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### ICF Construction – typical installation steps for a combined below ground waterproofing system

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1. Lay out Triton Hydrolock fully bonded membrane across the area of the slab, leaving an excess all around the perimeter for connecting to the vertical membrane system at a later date, and install the specified reinforcement.
2. Position the Triton Cemflex steel waterbar around the slab area perimeter supported vertically by the steel reinforcement.
3. Pour the slab concrete containing Triton TT Admix as the basement slab (allowing a recess for the hidden Type C drainage components) onto the Triton Hydrolock fully bonded membrane, leaving enough excess to fold up onto the wall sections. Alternatively, pour the slab without a recess but allow head height for polystyrene insulation across the slab area, leaving a gap around the edge for the drainage channels.
4. Install the ICF wall system on the slab edge, according to manufacturer's instructions, over the Triton Cemflex steel waterbar – please consult us at an early stage in the project to discuss this detail.
5. Further create a combined structural element and water resisting barrier using Triton TT Admix watertight concrete (Type B) within the ICF wall infill. Use Triton TT Admix within the wet concrete mix as the waterproofer to reduce any remaining ingress via external membranes and reduce free lime pick up, therefore protecting the Type C internal cavity drainage system from becoming clogged.
6. Externally, install a post applied Triton TW EX100 (Type A) sheet membrane in order to bridge joints in the ICF blocks and create the primary water-resistant barrier. Lap this over the Hydrolock membrane at the bottom and at the edge of the slab. Protect with Platon Double Drain protection membrane, leading down to the land drain.
7. Install an internal Platon P8 cavity membrane system (Type C) to the walls to manage any breach of other systems linking on to the perimeter drainage channel components. This can be installed immediately or later if needed. Platon cavity membrane systems can be combined with pumps and sumps depending on the project details and needs.
8. Install an internal Platon P20 cavity membrane system (Type C) across the slab area and link up with the P8 applied to the walls and into the perimeter Aquachannel drainage channel components.
9. Any decision to eliminate the use of one of the systems above (A, B or C) can increase the risk of water ingress either following completion, or later, when surrounding ground water returns.
10. An installed, completely buried, and hidden land drain is strongly advised to help reduce any hydrostatic stress on the built structure once back filled and in use.

Projects designed to be located on a steep slope or hillside will have a lower risk of hydrostatic water pressure applied to the structure. When there are reduced below ground elements involved (for example a three sided build into a hillside with natural downhill drainage), the above specification could be varied, and we suggest you seek our guidance.

Each project needs detailed considerations and the above is a generalised guide only.

For further information and to discuss your individual project please contact us on [info@tritonsystems.co.uk](mailto:info@tritonsystems.co.uk) or call us on 01322 318830. We offer free structural waterproofing project reviews and we encourage you to get in touch to discuss your project at the earliest possible design stage.

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