

DELVO[®] ESC

Extended-set control for plastic concrete and concrete washwater

DESCRIPTION

DELVO ESC (extended-set control) admixture provides a dispenser-free way of controlling cement hydration in plastic concrete and washwater. It is a self-contained, dry formulation of **DELVO Stabiliser** designed to control the hydration of cementitious material in concrete washwater and plastic concrete.

DELVO ESC admixture meets ASTM C 494 requirements for Type B retarding and Type D, water reducing and retarding admixtures.

RECOMMENDED FOR

- Retarding freshly-batched concrete
- Stabilising returned plastic concrete and concrete washwater
- Portland cement, fly-ash, silica fume and ground granulated blast-furnace slag concrete.

FEATURES AND BENEFITS

- **reduced amount of water needed to clean ready-mix truck drums**
- **reduced need for concrete washwater pits, the resulting wear and tear in front end loaders and disposal charges**
- **concrete containing stabilised washwater will experience strength performance equal to or greater than reference concrete without stabilised washwater**
- **acts as a cleansing agent to reduce the buildup on fins, reducing maintenance costs incurred from chipping out hardened concrete**
- **convenient way to save a load of concrete in emergency situations or job delays**
- **economical for transporting concrete for long-hauls**
- **reduced labour costs of washing out trucks**
- **reduced material costs, allowing for a cement reduction between 21 to 23kg when a full 7m³ load is batched on top of the stabilised concrete washwater (must be verified by performance testing)**
- **improved profitability for the ready-mix producer**
- **reduced environmental concerns pertaining to the disposal of concrete washwater and plastic concrete.**

HOW TO USE

DELVO ESC admixture can be used as a retarder in freshly-batched concrete or for stabilising returned plastic concrete and concrete washwater. The day after overnight or weekend washwater stabilization, **DELVO ESC** admixture treated concrete washwater is combined with freshly-batched concrete and sent to the job site. The stabilised concrete washwater that is held in the ready-mix truck drums is used as mix water for the subsequently batched mixture. The result is quality, dependable concrete with no waste.

DOSAGE

For overnight stabilisation of concrete washwater, use 2 to 3 **DELVO ESC** admixture pucks with 130 to 265 litres of fresh water per truck. For weekend stabilisation, use 4 to 6 **DELVO ESC** admixture pucks with 130 to 265 litres of fresh water per truck. Each puck is equivalent to 470ml of liquid **DELVO Stabilizer** admixture.

For concrete mixes containing Type HE cement, use 3 to 5 **DELVO ESC** admixture pucks and 130 to 265 litres of fresh water for overnight stabilisation and 5 to 7 **DELVO ESC** admixture pucks for weekend stabilisation of concrete washwater.

If weather conditions or scheduling problems do not permit the use of a ready-mix truck containing stabilised concrete washwater either the next day or over the weekend, the concrete washwater may be restabilised once before being used as mix water the following day.

At ambient temperatures below freezing, the stabilised concrete washwater may freeze. If this occurs add 20 to 95 litres of hot water to the truck and mix at agitation speed to melt the frozen material. The transfer of stabilised concrete washwater into one or more ready-mix trucks parked indoors, into a central holding vessel or the use of water heaters may prevent the freezing of stabilised concrete washwater.

STABILISATION PROCEDURE

For overnight/weekend stabilization

The procedure for overnight/weekend stabilization of concrete washwater is easy, but it is important that each stabilisation procedure step is correctly followed.

1. The ready-mix truck must be empty of any returned concrete.
2. Add 130 to 265 litres of water to the truck drum.
3. Toss 2 to 3 **DELVO ESC** admixture pucks into the truck drum with the washwater for overnight stabilisation. For weekend stabilisation use 4 to 6 **DELVO ESC** admixture pucks.
4. Mix at high speed for one minute.
5. Reverse the stabilised concrete washwater quickly 4 to 7 times or as recommended to the rear of the drum, creating a wave action for maximum fin cleaning.
6. Return the stabilised concrete washwater to the front of the drum and mix at high speed for one minute. During mixing, wash down the fins closest to the point of discharge with water from the truck hose (use no more than 19 litres). This will loosen any build up adhering to these fins.
7. Park the truck for the night or weekend leaving safety hatch at the 3 or 9 o'clock position.
8. The next day or after a weekend, reduce the water content of freshly batched concrete by the amount added in Steps 2 and 6.



The Chemical Company

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Please contact your local BASF Technical Sales Representative for guidelines pertaining to the use of **DELVO ESC** admixture technology for extended set control, long haul and same day stabilisation applications.

For truck breakdowns and job delays

Procedures A and B can be used to stabilize concrete with **DELVO ESC** admixture

Procedure A

Dissolve pucks in water

1. Determine the dosage (number of pucks needed).
2. Dissolve the pucks in 4 to 8 litres of water (requires agitation and only takes a few minutes).
3. Back concrete to rear of truck and treat with dissolved pucks.
4. Mix at high speed for five minutes.

Procedure B

Dissolve pucks in truck

(concrete must be at 100mm slump or higher)

1. Determine the dosage (number of pucks needed).
2. Back the concrete to the rear of the truck.
3. Break the **DELVO ESC** admixture pucks in half.
4. Place the pucks onto the concrete and spray with water for 15 to 30 seconds.
5. Mix the concrete at high speed for 5 to 7 minutes.

PACKAGING

DELVO ESC admixture material is supplied in a specially designed 12.2KG bucket with a twist off lid containing 100 pucks.

SHELF LIFE

DELVO ESC admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Technical Sales Representative regarding suitability for use and dosage recommendations if the shelf life of **DELVO ESC** admixture has been exceeded.

PRECAUTIONS

If **DELVO ESC** admixture material comes into contact with eyes, skin or clothing, immediately flush with water (for skin – wash with soap and water) for 15 minutes. Remove contaminated clothing and wash before reuse. This product is not to be taken internally.

Keep product away from children.

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the **BASF Material Safety Data Sheet (MSDS)** from our office or our website

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF**, are responsible for carrying out procedures appropriate to a specific application.

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