TEST #3 "Abrasion & Impact Strength Testing"
Mr. Vernon Talbot  
Advanced Floor Products  
PO BOX 50533  
Provo UT  84065

RE: RetroPlate Evaluation  
Lowe’s Store, Chapel Hill Boulevard  
Chapel Hill, North Carolina  
McKinney Project No.: 99483

Dear Mr. Talbot,

At your request and authorization McKinney and Company conducted in-place testing of selected locations at the indicated Lowe’s facility. The test methods used were ASTM C779 “Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces”, Procedure C and ASTM C805 “Standard Test Method for Rebound Number of Hardened Concrete”. We understand the purpose for these tests were to evaluate the relative effects of the RetroPlate on concrete in an actual field situation.

We were informed that the test project was selected because of an extreme “dusting” problem resulting from difficulties encountered during finishing of the concrete slab on grade. We understand that the store has been in service for approximately one year.

FIELD TESTING

ASTM C779 provides simulated abrasion conditions that can be used to evaluate effects on curing or finishing of concrete. It may also be used for quality acceptance of products and surface exposed to wear. This method is not intended to provide a quantitative measurement of length of service. In the subject evaluation the test was used to determine the relative improvement if any to the concrete surface after the application of the RetroPlate.

RetroPlate Evaluation
Three locations were tested on the concrete slab; two were in the as constructed condition and one was after the application of the RetroPlate. Three individual tests were taken at each location. The specific results of the these tests are enclosed and are summarized below:

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
<th>Wear Depth in.</th>
<th>Time, Sec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isle 10</td>
<td>Resurfaced Area</td>
<td>0.113</td>
<td>1000</td>
</tr>
<tr>
<td>Isle 37</td>
<td>As Constructed Condition</td>
<td>0.117</td>
<td>200</td>
</tr>
<tr>
<td>Isle 41</td>
<td>As Constructed Condition</td>
<td>0.111</td>
<td>250</td>
</tr>
</tbody>
</table>

ASTM C 805 is a test method that may be used to assess in-place uniformity of concrete; to delineate regions of poor quality and estimate in-place strength development. In this evaluation the rebound devise was used in combination with the abrasion tests to determine consistency of the concrete at each test location. Two rebound tests were conducted at each location and the averages of the tests are listed below.

<table>
<thead>
<tr>
<th>Location</th>
<th>Average Rebound Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isle 10</td>
<td>51</td>
</tr>
<tr>
<td>Isle 37</td>
<td>39</td>
</tr>
<tr>
<td>Isle 41</td>
<td>41</td>
</tr>
</tbody>
</table>

COMMENTS

The abrasion tests indicate that the depth of wear is relatively consistent for the in-place concrete. The time period required to reach these wear depths varied significantly between the as constructed conditions and the treated location that suggests the RetroPlate improved the hardness of the concrete surface. This is also indicated by the higher rebound values recorded at the treated location. In addition, the treated area had a smoother, cleaner appearance that the untreated sections of the floor slab.
We appreciate the opportunity to be of service on this project. If you have any questions or require additional information, please contact us at your convenience.

Respectfully,

McKinney and Company

C.F. Starnes
Concrete Services Manager

Attachments: Abrasion Test/Graphs
**Abrasional Resistance**

**Graph 1: Depth in Inches vs. Time in Seconds**

- **Isle 10**
- **Isle 37**
- **Isle 41**

**Graph 2: Time in Seconds vs. Count**

- **Isle 10**
- **Isle 37**
- **Isle 41**

**Legend:**
- RetroPlated Concrete
- Untreated Concrete
- Untreated Concrete