

Product Description

Lockwell MWE is a concrete mix water enhancer that is added to the mix water before batching to increase the hydration of the cement, whilst aiding the workability of the concrete.

With minimal cost increase and no change to placing, finishing or curing, Lockwell MWE gives a more durable, stronger, harder (but not more brittle), less permeable concrete by reducing the surface tension of the mix water, increasing early hydration of the cement, increasing the total hydration of the concrete and hence reducing the size and number of capillary voids. This has a significant effect on long term durability and structural performance of the concrete.

Lockwell MWE has the profound effect of making treated concrete perform like a concrete mix with a water/cement ratio 0.1-0.2 less than what it is. For further information and mix design assistance specific for your project contact your local Lockwell supplier.

Application

Any concrete structure where durability, workability and strength are desired.

- Airports
- Power Plants
- Roads
- Self-Levelling Concrete
- Shot-crete
- Refineries
- Structural Steel
- Fertilizer Plants
- Warehouse Floors
- Mining Operations
- Cold Storage Facilities
- Marine Environments
- Paper & Pulp Mills
- Secondary Containment
- Parking Garage Decks
- Walkways and Balconies
- Water and Waste Water Treatment
- Industrial and Manufacturing Facilities
- Food Processing Plants
- Landfill Containment

Technical/ Performance Data

| | |
|----------------------|-------------------|
| Color | Cloudy White |
| Odor | None |
| Solids by Volume | 10-12 % |
| Specific Gravity | 1.10 |
| pH | 11.5 |
| Flammability | 0 (non-flammable) |
| Toxicity | None |
| VOC/VOS Content | 0.0 g/ml |
| Clean-up Solvent | Water |
| Environmental Impact | None/neutral |
| User Status | Friendly |

Features & Benefits

- Converts regular mix designs to high performance mixes
- Provides maximum possible hydration of the cement in the mix, which significantly improves tensile and compressive strengths Quicker and Easier Concrete Placement and Finishing
- Adds Workability by Increased Lubricity
- Stronger Bond of Concrete to Steel
- Decrease Cementitious Material Waste
- Greater Density and Less Permeability
- Reduces Bleed Water Volume
- Reduced Shrinkage and Cracking naturally without other additives
- Reduced Honeycombing and Laitance
- Reduced Leaching and Efflorescence
- Reduced Slab Curl Potential
- Reduced Internal/External Dusting Potential
- Reduced Rate of Absorption
- Greater Freeze-Thaw Resistance
- Increased Flexural Strength
- Increased Compressive Strength
- Increased Acid / Chemical Resistance
- Lower Internal Chemical Reaction Potential
- Lowers Chloride Induced Corrosion Potential
- Significantly Improves Durability
- Improves Surface Abrasion Resistance

Dosage

The product dosage is 1L of Lockwell MWE per 155kg of CEMENT in the mix (total cementitious content). The product is applied to the mix water in accordance with the below application instructions.

Application Guideline

1. Determine how many kg of total cementitious content is to be used in the mix.
2. Calculate the volume of Lockwell MWE to be used by dividing the cement weight (kg) in step 1, by 155.

3. To calculate the volume of mix water required, multiply the weight of cement by 1.06 and multiply by the water/cement ratio. This accounts for the increase in effective cement content due to the Lockwell MWE.
4. Place the required volume of Lockwell MWE into a clean mixer truck.
5. Place 75% of the required mix water into the mixer (as with normal concrete, use potable water).
6. Load the sand, cement aggregate and other additives, followed by the remainder of the mix water.
7. There must be at least 70 revolutions of the mixer (or at least 3 minutes of mixing) before the concrete is placed.
8. Do not add Lockwell MWE to any additional water added to adjust the slump. If additional water is added to increase the slump, and additional 3 minutes or 70 revolutions of the mixer is required before placement.
9. Aggregate moisture correction should be calculated by the batching plant after the water volume calculation in step 3.

Variations on this method may be possible in certain controlled conditions, please discuss with your Lockwell MWE specialist.

Storage & Handling Precautions

Storage at room temperature (15-25°C) is recommended. Storage below 2°C and above 38°C is not recommended.

Under the recommended storage conditions and in properly sealed containers, Lockwell MWE has a nominal storage life of 5 years.

Packaging

Standard 20L kits, 200L Drums or 1000L IBC's. Other sizes may be available on request.

Additional Information – Disclaimer

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials and equipment used, as well as varying working conditions and environments beyond our control we strictly recommend carrying out intensive trials to test the suitability of our products with regard to the required processes and applications. This data sheet is provided free of charge and we do not accept any liability with regard to the above information or with regard to any verbal recommendation, except for cases where we are liable of gross negligence or false intention.