| massDOT Massachusetts Department of Transportation Highway Division | SAMPLE TYPE: | RMS 905 | DATE RECEIVED: | LAB NUMBER: |
|---|---|---|---|---|
| Rev. 12/09/2016 | **VER** | SAMPLE OF 3/4"1 | | |

| CEMENT (%) | FLY ASH (%) | SLAG (%) | SILICA (%) |
|---|---|---|---|
| 50.0 | 0.0 | 50.0 | 0.0 |

## PLANT, LABORATORY, AGGREGATE, AND MITIGATION SOURCES

| | | | | | |
|---|---|---|---|---|---|
| *Plant:* | MICHIE CORPORATION | *Location:* | HENNIKER, NH | | |
| *Aggregate:* | MICHIE CORPORATION | *Location:* | HENNIKER, NH | *Type:* | COARSE |
| *Cement:* | DRAGON PRODUCTS | *Location:* | THOMASTON, ME | *Type:* | III |
| *Fly Ash:* | | *Location:* | | *Type:* | |
| *Slag:* | DRAGON PRODUCTS | *Location:* | THOMASTON, ME | *Type:* | 100 |
| *Silica Fume:* | | *Location:* | | | |

| INDEPENDENT LABORATORY | | MASSDOT LABORATORY | |
|---|---|---|---|
| *Laboratory:* | BOSTON TESTING | *Laboratory:* | RESEARCH & MATERIALS |
| *Date Sampled:* | 1/30/2017 | *Date Sampled:* | |
| *Sampler:* | MICHIE | *Sampler:* | |

| TIME (Days) | MORTAR BAR (UNIT OF LENGTH) A | B | C | G |
|---|---|---|---|---|
| 2 | -0.0012 | -0.0010 | -0.0057 | |
| 6 | -0.0002 | 0.0001 | -0.0046 | |
| 9 | 0.0007 | 0.0011 | -0.0037 | 10 |
| 13 | 0.0018 | 0.0020 | -0.0027 | |
| 16 | 0.0032 | 0.0034 | -0.0012 | |

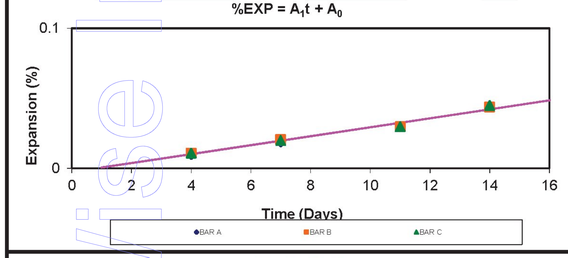
| TIME (Days) | MORTAR BAR (UNIT OF LENGTH) A | B | C | G |
|---|---|---|---|---|
| 2 | | | | |
| 6 | | | | |
| 9 | | | | 250 |
| 13 | | | | |
| 16 | | | | |

| TIME (Days) | MORTAR BAR (%) A | B | C | AVERAGE |
|---|---|---|---|---|
| 0 | | | | |
| 4 | 0.010 | 0.011 | 0.011 | 0.01 |
| 7 | 0.019 | 0.021 | 0.020 | 0.02 |
| 11 | 0.030 | 0.030 | 0.030 | 0.03 |
| 14 | 0.044 | 0.044 | 0.045 | **0.04** |

| TIME (Days) | MORTAR BAR (%) A | B | C | AVERAGE |
|---|---|---|---|---|
| 0 | | | | |
| 4 | 0.000 | 0.000 | 0.000 | 0.00 |
| 7 | 0.000 | 0.000 | 0.000 | 0.00 |
| 11 | 0.000 | 0.000 | 0.000 | 0.00 |
| 14 | 0.000 | 0.000 | 0.000 | **0.00** |

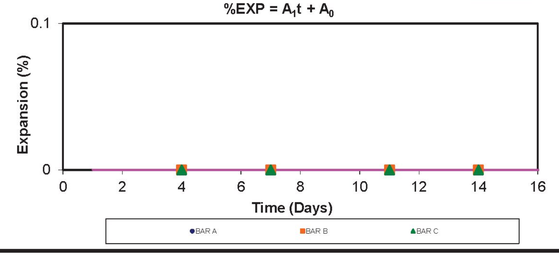
$A_1$ = 0.003191913 $A_0$ = -0.00263288 $R^2$ = 0.98

$\%EXP = A_1 t + A_0$




$A_1$ = 0 $A_0$ = 0 $R^2$ = #DIV/0!

$\%EXP = A_1 t + A_0$




**PASS**

***MassDOT: Please fill in all cells highlighted in green.***

| INDEPENDENT LABORATORY REMARKS | MASSDOT LABORATORY REMARKS |
|---|---|
| | |
| *Tested by:* AMY SILBERMAN | *Tested by:* |
| *Signature:* | *Signature:* |
| *Date:* 3/17/2017 | *Date:* |
| *Reviewed by:* NICK JANES | *Reviewed by:* |
| *Signature:* | *Signature:* |
| *Date:* 3/17/2017 | *Date:* |

*Note: Pass/Fail determination is based on MassDOT's expansion criteria of 0.08% maximum expansion for metamorphic aggregate or 0.10% maximum expansion for all other aggregates. A "12 Point Linear Regression" of 4, 7, 11, and 14 days is used to determine reliability of results and to develop %Expansion = $A_1 t + A_0$ plot.* ***Repeat AASHTO T303 (Modified) if $r^2$ value is less than 0.95.***