

Application of Delta Water Based Epoxy Resin

Delta Water Based Epoxy Resin is a high-performance coating designed for applications where concrete and masonry surfaces require waterproofing and long-term protection.

Easy to apply, Delta Water Based Epoxy can be used in damp conditions and is applied in the same way as standard emulsion paint.

Once cured, Delta Water Based Epoxy Resin forms a tough, non-toxic, waterproof/damp-proof barrier that is resistant to wear and easy to clean, making it suitable for a wide range of commercial, industrial, and residential applications.

Delta Water Based Epoxy is supplied as a two-part (twin-pack) system for ease of use. Proper mixing is essential to achieve the product's full performance and durability.

This Technical Guidance Note is intended for use by developers, contractors, and applicators as a general guide to the preparation and application of Delta Water Based Epoxy Resin.

Whilst this document outlines the recommended tools, equipment, materials, and step-by-step procedures for substrate preparation and product application, it should be used in conjunction with all relevant product documentation, including Technical Data Sheets, Material Safety Data Sheets, and any other technical literature relating to the system and its individual components.

It is the responsibility of the user to ensure that the most current technical information is consulted and that the product is suitable for the intended application and site conditions.



Personal Protective Equipment (PPE)

The following information provides a general overview of the Personal Protective Equipment (PPE) that may be required during the handling and application of Delta Water Based Epoxy Resin and is intended as guidance only.

Contractors, employers, and installers are responsible for ensuring compliance with all applicable health and safety legislation, regulations, and occupational safety requirements relevant to their country, region, and project location.

Appropriate risk assessments, COSHH assessments, and safe systems of work should be completed prior to commencing any work. The latest Material Safety Data Sheet (MSDS) should be consulted to confirm the specific PPE requirements and safe handling procedures for the product.

PPE requirements may include:

- Safety footwear with appropriate toe and sole protection.
- Safety helmets (hard hats) where required by site rules or risk assessment.
- Safety glasses or goggles to protect against splashes, dust, and airborne particles.
- Suitable chemical-resistant protective gloves.
- Protective clothing or coveralls to prevent skin contact with materials.
- Suitable respiratory protective equipment (RPE), where required by the product Material Safety Data Sheet (MSDS), COSHH assessment, or site-specific risk assessment.
- Hearing protection where mechanical surface preparation equipment is being used.
- Any additional PPE required to comply with site-specific requirements, statutory regulations, or identified hazards.

All PPE shall be selected, maintained, and used in accordance with the applicable health and safety legislations. Operatives should be trained in the correct use of PPE before commencing work. Consultation of the latest Material Safety Data Sheet (MSDS) is recommended prior to handling or applying Delta Water Based Epoxy Resin.

Delta Water Based Epoxy is considered a safe product, however it is recommended to avoid contact with skin and eyes. Wear suitable protective gloves and appropriate PPE during handling and application. In the event of skin contact, wash immediately with soap and water.

Do not ingest. If swallowed, seek immediate medical attention.

Keep out of the reach of children. Refer to the latest Material Safety Data Sheet (MSDS) for further safety information.

Health, Safety and Environmental Requirements

All operatives involved in the application of the Delta Water Based Epoxy Resin should be suitably trained and competent in the safe handling, mixing, and application of epoxy resin products.

The current product Material Safety Data Sheet (MSDS) and COSHH Assessment should be available on site and communicated to all personnel prior to commencement of the works. All operatives should comply with the control measures identified within this documents and any site-specific risk assessments.

All Delta Material Safety Data Sheets are available from our website www.deltamembranes.com

The following requirements should be observed throughout the works:

- Adequate ventilation should be maintained during mixing, application, and curing, particularly within enclosed or poorly ventilated areas.
- Uncured resin and hardener components should not be permitted to come into contact with the skin or eyes. Suitable chemical-resistant gloves, eye protection, and protective clothing should be worn at all times when handling the Delta Water Based Epoxy Resin.
- Eating, drinking, and smoking should be prohibited within work areas.
- Any spillages should be contained immediately and cleaned in accordance with the site's approved spill response procedures and manufacturer's recommendations.
- Materials shall be stored securely within their original containers and protected from damage, contamination, excessive heat, and direct sunlight.
- No ignition sources, naked flames, hot works, or smoking should be permitted where the product safety information identifies a risk of flammability.
- Appropriate first aid facilities shall be readily available, and emergency procedures shall be communicated to all personnel before work commences.
- All waste materials, contaminated absorbents, and empty containers should be disposed of in accordance with the manufacturer's guidance, site requirements, and applicable environmental legislation.

