

DELVOmatic – Computer Software Developed for Implementing A Zero Waste Management Program

The challenge facing the ready-mixed concrete industry is one of how to economically address the environmental concerns related to the disposal of returned plastic concrete and wash water waste. DELVOmatic is a user-friendly computer software program designed for ready-mixed concrete producers to easily use DELVO Stabilizer and DELVO ESC, hydration control admixtures, in various concrete applications. DELVOmatic was introduced to the industry in 1997 and was granted a patent for its technology in 2000 and is being implemented by ready-mixed producers as one of the Best Management Practices (BMP).

DELVOmatic provides the ability to implement a “Zero Waste” management program. DELVOmatic tracks and records the disposition of all plastic concrete returned to the ready-mixed plant whether it is combined with fresh concrete and re-sold, dumped in the yard, used for making blocks or treated with DELVO Stabilizer or DELVO ESC. DELVOmatic tracks and records the disposition of all concrete wash water from ready-mixed truck mixers. DELVOmatic tracks and records the use of DELVO Stabilizer or DELVO ESC, hydration control admixtures in wash water, same day and overnight stabilization and long-haul applications. DELVOmatic generates and prints an environmental audit report, a daily, weekly, monthly, and yearly profitability report. DELVOmatic determines, based on the information entered, the amount of DELVO Stabilizer or DELVO ESC required for the desired application.

DELVOmatic when used in conjunction with either DELVO Stabilizer or DELVO ESC: reduces the amount of water and labor costs needed to clean ready-mixed truck mixers and central mixer drums; eliminates washout solids, reducing wear and tear on front-end loaders, and costly hauling charges; reduces EPA concerns pertaining to concrete wash water pits and wash water disposal; reduces the dumping of returned concrete, expensive labor costs, excessive wear and tear on front-end loaders, landfill fees and costly hauling charges

DELVOmatic is used for the following concrete applications:

- 1) Wash water application — Instead of dumping wash water at the end of the day, it can be treated with DELVO Stabilizer or DELVO ESC to stabilize it overnight or the weekend. This application effectively reduces the amount of water needed to clean the inside of the drum, and allows the ready-mixed producer to economically comply with EPA regulations.
- 2) Stabilization of Returned Concrete — By providing control of the cement hydration process, DELVO technology allows the reuse of returned plastic concrete that has been stabilized for a few minutes, a few hours, or overnight. The quantity of returned plastic concrete, the concrete temperature, and age from initial batching are crucial to determine the amount of DELVO required to produce the desired stabilization period.
- 3) Long-Haul Application — DELVO Stabilizer or DELVO ESC can be added to freshly batched concrete in order to put the concrete “to sleep” for a desired period of time. Since hydration is temporarily stopped, no heat is generated and therefore slump is retained. At the end of the stabilization period, hydration occurs exactly as if concrete was just batched.

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Typical profitability report



Central Holding Vessel for Sameday/Overnight Stabilized Concrete



User-friendly computer software program



Disposal Pit for Concrete Washwater



"Dumping" of Returned Concrete



Hauling hardened Concrete to Landfill



Ready-Mixed Plant implementing "Zero Waste" Policy



"Long-Haul" Application