

Builda Rep S42



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High Strength Concrete Repair Mortar

Description:

Builda Rep S42 is a single component, high strength repair material. This cement-based mortar is for repairing structural concrete members by hand troweling or low-pressure spraying.

Uses:

Builda Rep S42 is suitable for a structured concrete repair as well as general patching to concrete and masonry of the following.

- Parking and bridge structures
- Exterior and interior applications
- Parking and bridges structures
- Pre-cast vertical concrete repairs
- Parapet walls, docks, piers and wharfs

Advantages:

- Excellent workability.
- One component ready to use only addition of water
- Protect rebars from corrosion
- Applied up to 30 mm per lift
- Low chloride permeability
- Sulphate resistant
- High abrasion resistance

Technical properties @ 23°C

Applicable standards:	ASTM C579, C580, C469, EN 1015-17
Physical state:	Powder
Color:	Cement Grey
Required Water per 20kg Bag	Approx.2.5 – 3.5 liters
Wet Density:	2100 Kg/m ³
Consistency of mix	thixotropic paste
Application temperature range	+5°C to +35°C
Workability @ 25°C	30 Minutes
Compressive strength (ASTM C 109)	
1 Day	- 20 N/mm ²
7 Days	- 29 N/mm ²
28 Days	- 48 N/mm ²

Flexural strength: 28 Days - 1150 psi (9 MPa)
Adhesion to concrete @ 28 Days – 3600 psi
Water absorption 2% (ASTM C642)
Chloride ion content (AASHTO T227), 28 days 385 coulombs
Chemical Resistance Against: Acid, gases, water, chloride ions.

Note: - Properties are based on laboratory-controlled tests.

Instruction for use:

Surface preparation:

The surface of the concrete to be repaired should be sound, clean and uncontaminated. Mark the decayed or damaged area to be repaired. Cut the marked area to a depth of at least 10mm using a hand-held concrete saw or disc grinder to avoid feather edging and to provide a square edge. Remove any dust, unsound or contaminated material plaster, oil, paint, grease, corrosion deposits. Roughen the surface and remove any laitance by light scabbling or abrasive blasting.

Any corroded steel in the repair area must be fully exposed. All exposed reinforcement shall be cleaned of deep rusting or contamination by wet grit blasting or other approved means to achieve a clean and bright finish. Particular attention should be paid to the rear of the bar to ensure all corrosion products have been removed.

In case that the reinforcing bars section is reduced due to oxidization, integrate them with additional bar reinforcement.

Priming:

Once the reinforcing steel has been cleaned it should be coated immediately with **Zinc Rich Primer** a two-component epoxy zinc rich primer. Apply one full coat of the primer over the cleaned bar reinforcement ensuring that the whole steel surface area is completely covered. Allow the applied primer to dry.

A second coat of primer may be applied where necessary.

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Concrete Priming:

Generally priming of the substrate is not necessary. The substrate should be thoroughly soaked with water constantly to a saturated but surface dry condition for a minimum of 4 hours prior to installation of the repair.

For concrete deterioration due to carbonation, dampen the surface with clean water and apply a thin coat of **Builda Bond AR** an acrylic latex bonding agent. However, for difficult substrates, overhead application or repair where deterioration is due to chloride attack, it is recommended to use **Builda Rep Bond EP** a two-component epoxy bonding agent which cures to form a barrier against chloride ions. **Builda Rep S42** must be applied before the bonding agent dries, while it is still tacky, to achieve a better bond between the fresh and cured section.

Mixing:

Builda Rep S42 should be mixed by mechanical means. Single bags may be mixed by using a slow speed drill and spiral paddle or a forced action mechanical mixer. For normal applications place 3.6 to 4 liters of clean cold water into the mixer. While the machine is in operation add slowly full bag (20kg) of **Builda Rep S42** and mix for 3-4 minutes at 400-500 rpm until a smooth lump free consistency is achieved.

Note that powder must always be added to water and mixing of part bags should not be attempted. At temperature above 35 °C the bags should be stored in the shade and cool water used for mixing.

Application:

Apply the mixed of **Builda Rep S42** by gloved hand or trowel thoroughly compacting on to the tacky primed substrate and around the exposed reinforcement. A thin scrape coat before building up to the required thickness will improve adhesion of the mortar. Apply to the desired layer thickness and level using a screeding bar, trowel or a wooden board. If sagging or slump occurs the material should be completely removed and reapplied at a reduced thickness. Additional build up can be achieved by application of multiple layers. The surface of the intermediate layers should be comb scratch keyed. Priming may be done if necessary. Further application of **Builda Rep S42** may proceed as soon as this layer has set.

Finishing:

Builda Rep S42 is finished using a wooden or plastic float or damp sponge. The completed surface should not be overworked.

Curing:

The repaired area shall be cured in accordance with good concrete curing practice and protected from drying winds, sun or excessive heat. Curing shall be done with Concrete curing agent an acrylic curing compound. Alternatively, a wet hessian cloth covered with polyethylene sheet taped down at the edges can also be employed. Curing should begin as soon as the final finish is achieved.

Cleaning:

Tools and equipment's must be cleaned with clean water immediately after use. Cured material can only be removed mechanically. Tool used with **BUILD A REP ZINC EP**, **BUILD A REP BOND EP** must be cleaned with **Builda Solvent** before the material cure.

Yield:

Each bag of **Builda-Rep-S42** when mixed with 4.0 liters water yields 11.0 Liters of mortar.

Packaging:

Builda Rep S42 is available in 20 Kg paper bags.

Storage and Shelf life:

Builda Rep S42 has a shelf life of 12 Month from date of manufacturing when kept in dry storage under shed in original unopened bags.

Health and Safety:

Builda Rep S42 can be harmful to skin as it contains chemical powder which may release alkalis when mixed with water.

During application wear appropriate protective clothing, goggles, gloves, and respiratory equipment if necessary.

- In case of contact with skin, rinse with water and again wash thoroughly with soap and water.
- In case of contact with eyes, rinse with plenty of water and seek medical advice accordingly.
- If ingested, obtain medical attention immediately.
- Do not induce vomiting.

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Refer to product safety data sheet for further details.

Important Note:

The information contained herein is to the best of our knowledge true and accurate and is given in good faith, based on practical experience and applied testing Site or application – specific conditions may vary from those described here and thus the correct and successful use of the product is beyond our sphere of influence. If in doubt, the user should therefore first carry out sufficient tests to ensure the product is suitable. Legal liability cannot be accepted, either solely based on the content of this information sheet or any verbal advice given.

All **BuilChem** Datasheets are updated on regular basis. It is the user's responsibility to obtain the latest version.

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