Fields of Application

Delta Water Based Epoxy Resin is a hard-wearing, seamless protective coating formed by combining an epoxy resin with a hardener. Once mixed and cured, it creates a durable surface that bonds to suitably prepared substrates, providing protection against abrasion, moisture ingress, and chemical exposure. The cured coating enhances the durability and service life of concrete and cementitious substrates whilst providing a hygienic, low-maintenance finish.

The moisture condition of the substrate should be assessed prior to application to ensure suitability for coating.

Delta Water Based Epoxy Resin/Floor Coating is designed for application to sound, suitably prepared concrete and cementitious floor substrates, providing a durable, waterproof, damp-proof, and easy-to-clean protective finish.

Preparation including Substrate Preparation

Effective preparation promotes strong adhesion between Delta Water Based Epoxy Resin and the substrate, helping to prevent loss of bond, coating failure, and moisture-related defects. The substrate must be clean, sound, and suitably prepared in accordance with the project specification and Delta's current technical guidance before application commences.

Preparation:

- Inspection and assessment of substrate.
- Preparation of the substrate to ensure suitability for epoxy application.
- Cleaning and removal of dust, laitance, grease, oil, and other contaminants.
- Repair minor defects and surface imperfections where required.
- Application of a primer (Clear Delta Water Based Epoxy), where specified by the project requirements or substrate condition.
- Mixing of the Delta Water Based Epoxy components in accordance with the manufacturer's instructions.
- Application of the Delta Water Based Epoxy coating to the specified coverage rate and thickness.
- Application of additional coats where required to achieve the specified finish and performance.
- Inspection of the completed coating for quality, consistency, and coverage.
- Protection of the finished surface from traffic, contamination, and damage until the coating has fully cured.

The substrate shall be:

- Structurally sound and free from loose, friable, or unstable material.
- Clean and free from oil, grease, dust, laitance, curing compounds, paint, sealers, and any other contaminants that may adversely affect adhesion.
- Adequately dry and suitable for the specified epoxy coating system in accordance with the manufacturer's recommendations.
- Free from standing water or excessive surface moisture.

Where necessary, mechanical surface preparation should be undertaken using appropriate equipment, such as grinding, scabbling, or shot blasting, to remove existing contaminants, weak surface layers, and laitance, and to provide a suitable mechanical key for the coating system.

Upon completion of the preparation works, the substrate should be thoroughly cleaned using an industrial vacuum cleaner to remove all dust, debris, and loose particles. The prepared surface should be inspected to verify that the required standard of cleanliness and profile has been achieved.

Any cracks, voids, surface imperfections, holes, damaged areas, movement joints, or other defects identified during inspection shall be assessed and repaired using compatible repair materials in accordance with the project specification and manufacturer's recommendations. All repairs shall be allowed to cure fully before the application of Delta Water Based Epoxy Resin.

The prepared substrate should be protected from contamination and deterioration prior to the commencement of coating works. Any contamination occurring after preparation should be removed and the affected area re-prepared as necessary.

Attention:

Attention should be paid to the manufacturer's recommendations regarding substrate preparation, mixing ratios, environmental conditions, application methods, and curing times to ensure optimum performance of the completed coating system.

Delta Membrane Systems Limited

Technical Guidance Note - 060

Materials

The following materials may be required for the successful installation of the Delta Water Based Epoxy Floor Coating System:

- Delta Water Based Epoxy Resin.
- Primer, where specified by the project specification or substrate conditions (Clear Delta Water Based Epoxy Resin).
- Suitable repair mortar for detailing (Koster Repair Mortar Plus).
- Suitable self-levelling underlayment (Koster SL Premium/SL Project)
- Approved cleaning and degreasing agents suitable for the removal of contaminants (Koster Universal Cleaner)

Prior to use, all materials should be checked to ensure they are within their stated shelf life and free from damage or deterioration that may adversely affect performance.

