

MORSET® Performance Evaluation

Uses for Set Accelerators

Cold Weather Construction

There are many occasions when it is desirable to accelerate the setting time of masonry mortar. During cold (< 50°F) construction periods, the addition of a set accelerator to a batch of mortar results in quicker set times and faster strength gains. This allows contractors to maintain tight construction schedules regardless of the temperatures at the jobsite.

Metal Building Components Require Non-Corrosive Mortar

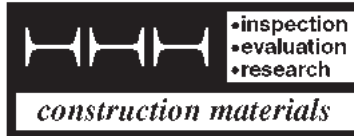
Another common use for set accelerators is in the mortar that is placed around metal doors and lintels. In such situations, where the mortar application is heavy and the metal forms prevent water absorption from the mortar, set accelerators promote faster strength gain.

For many years calcium chloride was the most commonly used set accelerator for mortar. Calcium chloride is a very effective accelerator; but it is corrosive to metals and can be detrimental to the masonry structure.

MORSET®, a non-corrosive, non-chloride set accelerator for masonry mortar, was developed to overcome the disadvantages of using calcium chloride. MORSET is not only non-corrosive to the embedded metals typically found in masonry construction, but also it is based on Grace's proven DCI® corrosion inhibitor technology. When used in conjunction with cold weather practices (see NCMA TEK 3-1), MORSET provides superior performance over calcium chloride.

MORSET meets ASTM Standards for Strength and Setting Time

To evaluate the performance of MORSET, independent laboratory tests were performed. H. H. Holmes Testing Laboratories, Inc. prepared comparative mortar mixes using cement, lime, sand, and water indigenous to the Chicago area to examine the effects MORSET would have on the properties of the mortar. Compressive strength and setting time were evaluated in accordance with ASTM standard methods. The results of the Holmes' testing program are presented in original form on the reverse side of this Technical Bulletin.



H. H. HOLMES TESTING LABORATORIES, INC.

Report No. 2

• 170 Shepard Avenue • Wheeling, Illinois 60090 • Area Code 312 • 541-4040

February 14, 1989

Lab No. CH 4479
File No. 6193.8

W.R. Grace Company
6051 W. 65th Street
Chicago, IL 60638

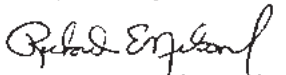
REPORT OF TESTS

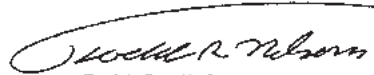
Subject : Compressive Strength and Time of Set
of Masonry Mortar Mixes
Type : A.S.T.M. C-270 Type N Portland/Lime (1-1-6)
Date Cast : 2-7-89
Method of Test : A.S.T.M. C-305, C-266, C-109

TEST DATA

<u>Mix Proportions</u>		<u>Ref</u>	<u>Morset</u>
Materials	Cement Type I (g)	350	350
	Hydrated Lime (g)	150	150
	Mason Sand (g)	1787	1787
	Water (ml)	350	340
	Morset (35 oz/bag cement) (ml)	-	8.5
<u>Time of Set (Vicat)</u>			
	Initial (Hours)	4 hrs	3 hrs
		40 min	15 min
	Final (Hours)	5 hrs	3 hrs
		15 min	40 min
<u>Flow(%)</u>		108	106
<u>Compressive Strength (PSI)</u>			
	3 Days	870	1280
		830	1200
	7 Days	1000	1800
		1050	1750
	28 Days (3-7-89)	2650	2850
		2700	2800

Respectfully submitted,


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Laboratory Manager

REN/pbn

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