

# RECOVER<sup>®</sup> Data Sheet

Hydration stabilizer ASTM C494 Type B and D

## Product Description

RECOVER<sup>®</sup> is a ready-to-use aqueous solution of chemical compounds specifically designed to stabilize the hydration of Portland cement concretes. The ingredients are factory pre-mixed in exact proportions under strict quality control to provide uniform results. One gallon weighs approximately 9.6 lbs (1.15 kg/L).

## Product Advantages

- Eliminates the need to discharge wash water from the mixer
- Prevents the waste of unused concrete
- Provides predictable extended set for continuous placement on mass concrete and tremie projects, or on long hauls to remote sites

## Uses

RECOVER<sup>®</sup> is used to stabilize mixer wash water and returned or leftover concrete for extended periods, allowing for use of the materials when specified or allowed. It is also used where controlled extended set of concrete is needed. It is the concrete user's responsibility to determine if leftover, returned or extended-set concrete is specified or allowed.

### Wash Water

For wash water applications, RECOVER<sup>®</sup> is used to eliminate the need to discharge wash water from the mixer. This allows the wash water to be used as mix water in the next batch of concrete produced and prevents the residual plastic concrete from hardening. Stabilization of up to 96 hours is possible depending on dosage rate.

### Returned Concrete

For returned or leftover concrete, RECOVER<sup>®</sup> is used to prevent plastic concrete from reaching initial set. This allows the concrete to be stored in a plastic state and then used when specified or allowed. The use of this concrete may require the addition of freshly batched concrete and/or an accelerator such as DARACCEL<sup>®</sup> or POLARSET<sup>®</sup>.

Stabilization of concrete for up to 96 hours is possible depending on dosage rate. Use prevents the waste of unused concrete.

### Set Time Control

RECOVER<sup>®</sup> is also used in situations where a controlled set time extension is required. Examples include: extended hauls, large continuous pours or pre-batching of concrete for later use.

## Addition Rates

Addition rates of RECOVER<sup>®</sup> for wash water range from 6 to 128 fl oz (180 to 3800 mL) per treatment. The amount used will depend on the specific materials involved, mixer type and stabilization period. Addition rates for returned or leftover concrete will range from 3 to 128 fl oz/100 lbs (195 to 8350 mL/100 kg) of cement. The amount used will depend on the specific materials involved, concrete age, temperature conditions and stabilization period. For applications requiring set time extensions well in excess of 4 hours, RECOVER<sup>®</sup> may be used at addition ranges from 5 to 50 oz/100 lbs (325 to 3260 mL/100 kg) of cement. For use as a traditional ASTM Type B or D retarder, RECOVER<sup>®</sup> may be used at addition rates of 2 to 6 oz/100 lbs (130 to 390 mL /100 kg) of cement. Proper dosage rate selection can only be achieved through pretesting. Consult your local GCP Applied Technologies admixture representative.

## Compatibility with Other Admixtures and Batch Sequencing

RECOVER<sup>®</sup> is compatible with most GCP admixtures as long as it is added separately to the concrete mix, usually through the water holding tank discharge line. In general, it is recommended that RECOVER<sup>®</sup> be added to the concrete mix near the end of the batch sequence for optimum performance. Different sequencing may be used if local testing shows better performance. Please see GCP Technical Bulletin TB-0110, *Admixture Dispenser Discharge Line Location and Sequencing for Concrete Batching Operations* for further recommendations.

Pretesting of the concrete mix should be performed before use, as conditions and materials change in order to ensure compatibility, and to optimize dosage rates, addition times in the batch sequencing and concrete performance. For concrete that requires air entrainment, the use of an ASTM C260 air entraining agent (such as Daravair<sup>®</sup> or Darex<sup>®</sup> product lines) is recommended to provide suitable air void parameters for freeze-thaw resistance. Please consult your GCP Applied Technologies representative for guidance.

## Packaging & Handling

RECOVER<sup>®</sup> is available in bulk, delivered by metered tank trucks, totes and drums.

RECOVER<sup>®</sup> will freeze, but will return to full effectiveness after thawing and thorough mechanical agitation.

## Performance

RECOVER<sup>®</sup> stabilizes the hydration process of Portland cement preventing it from reaching initial set. This stabilization is not permanent and is controlled by dosage rate. For wash water, the RECOVER<sup>®</sup> treated water is mixed or sprayed in a specific manner to thoroughly coat the interior of the mixer. The water is used as mix water in the next batch of concrete produced, which then scours the unhardened material from the interior of the mixer. Stabilization of returned or leftover concrete with RECOVER<sup>®</sup> maintains the plasticity of the concrete for the desired storage duration. This stabilized concrete then resumes normal hydration when the RECOVER<sup>®</sup> dosage effects subside, or when it is activated by the addition of fresh concrete and/or an accelerator. The result can be concrete with normal plastic and hardened properties.

## Dispensing Equipment

A complete line of GCP dispensing equipment is available for RECOVER<sup>®</sup>. This includes the Reach 360<sup>TM</sup> System which uses an innovative spray wand technology to simplify wash water procedures.

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