Special consideration:

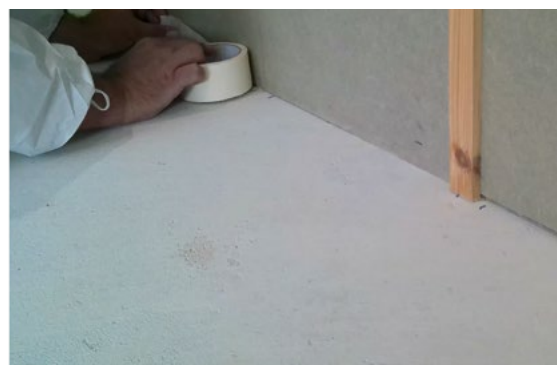
New Concrete and Degassing

Newly placed concrete contains moisture and entrapped air within its pore structure. During application and curing of the epoxy coating, increases in substrate temperature may cause this entrapped air to expand and migrate towards the surface, resulting in the formation of bubbles or pinholes within the coating. This phenomenon is commonly referred to as degassing. To minimise the risk of degassing, concrete should be adequately cured and dried prior to coating application. Where possible, application should be undertaken when substrate temperatures are stable or falling rather than rising. The substrate moisture condition should be assessed in accordance with the relevant project specification and Delta technical guidance before commencing work.

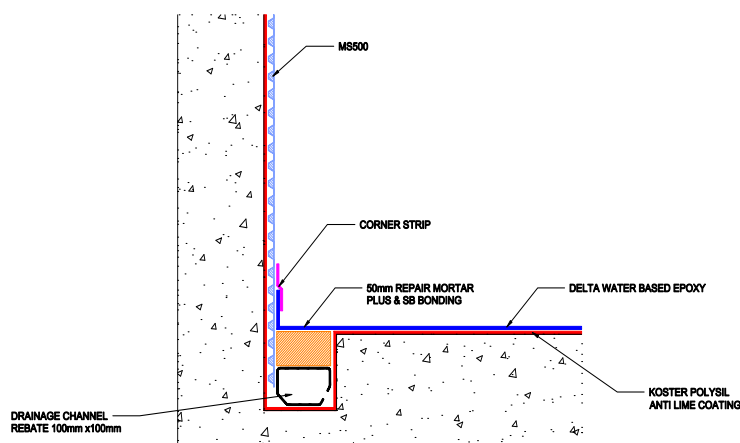
Expansion joints/Movement Joints

Existing expansion joints, movement joints, and construction joints should be identified and assessed before application of the Delta Water Based Epoxy Resin. Such joints are designed to accommodate movement within the structure and should not generally be bridged with rigid epoxy coatings unless specifically detailed within the project specification.

Where movement joints are present, they should be treated using an appropriate jointing system (Koster Joint Sealant FS-H/Koster MS Joint Sealant) compatible with the Delta Water Based Epoxy Resin system. Failure to correctly accommodate substrate movement may result in cracking, loss of adhesion, or premature coating failure.



DW-569-1-(D)- Restricted Height Floor Option



All joints, cracks, and areas requiring repair should be inspected and addressed before application of Delta Water Based Epoxy to ensure the long-term performance of the finished floor system.

Details

All detailing works should be completed prior to the application of Delta Water Based Epoxy and should be carried out in accordance with the project specification, manufacturer's details, and any approved construction drawings. Care shall be taken to ensure that all interfaces are properly prepared, clean, and free from contamination before coating.

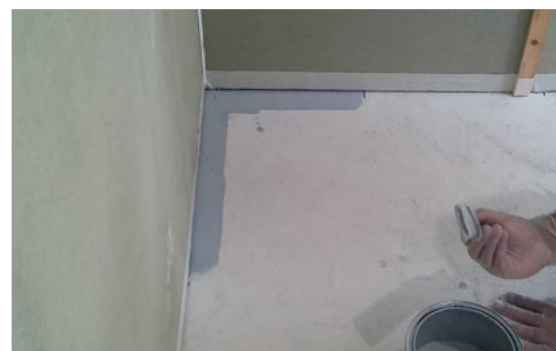
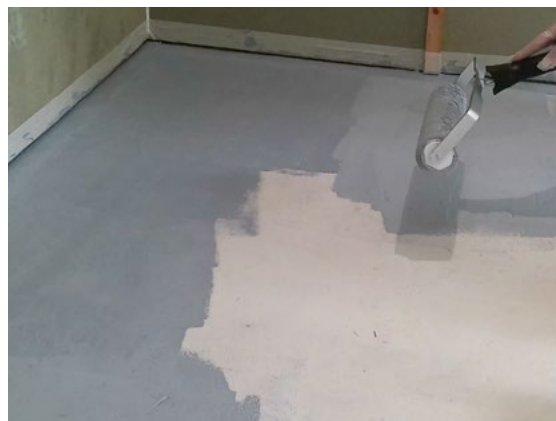
Upon completion, all joint treatments and detailed areas should be inspected to confirm compliance with the specified requirements and to ensure continuity of protection throughout the coating system.

