

# MasterSet<sup>®</sup> DELVO

## Hydration Controlling Admixture

### Description

MasterSet DELVO ready-to-use, liquid admixture is used for making more uniform and predictable high-performance concrete. MasterSet DELVO admixture retards setting time by controlling the hydration of portland cement and other cementitious materials while facilitating placing and finishing operations. MasterSet DELVO admixture meets ASTM C 494/C 494M requirements for Type B, retarding, and Type D, water-reducing and retarding, admixtures.

### Applications

Recommended for use in:

- Stabilization of concrete washwater
- Stabilization of returned plastic concrete
- Stabilization of freshly batched concrete for long hauls
- 4x4<sup>™</sup> Concrete
- Pumped concrete, shotcrete (wet mix) and conventionally-placed concrete
- Plain, reinforced, precast, prestressed, lightweight and normal weight concrete
- Pervious concrete

### Features

- Reduced water content required for a given workability
- Retarded setting time characteristics
- Improved workability

### Benefits

- Provides flexibility in the scheduling of placing and finishing operations
- Offsets the effects of slump loss during extended delays between mixing and placing
- Reduces waste associated with concrete washwater and returned concrete
- Increased strength – compressive and flexural

### Performance Characteristics

**Rate of Hardening:** The temperature of a concrete mixture and the ambient temperature (forms, earth, air, etc.) 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 MasterSet DELVO admixture 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 cement and silica fume approximately 1 hour to 5 hours compared to a plain concrete mixture. This depends on job materials and temperatures. Trial mixtures should be made under approximate job conditions to determine the dosage required.

**Compressive Strength:** Concrete produced with MasterSet DELVO admixture will develop 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 MasterSet DELVO admixture is used in heat-cured concrete, the length of the preheating period should be increased until the initial 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.

## Guidelines for Use

**Dosage:** MasterSet DELVO admixture is recommended for use at a dosage of  $4 \pm 1$  fl oz/cwt ( $260 \pm 65$  mL/100 kg) of cementitious materials for most concrete mixtures using average concrete ingredients. For long time-to-discharge applications, such as long hauls, dosages higher than the recommended range may be required. Specifically, for shotcrete applications, MasterSet DELVO admixture is recommended for use at a dosage of 1.5 fl oz/cwt to 25 fl oz/cwt (100 mL/100 kg to 1,500 mL/100 kg) of cementitious materials. Because of variations in job conditions and concrete materials, dosages other than the recommended amounts may be required. In such cases, contact your local sales representative. For concrete washwater and returned concrete stabilization, utilize MasterSet DELVO charts to determine the appropriate dosage rates.

## Product Notes

**Corrosivity – Non-Chloride, Non-Corrosive:** MasterSet DELVO admixture will neither initiate nor promote corrosion of reinforcing steel in concrete. This admixture does not contain intentionally-added calcium chloride or other chloride-based ingredients.

**Compatibility:** MasterSet DELVO admixture may be used in combination with any BASF admixture. When used in conjunction with another admixture, each admixture must be dispensed separately into the mixture.

**CAUTION:** While MasterSet DELVO and MasterLife CI 30 admixtures are compatible in the same concrete mixture when added separately, these two admixtures are NOT compatible in the same STORAGE TANK OR CONTAINER, in any ratio, as potentially harmful gas may result from blending the two. Contact a BASF representative if there are any questions regarding admixture storage or admixture compatibility.

## Storage and Handling

**Storage Temperature:** MasterSet DELVO admixture should be stored above freezing temperatures. If MasterSet DELVO admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

**Shelf Life:** MasterSet DELVO admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterSet DELVO admixture has been exceeded.

## Packaging

MasterSet DELVO admixture is supplied in specially designed 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

## Related Documents

Safety Data Sheets: MasterSet DELVO admixture

## Additional Information

For more information on MasterSet DELVO admixture, contact your local sales representative.

*The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.*

## Limited Warranty Notice

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