1727 - SHOTCRETE CONCRETE

SECTION 1727

SHOTCRETE CONCRETE

1727.1 DESCRIPTION
This specification covers shotcrete concrete used to repair, reinforce or modify concrete structures.

1727.2 REQUIREMENTS

a. Provide material that complies with the following:

<table>
<thead>
<tr>
<th>TABLE 1727-1: SHOTCRETE CONCRETE PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardened Properties</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Slant Shear Bond Strength @ 24 hours</td>
</tr>
<tr>
<td>Drying Shrinkage @ 28 days</td>
</tr>
<tr>
<td>Rapid Chloride Permeability @ 28 days</td>
</tr>
<tr>
<td>Volume of Permeable Voids @ 7 days</td>
</tr>
<tr>
<td>Freeze-Thaw Resistance @ 300 cycles</td>
</tr>
<tr>
<td>Flexural Strength @ 24 hours</td>
</tr>
<tr>
<td>Compressive Strength @ 24 hours</td>
</tr>
</tbody>
</table>

*No epoxy bonding agent used.
** ICRI Guideline No. 03733, “A Guide for Selecting and Specifying Materials for Repair of Concrete Surfaces”, 1"x1"x10" prism, air cured
***Either Rapid Chloride Permeability or Volume of Permeable Voids can be used.

b. If the mix is not in bag or tote form (pre-blended in a manufacturer’s controlled environment), then provide a mix design with weight quantities of each component for a cubic yard of finished product. All components are required to be prequalified.

c. Provide material with a corrosion inhibitor.

d. Material may contain fibers.

e. Provide material to satisfy application requirements – vertical, overhead, low-pressure spraying, or hand packed.

1727.3 TEST METHODS
Test as specified in subsection 1727.2a.

1727.4 PREQUALIFICATION

a. Manufacturers interested in prequalifying material under subsection 1727.2a. must submit the following to the Bureau of Construction and Materials:

   (1) A complete description, literature, and set of instructions and recommendations,
   (2) A copy of test results performed in accordance with the tests stated in subsection 1727.2a.,
   (3) Certificate stating results comply with subsection 1727.2a., and
   (4) Material Safety Data Sheets (MSDS).

b. The Bureau of Construction and Materials will maintain a list of qualified materials. Products will remain on the list as long as field performance is satisfactory.

1727.5 BASIS OF ACCEPTANCE
Prequalification as specified in subsection 1727.4.
Receipt and approval of a Type D certification as specified in DIVISION 2600.
Visual inspection by the Field Engineer.