Tools and Equipment

The following tools and equipment may be required to carry out the works:

- Mechanical floor grinder, scabblers, shot blasting machine or other suitable mechanical surface preparation equipment.
- Industrial vacuum for the removal of dust and debris.
- Electric mixing drill.
- Resin Stirrer.
- Short-pile rollers or epoxy-compatible rollers for application.
- Brushes for edge details, corners, and difficult-to-access areas.
- Wire Brush, Scrapers, trowels, and other hand tools as required.
- Delta wet film thickness gauge, where specified, to verify coating application rates.
- Suitable Personal Protective Equipment (PPE), including safety footwear, gloves, eye protection, and protective clothing.
- Clean mixing containers (where required).
- Warning signs and barriers to restrict access to the work area during application and curing.

All tools and equipment should be inspected prior to use and maintained in a safe and serviceable condition. Equipment used for mixing and application should be clean and free from contamination to ensure the performance and finish of the Delta Water Based Epoxy Resin are not adversely affected. Any defective equipment should be removed from service immediately and replaced as necessary.



Environmental Conditions

Delta Water Based Epoxy Resin should not be applied when the substrate or ambient temperature is below 10°C, as this may adversely affect application, curing, adhesion, and overall coating performance.

Prior to and throughout the application of the Delta Water Based Epoxy Resin, environmental conditions should be monitored and recorded where required to ensure that the product can be applied and cured in accordance with the manufacturer's guidelines.

The following checks shall be carried out before and during application:

- Ambient temperature and relative humidity shall be within the limits specified by the manufacturer.
- Substrate temperature shall comply with the manufacturer's requirements for application.
- The substrate temperature shall remain sufficiently above the dew point to prevent condensation forming on the surface.
- The substrate shall be free from frost, ice, standing water, and visible surface moisture.
- Adequate ventilation should be maintained throughout the application and curing processes, particularly in enclosed areas.

Application shall only proceed when environmental conditions are suitable and within the limits specified in the current product data sheet/MSDS.

The work area shall be protected from water ingress, condensation, excessive dust, dirt, and other sources of contamination during both application and curing. Any environmental conditions that may adversely affect adhesion, curing, appearance, or long-term performance of the Delta Water Based Epoxy shall be rectified before work continues.

Where environmental conditions fall outside the manufacturer's specified limits, application should be suspended until suitable conditions have been achieved.

Mixing of Delta Epoxy

Delta Water Based Epoxy is supplied as a two-part (twin-pack) system and should be mixed strictly in accordance with the manufacturer's instructions prior to application.

Delta Water Based Epoxy Resin has a shelf life of approximately 12 months when stored in its original, unopened containers. The product should be stored in a cool, dry, frost-free environment and protected from direct sunlight, excessive heat, and moisture. Containers should remain sealed until required for use.

Delta Water Based Epoxy Resin is supplied as a two-part (twin-pack) system in 2.5 litre and 5 litre pack sizes. Each pack contains Part A (resin) and Part B (hardener) in the correct mixing ratio. Once fully mixed, the product yields the stated volume of ready-to-use coating.

To correctly mix Delta Water Based Epoxy Resin:

- Check that the product batch numbers and expiry dates are valid and suitable for use.
- Ensure both components and all mixing equipment are clean, dry, and free from contamination.
- Remove the retaining ring holding the two packs together.
- Pour the entire contents of Pack B (smaller tin) into Pack A (larger tin).
- Add clean water to the fill line indicated on Pack A. Ensure only clean, uncontaminated water is used and that the specified fill level is not exceeded.
- Mechanically mix using a suitable low-speed drill and resin stirrer.
- Mix continuously for a minimum of 3 minutes to achieve a fully homogeneous consistency/
- Mix continuously to ensure that the hardener Pack B is completely dispersed into Pack A.
- Take care to avoid introducing excessive air into the mixture during the mixing process.
- Only mix quantities that can be applied within the product's stated working or pot life.

No additional solvent, water, or other materials should be added unless expressly permitted within the manufacturer's current technical guidance notes/product data sheet.

Application of Delta Water Based Epoxy

Delta Water Based Epoxy Resin is ready for application immediately after mixing.

