SmartGrout LA is a highly flowable cementitious grout specifically designed for structural repairs of concrete structures, both small and large repairs of more than 50 mm and up to 100 mm in thickness. SmartGrout LA is also suitable for repairs where chloride or sea water resistance is needed. The pouring or pumping consistency is suitable for difficult to reach areas or where heavy reinforcement bars is present. It is a non-shrink and chloride free micro-concrete grout. SmartGrout LA consists of selected aggregates, sand, cement and chemical additives. When cured, it is similar in appearance to concrete.

**FIELDS OF APPLICATION**

SmartGrout LA is used for free-flow, positive expansion grouting repair applications like:

- Dock or Jetty beams, columns and pile caps
- Sea water, sulphate resistant structures
- Precast concrete canal

**BENEFITS**

- High fluidity, low water demand
- Double Shrinkage Compensation
- No segregation
- Pouring or pumping consistencies
- Grade C60 strength
- Able to reach difficult areas
- Chloride-free formulation
- Pre-packed convenience
- Factory assured quality

**TECHNICAL DATA (under laboratory conditions)**

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TYPICAL RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Spread (BS4551: Part 1)</td>
<td>&gt; 260 mm</td>
</tr>
<tr>
<td>Compressive Strength (Adopted MS S22: Part 2)</td>
<td></td>
</tr>
<tr>
<td>@ 1 day</td>
<td>10 N/mm²</td>
</tr>
<tr>
<td>@ 28 days</td>
<td>63 N/mm²</td>
</tr>
<tr>
<td>Unrestrained Expansion (ASTM C940) @ 3 hours</td>
<td>&gt; 0.5 %</td>
</tr>
<tr>
<td>Bleeding (ASTM C940) @ 24 hours</td>
<td>0</td>
</tr>
<tr>
<td>Setting Time (BS 4550)</td>
<td>Initial set: 2 hr 30 min, Final set: 3 hr 30 min</td>
</tr>
<tr>
<td>Flexural Strength (BS 4551) @ 28 days</td>
<td>9 N/mm²</td>
</tr>
<tr>
<td>Chloride Permeability (ASTM C1202)</td>
<td>&lt; 1000 Coulombs</td>
</tr>
<tr>
<td>Water Absorption (Taywood method) @ 4 hours</td>
<td>&lt;15 mm</td>
</tr>
</tbody>
</table>

- All the data shown are based on controlled laboratory test (T=23±2°C and RH=60%)
- In actual site application, slight water/powder ratio adjustment can be made to achieve consistency desired
- Tested at water/powder ratio of 0.13

**SURFACE PREPARATION**

**Foundation Surface**

- Surfaces of structures to be grouted should be clean, free from rust, laitance, grease or oil.
- Defective concrete surfaces must be cut back to sound base with at least 50 mm in thickness.
- The formwork should be properly installed, rigid and tightly secured to the surrounding structure.
- Formwork design should minimize unrestrained surfaces and provide easy pouring or pumping entry point for the application.
- Any exposed or corroded re-bar should be cleaned and tested with re-bar primer prior to grouting application.
- To ensure optimal bonding, it is recommended that the substrate be primed with a bonding agent.

**Pre-soaking**

- Several hours prior to grouting, the cleaned substrate should be flooded with fresh clean water. Immediately before grouting takes place, any free water should be removed. Particular care should be taken to blow out water in all holes and pockets.

**Formwork**

- A head box (a form sloped at 45° angle) should be built on the placement side of the installation. Allow a minimum clearance of 50 mm for entry and 150 mm minimum grout head.
- On the other side, allow 25 mm horizontal clearance and 25 mm vertical clearance above the bottom of the base plate.
- The formwork should include outlets for the pre-soaking water to be removed.
- Forms should be strong and leakproof, properly braced and oiled to retain the grout and provide relief holes if needed.

**DISCLAIMER**

All information was prepared carefully, using current references available to us. Information provided is to the best of our knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself/herself as to the suitability and completeness of information provided here for their intended use. We do not accept liability for any loss or damage that may occur from the use of this information.
**MIXING**

- **SmartGrout LA** should only be mixed with a mechanically powered mixer. A double helical mixer head is recommended for mixing. Paddle head mixer or flat head mixer is not suitable. A rpm speed of at least 500 rpm is good enough.
- Add in slowly, 25 kg of **SmartGrout LA** powder into 3 to 3.25 litres of clean water in a mixing pail. Mix for about 4 - 5 minutes until a smooth, even mix is achieved.
- Place grout within 20 minutes after mixing to gain full benefit of the expansion process. Do not add in any extra water after mixing.

**PLACING**

- Place **SmartGrout LA** quickly and continuously.
- A grout head must be maintained at all times so that a continuous grout front is achieved. It is advisable to use a hopper for this purpose.
- The flow distance is based on gap width and fluid head. Longer flow distances can be obtained with a larger gap width and a larger grout head.

**CURING & TREATMENT**

- All exposed areas should be thoroughly cured after the placement of the grout is completed.
- This should be done by application of water and wet Hessian until the grout surfaces or shoulders are ready to be finished. Typically at least 7 days of proper curing. Cover area with polythene sheet to protect and aid curing.
- After finishing has been completed, all exposed grout should be coated with a quality-curing compound or by continuous application of water and/or wet hessian until 28 days.

**YIELD**

When mixed with 3.25 litres of water, each 25 kg bag of **SmartGrout LA** will yield about 12.5 litres of grout. Always mix the whole bag, do not mix lesser than a whole bag.

**PRECAUTIONS**

- Avoid eye and skin contact as the product is alkaline.
- Gloves, goggles and dust mask should be worn.
- Avoid inhalation of dust during mixing.
- Wash thoroughly after handling.
- In case of eye contact, flush with plenty of water. Seek medical help immediately.

**PACKAGING & STORAGE**

**SmartGrout LA** is supplied in 25 kg bags and has a shelf life of 12 months if stored in a cool and dry place in sealed packing with sheltered protection from rain and sunlight.

---

**DISCLAIMER**

All information was prepared carefully, using current references available to us. Information provided is to the best of our knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself/herself as to the suitability and completeness of information provided here for their intended use. We do not accept liability for any loss or damage that may occur from the use of this information.