

Mapecrete Resolve

Hydration-Stabilizing Admixture for Concrete

DESCRIPTION

Mapecrete® Resolve is a ready-to-use, liquid solution manufactured to control the hydration process in Portland-cement concretes and concrete washwater. This advanced set retarder coats the hydrating cement particles in the concrete and washwater, resulting in the suspension of the hydration chemical reaction. *Mapecrete Resolve* meets or exceeds the ASTM C494 and AASHTO M194 Type B and Type D requirements.

WHERE TO USE

Mapecrete Resolve maintains the plasticity, slump and workability of the mix and postpones the set of the concrete for a predictable period of time. Eventually, the dosage of *Mapecrete Resolve* is chemically consumed and normal hydration continues.

The main applications of *Mapecrete Resolve* in concrete are the following:

- Extended haul times with minimal slump losses
- Extended truck-discharge times
- Pervious concrete
- Control of peak temperature rise in concrete pours
- Shotcrete (wet mix)

Mapecrete Resolve reduces expensive disposal costs associated with returned concrete and concrete washwater. It:

- Provides a quality, profitable and reliable method to treat returned concrete for reuse or hold (for a few hours) and then reuse on the same day.
- Allows reuse of concrete washwater overnight or over a weekend in many situations.
- Reduces the amount of concrete washwater needed and truck mixer washouts.

APPLICATION PROCEDURE

Mapecrete Resolve may be added at any stage of the concrete mixing cycle or directly into the concrete truck mixer.

COMPATIBILITY WITH OTHER PRODUCTS

Mapecrete Resolve is compatible with most MAPEI products for preparing quality concrete. It is especially compatible with:

- Mid- and high-range water reducers.
- Non-chloride accelerators.
- Retarders and slump extenders.
- Air-entraining admixtures.
- Viscosity-modifying admixtures.
- Expansive agents and shrinkage-compensating admixtures to produce shrinkage-resistant concrete.
- Silica-fume-based powder additions.
- Class C and Class F fly ash.
- Various types of limestone fillers for manufacturing self-consolidating concrete and any other type of concrete that requires these fillers.
- All types of Portland cements.

MAPEI's Technical Services Department is available to evaluate which admixture or admixture packages are most suitable for the specified application(s). Contact MAPEI's Technical Services Department for further advice.

DOSAGE RATES

Treatment of concrete washwater

The recommended dosage of *Mapecrete Resolve* for treatment of concrete washwater is 16 to 64 fl. oz. (475 to 1 895 mL) per truck. The specific dosage will depend on the ambient temperature and desired stabilization period. Table 1 below provides the specific dosages for use with Type I cement.

Concrete washwater treated with *Mapecrete Resolve* can be re-dosed once if scheduling allows the extended use of washwater as mix water.

Stabilization of returned concrete

The recommended dosage rate for *Mapecrete Resolve* to stabilize returned concrete is 1 to 35 fl. oz. per 100 lbs. (65 to 2 285 mL per 100 kg) of Portland cement. The exact dosage will depend on the age of the returned concrete, returned concrete temperature, admixtures used, stabilization time period, specific materials involved and the mix design incorporated.

Stabilization of freshly batched concrete

The recommended dosage of *Mapecrete Resolve* for long-haul applications and extended truck-discharge times is 1 to 12 fl. oz. per 100 lbs. (65 to 785 mL per 100 kg) of Portland cement. The exact dosage rate will depend on additional plastic time required, fresh concrete temperature, admixtures used and specific

materials involved. Table 2 below provides the specific dosages for use in a typical ready-mix production with cement Type I/II in an average ambient temperature of 70°F (21°C).

For each 30 minutes of retardation desired beyond 3 hours per Table 2, add 1 fl. oz. per cwt (65 mL per 100 kg) of *Mapecrete Resolve* on top of the dosages of the above chart. Contact MAPEI's Technical Services Department for recommended dosages and for assistance when using the product.

PACKAGING

Mapecrete Resolve is available by bulk delivery, in 55-U.S.-gal. (208-L) drums and 275-U.S.-gal. (1 040-L) totes.

STORAGE

Mapecrete Resolve can be stored for 18 months in sealed containers; it may freeze at temperatures below 35°F (2°C). Although freezing does not harm *Mapecrete Resolve*, precautions should be taken to protect it from freezing. If it should freeze, thaw at 45°F (7°C) and reconstitute it with mechanical agitation. Do not use pressurized air for agitation.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

Table 1

Washwater stabilization dosages – in fl. oz. (mL) per truck

Ambient temperature	Stabilization period	
	Overnight	Over the weekend
30°F to 50°F (-1°C to 10°C)	24 fl. oz. (710 mL)	48 fl. oz. (1 419 mL)
51°F to 75°F (11°C to 23°C)	32 fl. oz. (946 mL)	64 fl. oz. (1 893 mL)
76°F to 99°F (24°C to 37°C)	40 fl. oz. (1 183 mL)	80 fl. oz. (2 366 mL)

Table 2

Extended-haul dosages – in fl. oz. per cwt (mL per 100 kg cementitious)

Concrete temperature	Retardation				
	0.5 to 1 hour	> 1 to 1.5 hours	> 1.5 to 2 hours	> 2 to 2.5 hours	> 2.5 to 3 hours
100°F to 109°F (38°C to 43°C)	5.0 (325)	5.5 (360)	6.0 (390)	7.0 (460)	7.5 (490)
90°F to 99°F (32°C to 37°C)	4.0 (260)	4.5 (290)	5.5 (360)	6.0 (390)	7.0 (460)
80°F to 89°F (27°C to 31°C)	3.0 (195)	3.5 (230)	4.5 (290)	5.0 (325)	6.0 (390)
70°F to 79°F (21°C to 26°C)	2.0 (130)	3.0 (195)	3.5 (230)	4.5 (290)	5.5 (360)
60°F to 69°F (16°C to 20°C)	1.0 (65)	2.0 (130)	3.0 (195)	4.0 (260)	4.5 (290)

Physical Properties

Consistency	Liquid
Color	Amber/brown
Density	9.01 lbs. per U.S. gal. (1.08 kg per L)
Primary function	Stabilization of freshly batched concrete, returned concrete and washwater
ASTM C494 classification	Type B and Type D
AASHTO M194 classification	Type B and Type D
Corrosivity	Non-corrosive. <i>Mapecrete Resolve</i> does not contain calcium chloride or other chloride-based components. Its use will not contribute to the increased corrosion of reinforcing steel in concrete.

ADDITIONAL INFORMATION

Refer to the SDS for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

CONTACT INFORMATION

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For the most current product data and BEST-BACKEDSM warranty information,
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