ShaliCem® Abra
Hydraulic Abrasion Resistant Mortar

Description

ShaliCem® Abra is single component, cement based protective mortar with high resistance to hydraulic abrasion.

Characteristics

<table>
<thead>
<tr>
<th>Colour</th>
<th>Grey</th>
<th>Density, kg / L</th>
<th>2.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td></td>
<td>Grading, D_{max}, mmn</td>
<td>2.6</td>
</tr>
<tr>
<td>Minimum</td>
<td>10</td>
<td>Shrinkage, mm / m</td>
<td>0.9 ± 0.01</td>
</tr>
<tr>
<td>Maximum</td>
<td>50</td>
<td>Working life @ 23 °C, minutes</td>
<td>20 - 25</td>
</tr>
</tbody>
</table>

Flexural strength, N/mm²
- 1 day: 6
- 2 days: 7.5
- 7 days: 8.5
- 28 days: 11

Compressive strength, N/mm²
- 1 day: 30
- 2 days: 45
- 7 days: 65
- 28 days: 85

Abrasion Resistance, % Wt loss
ASTM 131: 3.5 – 4.5

Theoretical coverage*, Kg / m² / 10 mm thickness: 21

Substrate temperature, °C
5 to 30

Ambient temperature, °C
5 to 30

Application

- **ShaliCem® Abra** is particularly suitable for use as:
  - Abrasion-resistant protective mortar layer for concrete / natural stone / other mortar surfaces.
  - Restoration work.
  - Repair of spalling and damaged concrete in for infrastructure and superstructure works especially in zones where high abrasion resistance is required.
  - For structural strengthening.
  - Increasing the bearing capacity of the concrete structure by adding mortar.
  - For preserving or restoring passivity. Increasing cover with additional mortar and replacing contaminated or carbonated concrete.

- **ShaliCem® Abra** protects and repairs hydraulic structures subjected to hydraulic abrasion and aggressive water (pH >4):
  - Sewage pipes and plants.
  - Dam / Maritime structures.

- **ShaliCem® Abra** is also suitable for protecting and repairing structures subjected to heavy abrasion, or mechanical loads:
  - Storage or loading bays.
  - Silos floor.
  - Industrial floor.

Advantages

- High abrasion resistance (A6 classification).
- High hydraulic abrasion resistance.
- Can be applied up to 50 mm thick per application layer.
- Tested as repair in concrete sewerage pipes.
- Sulphate resistance.
- Structural repair.
- Good workability.
- Suitable for hand and machine application (dry spray technique).
- A1 fire rating.
Application Methodology

➢ Surface Preparation
- Prepare the surface by abrasive blast cleaning technique or high pressure water blasting.
- Remove all loose gravel, dirt, oil, grease and foreign matter by jet of dry air and clean the surface mechanically or by grinding to make it smooth before application.
- Ensure that the relevant surface is structurally sound and firm.

➢ Priming
- STP recommends priming of the surface by ShaliPrime S. Priming is a must when ShaliCem® Abra is applied manually.
- Priming may be optional on a well prepared roughened firm surface when ShaliCem® Abra is mechanically applied. In such cases, ensure that the surface is pre-wet and that ShaliCem® Abra is applied in pre-wet condition.

➢ Material Preparation
- Add entire quantity of Powder into 2.8 L of water and mix by a slow speed mixture (approx. 500 rpm) fitted with a suitable mixing paddle.
- Stir for at least 3 minutes to ensure a homogenous mix.
- After stirring, wait for the product to settle in order to let entrapped air escape.

➢ Application of Material
- Apply ShaliCem® Abra on the primed surface.
- Finish, for both hand and machine application, by the relevant roughcast as soon as the mortar has started to stiffen. Finish with wooden, rubber or Styrofoam float.
- In case of requirement of a smooth finish on floor application, smoothing can be done with mechanical float 2 to 3 hours after placing the mortar.
- If the application thickness exceeds the maximum allowable layer thickness, build up construction equal layer thicknesses. The first layer shall be rough and be hardened before applying any subsequent layers.

Cleaning & Maintenance
Clean tools and equipment with solvent such as Xylene.

Health & Safety
- Avoid contact with skin / eyes and avoid swallowing.
- Ensure adequate ventilation and avoid inhalation of vapor.
- Wear suitable protective clothing, gloves and eye protection.
- In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent to clean the contacted area.
- In case of contact with eyes, wash immediately with plenty of clean water and seek medical advice.
- If swallowed seek medical attention immediately. Do not induce vomiting.

Packing
Available in 30 Kg container.

Storage
Store in cool dry place, under the shed, away from heat.

Shelf Life
6 months in original unopened sealed conditions.