Delta Water Based Epoxy Resin has an approximate coverage rate of 7 m² per litre, depending on substrate condition and method of application. Coverage rates may be reduced on rough, textured, or highly porous surfaces, as additional material may be absorbed into the substrate. In such circumstances, additional coats may be required to achieve the specified film build and complete surface coverage.

Coverage figures are provided as a guide only and should not be used as a substitute for a site-specific assessment of substrate condition and material requirements.

Application should commence at the furthest point from the designated exit point and progress systematically towards the exit to prevent operatives becoming trapped within the coated area.

The coating should be applied evenly using suitable application equipment, including short-pile or epoxy-compatible rollers. Edges, corners, service penetrations, perimeter details, and areas inaccessible to rollers should be carefully coated using a suitable brush to ensure a continuous coverage.

During application, care shall be taken to maintain a consistent and uniform finish. The coating should be inspected continually to avoid defects including:

- Runs or sagging
- Ponding
- Excessive film build-up
- Pinholes or voids
- Missed or insufficiently coated areas
- Uneven texture
- Contamination by dust, dirt, moisture, or other foreign matter

Curing and Protection

Delta Water Based Epoxy Resin has an approximate touch-dry time of 4 hours under normal ambient conditions. The coating will typically achieve a hard-dry state within 12 hours and reach full cure after approximately 8 days.

Drying and curing times are dependent upon substrate temperature, ambient temperature, relative humidity, ventilation, and applied film thickness. Lower temperatures and higher humidity levels may extend curing times.

The coated surface should be protected from traffic, water exposure, contamination, and physical damage until an adequate level of cure has been achieved.

Delta Water Based Epoxy Resin is typically applied as a two-coat system. However, where the substrate is particularly porous, absorbent, or uneven, a third coat may be required to achieve a uniform finish, complete coverage, and the required film thickness.

Where a second coat is required, it should be applied as soon as the first coat becomes touch dry to ensure good intercoat adhesion and optimum coating performance. Where a third coat is necessary, it should be applied in the same manner.

Following completion of the curing period, a final inspection should be undertaken to confirm that the coating has cured satisfactorily and is fit for its intended service conditions.

Once fully cured, Delta Water Based Epoxy Resin is resistant to pressure washing, steam cleaning, and cleaning with suitable sanitising and sterilising solutions.



Inspection and Quality Control

The finished surface should be visually inspected to verify that a continuous, uniform, and defect-free coating has been achieved, with no evidence of damage, contamination, incomplete coverage, blistering, cracking, delamination, or other defects that could adversely affect the long-term performance, durability, or appearance of the system.

The inspection should verify that:

- Uniform and complete coverage has been achieved across the entire coated area.
- The finished surface has a consistent colour, texture, and appearance.
- The specified coating thickness has been achieved, where applicable.
- No visible pinholes, holidays, voids, or missed areas are present.
- There are no excessive runs, sags, pooling, roller marks, or other surface defects.
- Edges, corners, joints, penetrations, and perimeter details have been treated and finished correctly.
- The coating is free from contamination, mechanical damage, or other defects that may adversely affect performance.

Any defects identified during the inspection process should be recorded and rectified in accordance with the manufacturer's recommendations prior to handover.

All inspection and testing results should be documented and retained as part of the project quality records.

Completion of Works

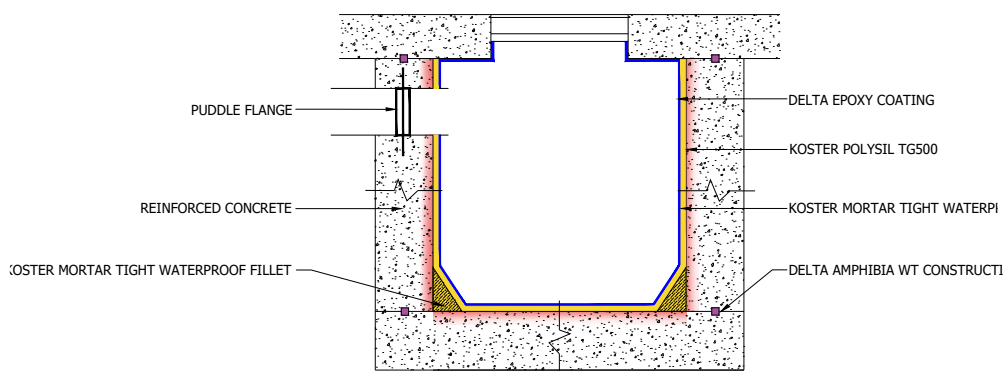
Upon completion of the works, all work areas shall be left clean and safe. All waste materials, empty containers, and packaging should be removed and disposed of in accordance with site requirements and applicable regulations.

