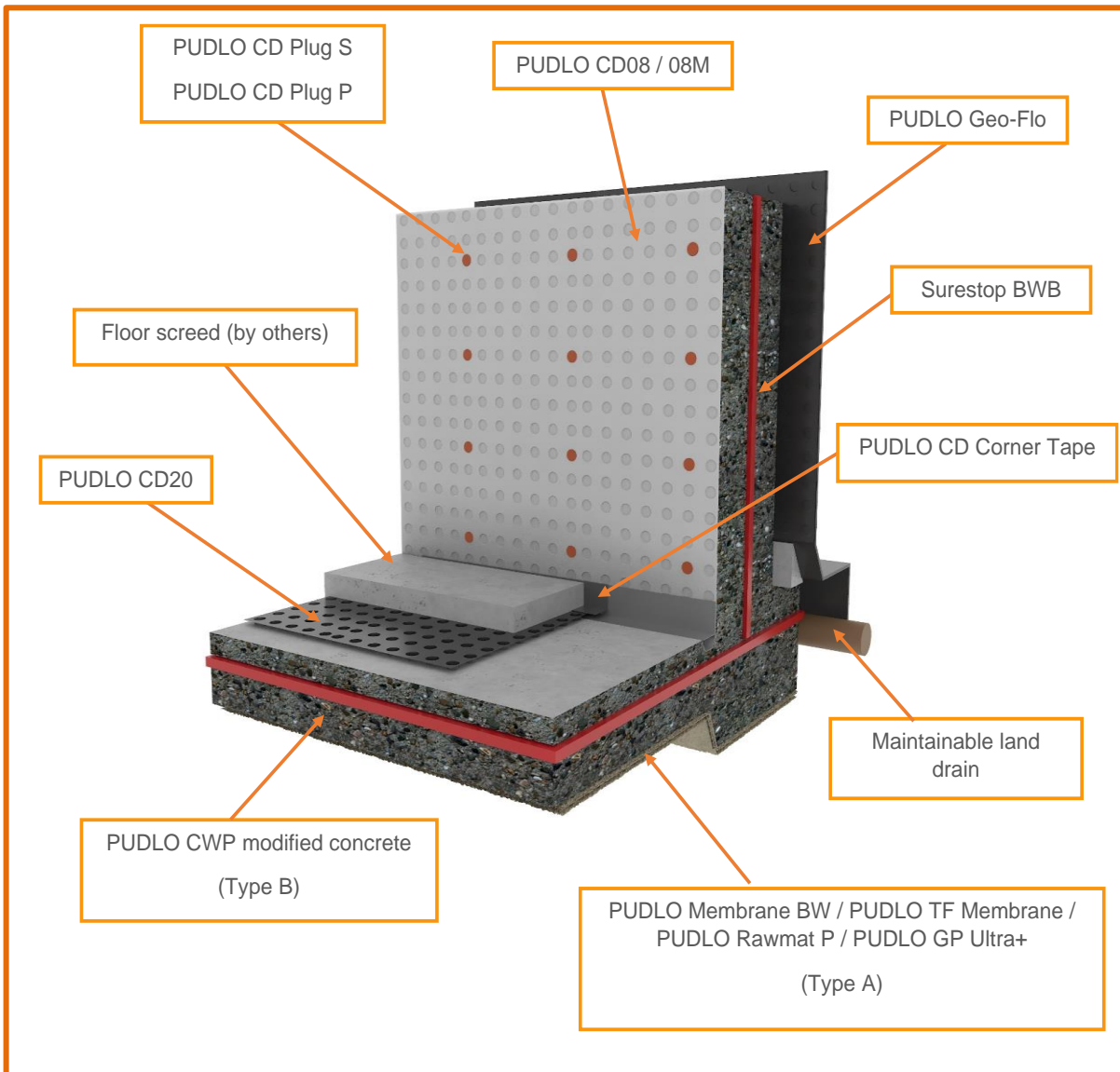
The way in which the PUDLO Cavity Drain System is designed allows it to be incorporated as a dual system with either a Type A or Type B system. Where a Type B system is used, regardless of whether PUDLO CWP is applied, or the concrete is designed to BS 8007 / EN 1992-3 limiting crack widths to 0.2mm, all construction joints should be installed with Surestop BWB.



Surestop BWB is a red hydrophilic strip made of natural sodium bentonite and is used for the sealing of construction joints in cast-in place concrete. Surestop BWB expands on contact with water, forming a positive seal.

Surestop BWB is supplied in 25mm x 20mm x 5m coils in boxes (6 x 5 metre rolls per box). For fixing instructions please refer to:

- Surestop BWB BBA certificate
- Surestop BWB product data sheet
- The PUDLO System Concrete Standards & Best Practice literature
- Typical details (available on request from your technical manager or PUDLO Site Support Team representative)



Limited Warranty

PUDLO Cavity Drain System should only be installed once the site ground conditions are suitable to receive the waterproofing product. **PUDLO Cavity Drain System** is designed to be used on most substrates and is NOT designed to waterproof against hydrostatic pressure as a single system or movement/expansion joints. Please consult PUDLO for special installation guidelines. The information and data contained herein is believed to be accurate and reliable. Specifications and other information contained within this 'guide' supersede all previously printed material and are subject to change without prior notice. Manufacturer's warranty of the installed system is available. Please contact PUDLO for terms and limitations. All goods sold by the seller are warranted to be free from defects in material and workmanship. The warranty is in lieu of and excludes all other warranties not expressly set forth herein. Seller shall not be liable for incidental or consequential losses, damages or expenses, directly or indirectly arising from the sale, handling or use of goods, or from any other cause relating thereto, and seller's liability hereunder in any case is expressly limited to the replacement (in the form originally shipped) of goods not complying with this agreement or at seller's election, to the repayment of, or crediting buyer with, an amount equal to the purchase price of such goods, whether such claims are for breach of warranty or negligence. Any claim by buyer with reference to the goods sold hereunder for any cause shall be deemed waived by buyer unless submitted to seller in writing within 30 days from the date buyer discovered or should have discovered any claimed breach.

Materials should be inspected and tested by purchaser prior to their use if product quality is subject to verification after shipment. Performance guarantees are normally supplied by the applicator of the **PUDLO Cavity Drain System**.