PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Quality of masonry grout used on Project.

B. Related Sections
   1. Sections under 04 2000 heading: Furnish and install masonry grout.

1.2 REFERENCES

A. American Society For Testing And Materials:
   1. ASTM C 94-03, 'Standard Specification for Ready-Mixed Concrete.'
   4. ASTM C 404-03, 'Standard Specification for Aggregates for Masonry Grout.'

1.3 SUBMITTALS

A. Quality Assurance / Control:
   1. If pre-blended dry grout is to be used, provide certification from Manufacturer or Supplier verifying
      that mixes meet specification requirements.
   2. If grout is to be mixed in field, provide written description of proposed procedure for measuring
      and mixing of materials.

1.4 PROJECT CONDITIONS

A. Project Environmental Requirements: Install grout under same environmental conditions as specified
   for mortar.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portland Cement: Meet requirements of ASTM C 150. Use Type II Low Alkali in exterior walls or in
   walls subject to moisture, unless approved otherwise in writing by Architect.

B. Hydrated Lime: Meet requirements of ASTM C 207, Type S.

C. Aggregate:
   1. Meet requirements of ASTM C 404, Table 1.
      a. Grading Requirements for Fine Aggregate, Natural, Size 2.

<table>
<thead>
<tr>
<th>Sieve</th>
<th>Sieve</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 4</td>
<td>5 000 mm</td>
<td>100</td>
</tr>
<tr>
<td>No. 8</td>
<td>2 500 mm</td>
<td>95 - 100</td>
</tr>
</tbody>
</table>
b. Grading Requirements for Coarse Aggregate, Size 8.

<table>
<thead>
<tr>
<th>Sieve</th>
<th>Sieve</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 Inch</td>
<td>12 500 mm</td>
<td>100</td>
</tr>
<tr>
<td>3/8 Inch</td>
<td>10 000 mm</td>
<td>85 - 100</td>
</tr>
<tr>
<td>No. 4</td>
<td>5 000 mm</td>
<td>10 - 30</td>
</tr>
<tr>
<td>No. 8</td>
<td>2 500 mm</td>
<td>0 - 10</td>
</tr>
<tr>
<td>No. 16</td>
<td>1 250 mm</td>
<td>0 - 5</td>
</tr>
</tbody>
</table>

D. Water: Clean and free of acids, alkalis, and organic materials.

E. Admixtures: No additives are allowed which will increase air entrainment. Other additives may be used as approved in writing by Architect before use.

2.2 MIXES

A. Procedure:
1. Use of pre-blended dry grout mix is allowed only with submission of certification that material specification requirements have been complied with.
2. Use method of measuring and mixing materials that will ensure consistently proportioned grout batches throughout installation of masonry work. No measuring of materials by 'shovels full' is permitted for field mixed grout.
3. Batch, mix, and deliver transit-mixed grout in accordance with requirements of ASTM C 94.

B. Proportions by Volume
1. Water: Enough to give creamy pouring consistency, usually slump of between 8 and 10.

<table>
<thead>
<tr>
<th>Material</th>
<th>Fine Grout</th>
<th>Coarse Grout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Cement</td>
<td>One cu ft</td>
<td>One cu ft</td>
</tr>
<tr>
<td>Hydrated Lime (optional)</td>
<td>1/10 cu ft</td>
<td>1/10 cu ft</td>
</tr>
<tr>
<td>Damp, Loose Sand</td>
<td>2-1/4 to 3 cu ft</td>
<td>2-1/4 to 3 cu ft</td>
</tr>
<tr>
<td>Pea Gravel</td>
<td>none</td>
<td>1 to 2 cu ft</td>
</tr>
</tbody>
</table>

PART 3 - EXECUTION

3.1 INSTALLATION

A. Use fine grout for cavities 2 inches 50 mm and smaller in smallest dimension. Use coarse grout for cavities greater than 2 inches 50 mm in smallest dimension.

3.2 FIELD QUALITY CONTROL

A. Site Testing: Test grout used in masonry bearing walls in accordance with ASTM C 1019. Test results of 2000 psi minimum are required.