



The Chemical Company

DELVO[®] STABILISER

Cement hydration control admixture

DESCRIPTION

DELVO STABILISER is a ready-to-use, liquid admixture for making more uniform and predictable high performance concrete. **DELVO STABILISER** retards the setting time by controlling the hydration of Portland cement and facilitating operations. It can be used to stabilize returned plastic concrete and concrete washwater to reduce waste.

DELVO STABILISER meets ASTM C 494 requirements for type B and D admixtures, specifically:

- Increased strength - compressive and flexural
- Relative resistance to damage from freezing and thawing - well above industry standards
- Reduced water content required for a given workability
- Retarded setting time characteristics

FIELDS OF APPLICATION

DELVO STABILISER is recommended for use in all types of concrete where moderate to extended retardation of set time and improved performance are desired.

The admixture improves pumped concrete, shotcrete (wet mix) and conventionally placed concretes. It improves plain, reinforced, precast, prestressed, lightweight and normal weight concrete.

There are three primary applications of **DELVO STABILISER**:

1. Stabilisation of concrete washwater
2. Stabilisation of returned plastic concrete
3. Stabilisation of freshly batched concrete for long hauls

DELVO STABILISER can be used with Portland cements meeting recognised international standards. The use of **DELVO STABILISER** and a BASF Construction Chemicals air-entraining admixture is recommended when concrete will be required to withstand freeze-thaw cycles. When used in conjunction with another admixture, each admixture must be dispensed separately into the mix.

DELVO STABILISER will not initiate or promote corrosion of reinforcing steel in concrete. This admixture does not contain intentionally added calcium chloride or chloride-based ingredients. The admixture will contribute less than 0.00014% (1.4 ppm) chloride ions by weight of cement when used at a dosage rate of 65 ml/100kg of cement.

DELVO STABILISER can be used in white or coloured concrete and in architectural concrete.

FEATURES AND BENEFITS

The set-retarding characteristics of **DELVO STABILISER** aid in the production of concrete with the following special qualities:

- Improved workability** Superior finishing characteristics for flatwork and cast surfaces.
- Improved cohesion** Reduces segregation.
- Extended set control** Moderate to extended retardation depending on the dosage rate used. Provides flexibility in the scheduling of placing and finishing operations.
- Environmentally friendly** Reduced waste of washwater and returned concrete.
- Improved slump retention** Offsets the effects of slump loss during extended delays between mixing and placing.

TYPICAL PERFORMANCE DATA

In this evaluation, the equivalent of 227 litres of water was added with the addition of 950 ml of the **DELVO STABILISER** to treat the cement, sand and stone residue on the inside of a mixer. The standard concrete wash water procedure was followed.

	Reference	DELVO
ASTM C150 Type 1 cement, kg/m ³	307	307
Slump (mm)	114	114
DELVO STABILISER (ml/truck)	0	950
Concrete temperature °C	20	22
Ambient temperature °C	24	25

Compressive Strength

Concrete produced with **DELVO STABILISER** admixture will develop similar higher early (within 24 hours) and higher ultimate strengths than plain concrete when used within the recommended dosage range and under normal, comparable curing conditions.

When **DELVO STABILISER** is used in heat-cured concrete, the length of the preheating period should be increased until the set of the concrete is achieved. The actual heat-curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.

BASF Construction Chemicals offices in ASEAN

Singapore

Tel :+65-6861-6766
Fax :+65-6861-3186

Malaysia

Tel :+60-3-5628-3388
Fax :+60-3-7847-6781

Indonesia

Tel :+62-21-893-4339
Fax :+62-21-893-4342

Thailand

Tel :+66-2204-9427
Fax :+66-2664-9267

Vietnam

Tel :+84-650-743-100
Fax :+84-650-743-200

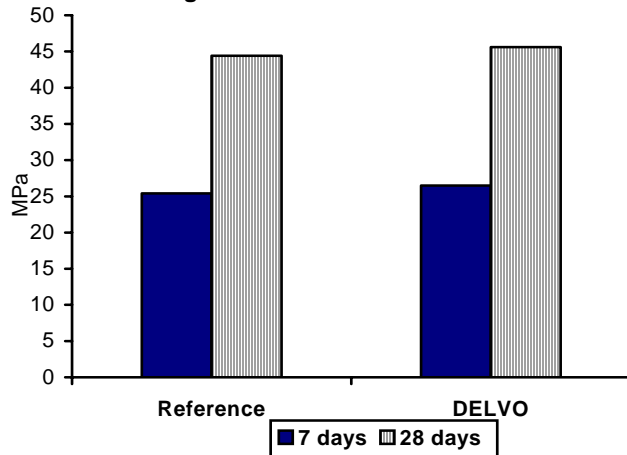
Philippines

Tel :+63-2-889-4321
Fax :+63-2-889-4361

DELVO[®] STABILISER

Example of the influence of **DELVO STABILISER** on concrete strength development.

Rate of hardening



Setting time

Reference : 5.1 hours (using fresh concrete)

DELVO : 5.2 hours (using stabilised concrete)

The temperature of a concrete mix and the ambient temperature (forms, earth, air, etc) can affect the hardening rate of concrete. At higher temperatures, concrete hardens more rapidly which may cause problems with placing and finishing.

One of the functions of **DELVO STABILISER** is to retard the set of concrete. Within the normal dosage range, it will generally extend the working and setting times of concrete containing normal Portland cement, fly ash, slag, and silica fume approximately 1 hour to 5 hours compared to a plain concrete mix. This depends on job materials and temperatures, and trial mixes should be made under approximate job conditions to determine the dosage required.

Under washwater conditions, **DELVO STABILISER** can be used to achieve normal setting times. Under long haul or mass concrete applications, **DELVO STABILISER** can be used to control the setting characteristics of plastic concrete by extending initial set time up to 5 hours compared to reference concrete.

APPLICATION

Dispensing

DELVO STABILISER can be added into the mixing water. The addition of **DELVO STABILISER** to a dry concrete mix is not recommended. A separate dispenser and feed line must be used.

DOSAGE

DELVO STABILISER is recommended for use at the rate of 100 - 2,000 ml/100kg of cement for most concrete mixes using average concrete ingredients. Because of variations in job conditions and concrete materials, dosage rates other than the recommended amounts may be required. In such cases, contact your local BASF Construction Chemicals representatives.

PACKAGING

DELVO STABILISER is supplied in 205L drums and by bulk delivery.

SHELF LIFE

DELVO STABILISER can be stored for 12 months if stored at temperatures above 5°C, in tightly sealed original drums. If found to be frozen, thaw it and reconstitute by stirring.

PRECAUTIONS

Health : **DELVO STABILISER** does not contain any hazardous substances requiring labelling.

It is safe for use with standard precautions followed in the construction industry, such as use of hand gloves, safety goggles, etc.

For detailed Health, Safety and Environmental Recommendations, please consult and follow all instructions in the product Material Safety Data Sheet.

1-2-3-0108

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** 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 Construction Chemicals** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF Construction Chemicals**, are responsible for carrying out procedures appropriate to a specific application.