- All tools and equipment should be cleaned immediately after use and before the coating has cured.
- Spray equipment should be rinsed regularly with clean cold water during application, and all brushes, rollers, spray equipment, and mixing tools should be cleaned using cold water and a mild detergent.
- Surplus materials should be stored or disposed of in accordance with the site procedures.

Handover

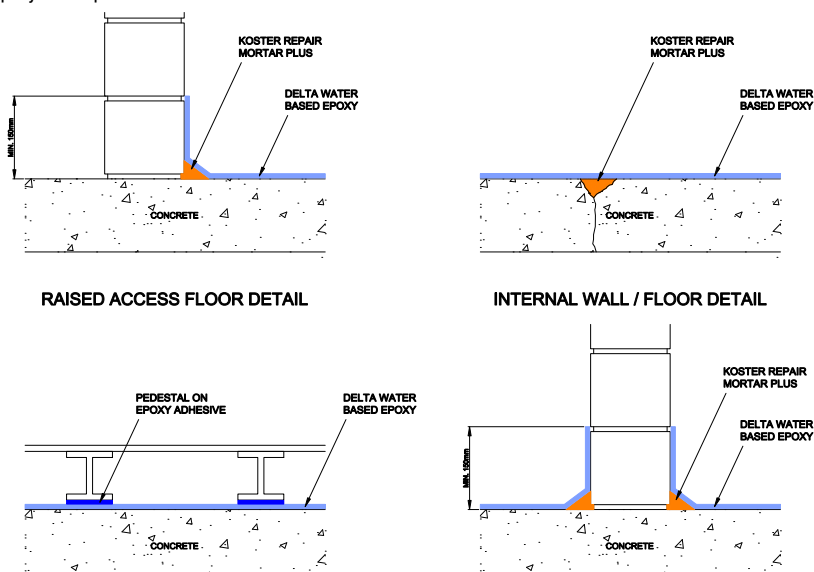
All relevant inspection records, test results, and quality documentation should be completed and retained as required by the project quality management procedures.

DP-700-1-(A) - RC Sump Chamber - Waterproofing Option 1

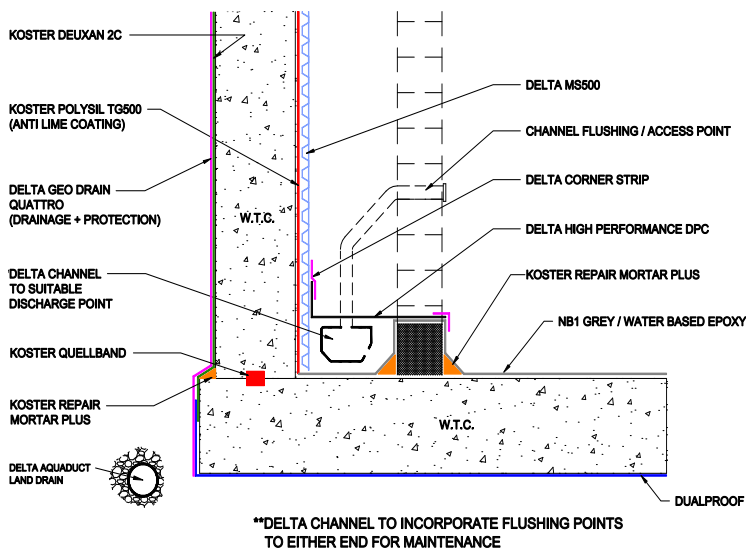


*SIZE OF CONCRETE CHAMBER WILL VARY BASED ON REQUIRED STORAGE SIZES

DDP-234-1 - Delta Water Based Epoxy Floor Options



DW-265-1-(D) - Combined Waterproofing Bunded Channel A&C



DW-403-1-(FP) - Flood resistance - Recoverability - House Type 3

TRADITIONAL STONE CONSTRUCTION - CONSERVATION AREA
"LOW COST" OPTION - RECOVERABLE WITH DE-MOUNTABLE FINISH / SOLID FLOOR CONSTRUCTION

