

TECHNICAL DATA SHEET

DELTA PLUG FS

PRODUCT DESCRIPTION

DELTA PLUG FS is a fast setting cement based compound that forms a durable plugging mortar designed to stop active water leaks in concrete and masonry structures. Based on a blend of unique cement, special fillers and aggregates, Delta Plug is able to be used to stop active water leaks or seepage of water under pressure through holes, cracks and joints in solid concrete and masonry surfaces. Once mixed with water and applied to the surface, the fast setting Delta Plug mortar expands during its curing process to form a watertight seal that provides an immediate stop to running water. When cured, Delta Plug provides similar properties to concrete.

Product Features

- Rapid setting, forming an instant plug against active leaks within approx 1 minute
- Requires addition of water only
- Outstanding adhesion to concrete and masonry surfaces
- Excellent workability to mould into holes, voids, crevices, joints or cracks
- Free of chloride admixtures
- Expands while setting to form a crack free waterproof seal
- Non shrinking when dried
- Does not promote corrosion of reinforcement in concrete structures

Typical applications

- Emergency repairs against water leaks
Sealing cracks and construction joints in water retaining structures, e.g. tanks, reservoirs
- Sealing active leaks with a negative head of pressure, e.g. lift shafts, basements, manholes
- Joint filling and pointing between concrete segments in concrete and brick tunnels, sewage systems, pipes, cellar walls.
- Below ground access chambers, foundations and mines
- Sealing construction joints, wall/floor junctions in underground applications before tanking membrane application.
- Rapid anchoring of bolts, fixtures, conduits, pipes etc.

GENERAL APPLICATION AND MIXING DETAILS

Surface needs to be in a sound state, removing all loose material around the perimeter edges of the area to be filled. Area needs to be free of oil, grease, and wax residues.

For best results, areas to be treated should be cut out to a minimum width and depth of 20mm, cutting the sides as square as possible. Avoid forming a "V" section in the surface; best results achieved by forming a dovetailed profile if possible. Surfaces should be roughened for a good mechanical key. Ensure surfaces to be treated are not feather edged or made smooth.

Note: It is recommended before commencing the application; that adhesion of products to be used (e.g. primers, membranes, coatings adhesives etc) is tested over a typical area of the prepared surface to ensure satisfactory adhesion. It is the responsibility of the applicator to carry this out and accept the substrate suitability before any application starts. Details contained in product data sheets are general in nature. For any situation or items not covered in this data sheet, it is the responsibility of the applicator to check with DELTA Technical Services before commencing the application.

Disclaimer: This Product Data Sheet (PDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this PDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. DELTA Construction Industries does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

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As the application of the Delta Plug is designed to create an immediate seal against leaking water, best preparation will avoid loss of time. Before commencing ensure a clean empty pail is ready for mixing in. Access to clean water is required and this should be approx. 20°C. If conditions are cold, it is recommended to use warm water to enable correct strength development of the Delta Plug. A clean spatula or trowel to mix product is required along with rubber gloves

MIXING

Mixing should only be done by hand, do NOT mix with an electric stirrer or paddle.

- Best results achieved by mixing sufficient material that can be placed by hand in one application, approx. 0.5kg.
- Apply Delta Plug powder into an empty pail, and then add water. Mix quickly, forming a paste/putty mortar consistency
- As a mixing guide approx. 150ml of clean water should be mixed to 1kg of powder. This is a guide only, and depending on temperature and other ambient conditions this may vary by using a lesser or greater amount of water to form the correct working consistency.
- Using a gloved hand, hold the mortar material until slight warmth is felt or signs of setting occur. Then press the Delta Plug mortar into the opening, and apply firm full pressure by hand or trowel. The mortar will set within 30 seconds - 1 minute, slowly remove trowel or hand.
- If the opening of the area being treated is large, work from the sides towards the centre, following the above instructions until the total area is covered with the Delta Plug.
- Once the active leak has stopped, the Delta Plug patch can be sanded or grinded back to enable it to be level with the surrounding wall or floor surface area.
- If sealing active leaks between wall/floor sections, cut out the crack/joint at a minimum 20mm wide, cutting back slightly into the wall. In this application, best results are achieved by filling the void prepared and forming a 45° fillet or cove with the Delta Plug mortar at approx. 40mm wide.

FOR ANCHORING BOLTS, FIXTURES OR METAL POSTS IN CONCRETE AND MASONRY SURFACES:

- Drill a hole into the surface deep enough to hold the bolt securely and ensure the hole allows approx. 10mm around the circumference edges of the bolt
- Mix the Delta Plug FS as per details above and pack the hole with the Delta Plug mortar, trowelling into the hole to ensure it is completely full of mortar product.
- Immediately centre the bolt over the hole and push into the Delta Plug mortar, forcing it into position.
- Pack the Delta Plug mortar firmly around the bolt/fixture, and keep the mortar moist using a water mist or damp sponge. Continue this for approx 15-20 minutes while the Delta Plug sets to cure.

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IMPORTANT NOTES

- Delta Plug FS Setting time is approx 1-3 minutes depending on temperature conditions
- Once the Delta Plug has stiffened and hardened, dampen with clean water and keep in a damp state for approx 15 minutes, using a water mist or sponge
- Coverage will vary on different surfaces. As a guide, 1kg of powder will fill a joint 20mm x 20mm x 1.45m length.
- Delta Plug FS should not be used when the temperature is below 10°C. For conditions that are cool, e.g. <100C, warm water can be used to mix the Delta Plug to ensure correct setting time. For extremely warm conditions, cold water can be used to mix the Delta Plug mortar.

TECHNICAL DATA

Appearance:	Grey
Drying: (at 20°C)	Initial Set: <2 minutes Final set: 2-4 minutes

Note: Set time will be dependent on ambient conditions and water temperature

Wet Density	2150 (kg/m ³)
Compressive strength build-up (at 20°C)	30 minutes – 8 MPa
(at 20°C)	24 hours - 30 MPa
	7 days – 43 MPa
	28 days - 50.8 MPa

Tensile strength:	28 days – 3.1 N/mm ²
<i>Note: Results are dependent on correct mixing techniques (at 20°C)</i>	

PACKAGING

15kg bag supplied in 15L polypropylene pail

CLEANING

Clean surfaces, tools etc. with water or soapy water while in a wet state. Once dried product needs to be removed mechanically

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STORAGE CONDITIONS

Store at room temperature
Avoid storing on direct concrete floor in freezing conditions
12 month shelf life (unopened)
Avoid storing in direct sunlight

HEALTH & SAFETY

The product is non-toxic but good hygiene and industrial practices should always be employed. Refer to the relevant Safety Data Sheet (**SDS**) available.

DELTA Construction Chemicals

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