

MasterSet DELVO 122

Hydration control for zero waste concrete

Material Description

MasterSet DELVO 122 is a chemical admixture that stabilises the hydration of all cement components by the formation of a protective barrier around cementitious particles. This enables the setting of cement to be controlled over extended periods. This can be particularly beneficial in reducing the traditional waste costs at a concrete production plant by the stabilising of wash tailings within the mixer drum, enabling the concept of 'Zero Waste Production' to be introduced.

MasterSet DELVO 122 can also be used to treat returned concrete loads for re-use and to provide extended slump control where required.

Fields of Application

- For stabilising wash tailings in a concrete mixer drum/central mixer.
- For stabilising returned part loads for later re-use.
- Can stabilise mix workability for long periods, i.e. 5 to 48 hours are typical ranges.

Characteristics and Benefits

MasterSet DELVO 122 offers the following benefits:

- Reduces waste costs through concept of 'Zero Waste Production'.
- Water soluble packaging enables simple dosing with no environmental implications.
- No requirement for dispensing equipment enabling further cost savings compared to other truck wash systems.
- No requirement for designated wash platform or work areas, saving space.
- Saves on total plant water usage.
- Facility to provide 'Extended Slump Control' and to treat returned loads.

Application Procedure

MasterSet DELVO 122 is supplied in 200 gram water-soluble sachets. Dosage rates are dependent on cement contents, ambient temperatures and required stabilisation periods. Stone and water from the batching plant are used to clean the

mixer blades. MasterSet DELVO 122 then stabilises the set of any cement residue left in the mixer/drum at the end of the working day. The following day concrete is produced in the normal way taking into account the water and stone content of the wash already present. The wash water and any tailings from the previous day thus become part of the current concrete mix. To ensure normal concrete behaviour the subsequent concrete 'load' must contain a minimum of 300kgs of CEM I (for CEM II/A-L(L) this figure should be increased to 330kgs). The resultant concrete will then behave with the characteristics of the mix as designed. When added to an empty but dirty truck MasterSet DELVO 122 is a major ingredient however, within the subsequent concrete mix becomes an insignificant component. When used to stabilise wash tailings MasterSet DELVO 122 incorporated into delivered concrete is not considered as an admixture as defined in BS EN 934-2.

Returned Concrete Loads

MasterSet DELVO 122 can be used to treat returned concrete part loads for re-use either later the same day or a subsequent day. For procedures and dosages please contact our Technical Services Department.

Extended Slump Control

MasterSet DELVO 122 can be used to produce concrete with extended workability windows. This can be particularly useful for long haul situations, or for sites with delayed placement requirements. For procedures and dosages please contact our Technical Services Department.

Truck Wash

- Reduces Truck wash made easy.
- Zero waste production.
- Uses traditional stone washing to clean drum.
- MasterSet DELVO 122 is supplied in water-soluble sachets so there is no chemical handling.
- MasterSet DELVO 122 stabilises cement and therefore reduces build up.
- Helps keep the mixer clean.
- Can be used to stabilise concrete in emergency, i.e. breakdowns.

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- Reduced wash times can save time and diesel.

Dosage

Use the number of 200 gram MasterSet DELVO 122 sachets indicated according to temperature and the cement content of the last load delivered.

Overnight			
Cement Content (kg/m ³)	Air Temperature		
	Up to 18°C	19°C - 28°C	29°C plus
0 - 375	1	1	2
380 - 480	1	2	3
485 plus	2	3	3
Saturday to Monday			
Cement Content (kg/m ³)	Air Temperature		
	Up to 18°C	19°C - 28°C	29°C plus
0 - 375	2	2	3
380 - 480	2	3	3
485 plus	3	3	3
Saturday to Tuesday (Bank Holidays)			
Cement Content (kg/m ³)	Air Temperature		
	Up to 18°C	19°C - 28°C	29°C plus
0 - 375	3	3	**
380 - 480	3	3	**
485 plus	3	**	**

** Contact our Technical Services Department for advice.

Truck Wash Application

For mixer drums greater than 8.0m³, or less than 3.0m³, nominal capacity please contact our Technical Services Department for advice.

- Add water to drum, recommended 200 litres, (minimum 100 litres).
- Add the required number of MasterSet DELVO 122 sachets as detailed in the relevant dosage charts.
- Add stone to drum, 2 tonne quantity (1 tonne for 3.0m³ trucks or smaller).
- Turn drum at high speed for at least 2 minutes.
- Run materials up and down drum at least 5 times, to allow stone and water to clean blades and mix cement residue with MasterSet DELVO 122.
- Turn drum at high speed for at least 1 minute.
- Stop the drum with the materials at the top of the mixer drum, just before discharging, and park up overnight.

The following day

- Fresh concrete produced must contain minimum 300kgs of CEM I total batched (for CEM II/A-L(L) this figure should be increased to 330kgs).
- Ensure batch weights are adjusted to account for materials already in the drum. (i.e. water and aggregates).
- Deliver concrete.

Note: If recycled water is to be used as a whole, or part of, the 200 litres of added water, we strongly recommend that a small evaluation trial is performed before implementation.

Compatibility

MasterSet DELVO 122 can be used with all types of EN 197 Cements. For use with other special cements, contact our Technical Services Department.

MasterSet DELVO 122 should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing MasterSet DELVO 122 they must be dispensed separately.

When complimentary admixtures are required it is important that trials are performed, prior to any supply, to determine the



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respective dosages of any complimentary admixture, and the suitability, in the fresh and hardened state, of the resultant concrete. In these circumstances we recommend that you consult our Technical Services Department for further advice.

Packaging

MasterSet DELVO 122 is available in re-sealable waterproof tubs containing 75 x 200 gram water-soluble sachets or in 500-kilo sacks.

Contact Details

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Product Data		
Appearance:	White powder	
Alkali content (%):	≤ 0.50 by mass	
Chloride content (%):	≤ 0.10 by mass	
Concrete produced using stabilised wash tailings typically show performances equal to or greater than reference concrete of the same composition, also setting times are not significantly affected see below		
	Control	With MasterSet DELVO 122
Initial set hours	5	5.5
Compressive strength N/mm ² 7-days		26.5 45.5
Logistics		
Shelf life:	18 months if stored according to manufacturer's instructions in unopened container.	
Storage conditions:	Store in original sealed containers and at temperatures between 5°C and 30°C. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.	
Handling and transportation:	Refer to MasterSet DELVO 122 Safety Data Sheet	
Disposal:	Refer to MasterSet DELVO 122 Safety Data Sheet	

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Disclaimer

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Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Spillage

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"Master Builders Solutions UK Ltd" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.

