Estomix G15

High Performance Hydrophobic and Crystallization Waterproofing System

Description

Estomix G15 is a dual-purpose waterproofing system, when added to fresh concrete, reacts with products of the cement hydration process to produce a hydrophobic material and initiates the crystallization process, which repels external water thus drastically reducing water absorption into the concrete. Crystallization initiation process will have a long-term effect due to its continuous process of crystal growth.

Estomix G15 has been tested by SIRIM Bhd, in accordance to BS 1881 Part 122:1983 on Water Absorption, BS 6920, on The Suitability for Contact with Drinking Water; certified by UNIKL for crystallization process; tested by Testech Sdn Bhd in accordance to CRD-C 163-92 on Water Permeability Test (Triaxial Cell Method); tested by Setsco Sdn Bhd, in accordance to DIN 1048:Part 5 on Determination of Water Permeability and complied with the specification in this data sheet.

Uses

- For complete and permanent waterproofing of mass and reinforced concrete.
- **Estomix G15** drastically reduces water absorption in structural and precast concrete.
- It is recommended to be used in multi-storey basement, tunnel, water retaining/excluding structure, bridge deck, civil and building structure.

Advantages

- Chloride free.
- Reduces surface absorption.
- Minimizes cracking and plastic shrinkage.
- Provides integral protection ensuring reduced permeability throughout the concrete.
- Integral protection is maintained even if surface damage occurs.
- Lower water cement ratio improves compressive strength at same workability.
- No protection is required for floors and walls.
- Increase formation of crystal, the crystallization process is activated whenever moisture is present. Crystal growth continuously to block the path of moisture to prevent long term leaking.

Standards Compliance

- **BS 1881 Part 122:1983**
- **BS 5075**
- **MS 1583 Part 1:2003**
- **DIN 1048:Part 5:1991**

Physical Properties

Appearance	Brown solution
Specific gravity	1.10 at 20 ^{0}C
Chloride content, BS 5075	Nil
Water Absorption Test, BS 1881 Part 122:1983	< 1.5 %
Potable Condition, MS 1583 Part 1:2003	Complied
Water Permeability DIN 1048: Part 5:1991	< 15 mm

Typical Performance Examples

Estomix G15 meets the water absorption requirements of draft European standard EN 934-2.

Many variables in concrete materials and conditions can affect the use of an **Estomix G15**. Trials should be carried out using relevant materials and conditions to determine the optimum mix design and **Estomix G15** dosage to meet specific requirements.

A typical performance example from evaluation studies of **Estomix G15** is included on this data sheet. The values quoted are representative of the results obtained and are provided as illustration of the performance.

Because of the variability of concrete material, the results should only be taken as typical of the performance to be expected. Results quoted are not necessarily directly comparable with results obtained elsewhere for **Estomix G15**.

Example

Water absorption test in accordance with BS 1881 Part 122 as below.

Concrete Grade	35
Cement Content	350 kg
Water Cement Ratio	0.36 - 0.38

Note: Cement refers to OPC. No cement replacement material shall be used in the concrete mix.

	Dosage of **Estomix G15** (%)	Water Absorption (%)
Treated	1.0	<1.5
Control	nil	5.9

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Instruction for Use

Trial Mix

Trial Mix shall be conducted for concrete intended to utilize **Estomix G15**, to waterproof a particular concrete structure.

The targeted compressive strength of a particular grade of concrete shall be complied with BS 5328:1981, or its latest revision. The use of **Estomix G15** should be under adequate supervision. For further advice contact Estop Technical Department.

Typical Dosage

Estomix G15 may be dispersed to gauging water at the rate of 1 litre per 100 kg of Portland cement.

Estomix G15 is also a water reduction agent. Therefore, the maximum free water cement ratio shall not be more than 0.50, before dosing of **Estomix G15**.

Slump of concrete before dosing shall be between 50mm – 70mm for normal concrete, and 60mm – 80mm for pump mix concrete, higher slump will be expected after dosing of **Estomix G15**.

The use of **Estomix G15** at typical dosage will illustrate an excellent result on water absorption, as shown in Typical Performance Example.

Effects of Overdosing

An overdose of double the intended dose of **Estomix** may result in increased retardation and workability; hence reduce the short-term strength development. Long term strength is unlikely to be affected. Should segregation of concrete occur, due to excessive increase in workability, the concrete shall not be used.

Dispensing

The correct quantity of **Estomix G15** should be measured by means of a recommended dispenser. The **Estomix G15** should then be added to the concrete with the mixing water to obtain the best results. For further advice on equipment and tools contact Estop Technical Service Department.

Curing

Estocure spray applied curing membrane should be used.

Good concrete practice must be always followed. Well graded aggregates must be used and minimum cement content of 300kg/m^3 is recommended.

Waterproofing to Concrete Joints

Estop's Estopper Range PVC waterstop shall be provided between lifts of concrete and joint in floor bays.

Packing & Size

Estomix G15	200L / Drum 20L / Pail

Technical Support

Estop provides a technical advisory service for onsite assistance and advice on waterproofing product selection, evaluation trials and dispensing equipment. Technical data and guidance can be provided for other products for use with fresh and hardened concrete.

Storage

Estomix G15 has a minimum shelf life of 12 months.

Precaution

Estomix G15 is not hazardous material.

Additional Information

Estop manufactures and offers a wide range of complementary products which includes waterstops, waterproofing products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spalled concrete are available.

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