TB-0012B - The Importance of Using DRY-BLOCK® Technical Bulletin

The DRY-BLOCK® System of Integral Water Repellents has been successfully used to provide protection from moisture penetration in thousands of masonry wall systems. DRY-BLOCK® Mortar Admixture, one of two required components of the DRY-BLOCK® System, plays a critical role in providing this protection. Substitution or elimination of this vital component may compromise the water-repellent performance of the masonry wall system.

Tests were performed at the National Concrete Masonry Association Research and Development Laboratory to demonstrate the effect DRY-BLOCK® Mortar Admixture has on the capillary wicking characteristics of mortar and to show compliance with ASTM C1384 Standard Specification for Admixtures for Masonry Mortar.

ASTM C1384 requires that the rate of water absorption be performed in accordance with ASTM C1403 Standard Test Method for Rate of Water Absorption of Masonry Mortars. The rate of water absorption testing was performed on Type S Portland Cement/Lime and masonry cement mortar with and without DRY-BLOCK® II Mortar Admixture. In this test, mortar cubes were cast and then cured for 28 days. After curing, the mortar cubes were partially submerged in water and the amount absorbed by capillary wicking into the mortar was measured. The cubes were weighed at intervals of 15 minutes, 1, 4, and 24 hours to determine the amount of water absorbed in the mortar. Table 1 and Table 2 summarize these results.

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Water Repellent Admixture Requirements</th>
<th>Control Mortar</th>
<th>DRY-BLOCK II Mortar</th>
<th>% of Control</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of water absorption after 24 hours, g/(ft² cm²)</td>
<td>Maximum 50% of control</td>
<td>84</td>
<td>23</td>
<td>27.4%</td>
<td>Pass</td>
</tr>
</tbody>
</table>

* For a complete report see NCMA project 09-110-1

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Water Repellent Admixture Requirements</th>
<th>Control Mortar</th>
<th>DRY-BLOCK II Mortar</th>
<th>% of Control</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of water absorption after 24 hours, g/(ft² cm²)</td>
<td>Maximum 50% of control</td>
<td>68</td>
<td>24</td>
<td>35.3%</td>
<td>Pass</td>
</tr>
</tbody>
</table>

**For a complete report see NCMA project 09-110-3

The test results show that DRY-BLOCK® Mortar Admixture significantly reduced the water capillary absorption of both the Portland Cement/Lime and masonry cement mortars. These results show conclusively that DRY-BLOCK® Mortar Admixture should always be used when a DRY-BLOCK® Integral Water Repellent project is specified. Substitution or elimination of this vital component may compromise the water-repellent performance of the masonry wall system.
We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

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