Waterguard Drainage Channel is suitable as an under floor basement drainage channel for structures with a separate footing / basement floor

WATERGUARD BASEMENT DRAINAGE CHANNEL

INSTALLATION GUIDELINES FOR NON-MONOLITHIC FOUNDATIONS

Advanced Basement Solutions Ltd

WATERGUARD BASEMENT DRAINAGE CHANNEL INSTALLATION GUIDELINES FOR NON-MONOLITHIC FLOORS

1. Waterguard Drainage channel is suitable as an under floor basement drainage channel for structures with a separate footing / basement floor, e.g. a strip footing. It is not, generally speaking suitable for structures with a monolithic floor / footing, i.e. those where the floor and the footing are one structural element, otherwise known as a raft foundation. For the latter, Waterguard may be used ABOVE the structural floor / footing and the floor raised with non-structural material in order to position the Waterguard below the final finished floors.

2. Dig out a channel in the edge of the basement floor 5" (125mm) wide and 4" (100mm) deep around the perimeter or part thereof where Waterguard is required. . The excavation may be 1" (25mm) wider or deeper but not shallower or narrower than this Note it is usually best to do the whole perimeter, partial installations may leave you at risk of water ingress in the untreated areas. If in doubt then seek expert advice.

3. The correct tool to use for the breaking out process is a heavy duty road breaker (such as the electric Bosch GSH) or similar (see illustration on right). Firstly, facing the wall, perforate the floor at points 5" from the wall and then turn and break parallel to the wall, not facing it, removing a few inches of concrete at a time. The softer the concrete the more you can remove at any one time. Make sure you use a sharp chisel e.g. 1" wide, not a point. There is no need to diamond cut the edge of the rebate first; this will cause a lot of dust an edge that is too smooth to bond efficiently with the new concrete and a lot of unnecessary work. For harder floor a hydraulic or pneumatic breaker may be required.

4. Remove rubble and test that the excavation is wide and deep enough; paying particular attention to the corners, using a small piece of Waterguard is a good way to do this.

5. Trim the excavation chipping any additional pieces as necessary away until the Waterguard fits with an inch or two to spare (25 – 50mm)

6. Ensure that the rebate thus created is able to flow into the drainage outlet, - usually a sump pit and then water – test to ensure that water flows into the desired location for the outlet. In doing this ensure that all dust is removed from the broken edge of the concrete where it will meet the new concrete, this is approx. 2" (50mm) at the top of the excavation.

7. Cut the Waterguard to length as needs be and place loosely in the rebate; when all pieces are butted up alongside one another. A hand held manual or electric PVC saw should be used.

8. Place some Waterguard tape over the top and down the front of the channel, the tape may overlap onto the inside face of the flange where it will be buried in concrete but not the top 10mm (1/2") or so.

9. Waterguard accessories should be treated like short lengths of Waterguard for this purpose, it is normal to use pre-made corners and to have at least one inspect on port for each straight run. However it is also feasible to mitre your own corners on site as you go. The Waterguard drain outlet (pictured right) comes with a shot length of pipe and an adapter; this should be fitted to connect to the sump chamber. The pipe may be trimmed to length if required and the; whole wedged in place with drainage stone. The lids on theinspectin ports should be individually adjusted for height in order to ensure that they exactly match the level of the floor at the point of installation. They have a telescopic adjustment for this purpose.

10. Level the Waterguard by packing ¾" drainage stone (no fines) in the remaining space created by the rebate, do not fill above the top of the Waterguard box section, thus leaving the broken edge of the concrete available to bond with the new concrete for the top 2" (50mm) of its depth.

11. Check that the Waterguard is level, there is no need for a pitch. It is best to start at the drain outlet (sump connection) and work away. If the basement floor is on a slope then the Waterguard channel should follow this keeping the top of the flange approx. 10mm (1/2") above the floor.

12. When all the Waterguard and accessories are firmly wedged in place with the stone, it is time to concrete it in. A stiff mix of 3:1 sharp concreting sand and Ordinary Portland cement are used. The surface

of the old concrete which is to be joined to should be pre-wetted and allowed to soak for a little while but not dry before the new concrete is placed. It can be advantageous to use a bonding slurry of 1:1 sand cement and water with or without a bonding agent (with is better). This should be mixed to a sloppy consistency and the new concrete applied when the bonding slurry is still wet. The concrete should be firmly compacted with a trowel or float and then levelled off with the same, do not over trowel as this can cause the water to rise to the surface and result in shrinkage cracks, also it can cause the main body of the concrete to dry out too quickly.

13. As with any new concrete it is best to dry (cure) slowly as rapid crying can cause cracks. A humid atmosphere is normally adequate for this but damp hessian or polythene sheeting can also be used. Note that shrinkage cracks in the overlay concrete do not I pair the functionality of the Waterguard and if the edge of the floor is to be concealed by dry wall or a floor finish they are of no consequence.

14. Note: - always take care to wear the correct personal protective equipment including gloves, ear defenders, steel toe-capped boots and goggles.

15. Note: - A moist line at the interface between the old and the new concrete sometimes occurs (below left). This is due to capillary action and can be avoided by careful attention to the above instructions and by using a damp-proof membrane under any floor finish. Without additional damp-proofing to the walls and / or floor, Waterguard should be regarded as an anti-flood system not a damp-proofing system.

Above: - Finished Waterguard installation.