

Structural cementitious repair mortar

Description

Arki-Mortar S40 is a ready to use cementitious powder consists of a blend of Portland cement, graded aggregates, and special chemical additives.

Mixing Arki-Mortar S40 with controlled amount of water yields a highly consistent repair mortar suitable for most structural concrete repairs.

Arki-Mortar S40 can be applied in a single application in sections up to 50 mm thickness in horizontal areas and 20 mm in vertical areas.

Key functions

- Vertical and overhead concrete repairs.
- Patch repair of concrete floor slabs.
- Concrete repairs where high build application is required.
- Filling voids of a depth greater than 5 mm.
- Concrete repairs where dynamic loads exist.

Product properties*

Appearance:	Grey cementitious powder
Bulk density:	1.80 kg/l
Mixing water:	4 litres per 20 kg bag
Wet density:	2.00 kg/l
Compressive strength:	20 MPa at 1 day 40 MPa at 7 days 50 MPa at 28 days
Flexural strength:	2.0 MPa at 1 day 4.0 MPa at 7 days 5.0 MPa at 28 days
Tensile strength:	1.0 MPa at 1 day 2.0 MPa at 7 days 3.5 MPa at 28 days
Young's modulus:	26 GPa
Dimensional stability:	Zero shrinkage

* Values are valid at ambient temperature of 23°C and at 55% relative humidity using standard water/powder ratio.

Directions for use

Surface preparation

Saw cut the extremities of the repair area to a depth of at least 10 mm. Break out the complete area using jackhammer or bush-hammer to have a surface profile more than 10 mm up to the sawn age. Expose any corroded steel rebar and eliminate loose scale and corrosion deposits using grit blasting. Clean the repair area using vacuum cleaner or pressure washing.

Priming

Apply one coat of Arki-Primer Z on all exposed reinforcing steel. Allow the primer to dry before applying Arki-Mortar S40.

Soak the substrate thoroughly with water. Remove any excess water and apply one cote of Arki-Primer AR. Apply Arki-Mortar S40 as soon as the primer is tacky.

Mixing

Consistency is dependent largely on the amount of mixing- water used. Standard value is about 4.0 litres of water per 20 kg bag of Arki-Mortar S40. The Arki-Mortar S40 must be added slowly to the water during the mixing process which should be carried out using a grout mixer or a slow speed drill fitted with high shear mixing paddle. Mixing should remain for at least 3 minutes until the material becomes homogeneous and even in consistency.

At high temperatures, condition the powder bags in a cool environment prior to use and use chilled water for mixing to keep temperature below 30°C.

Placement

Place and compact the mixed mortar into the primed substrate using trowel or gloved hand in lifts. Trowel into place and allow the mortar to stiffen before the next lift.

Finishing

Finish the applied mortar to match the surrounding area using wooden or plastic floats. Do not use water during the finishing stage. Use only damp sponge if required.

Curing

To lower rate of water evaporation, treat exposed surfaces with Arki-Cure RC curing compound or with continuous application of water and/or wet Hessian.

Cleaning

Clean contaminated tools and mixer immediately after application with water. Hardened grout can be removed by mechanical means or with Arki-Clean ACD.

Storage and shelf life

Arki-Mortar S40 has a shelf life of 12 months when stored in a dry place and good warehouse conditions in unopened, undamaged original packaging.

Packaging

Arki-Mortar S40 is supplied in 20 kg bags.

Safety precautions

Arki-Mortar S40 is a non-flammable material.

Arki-Mortar S40 is not classified as hazardous material under current legislations.

Arki-Mortar S40 contains cement. Therefore unnecessary contact with the product is to be avoided.

Accidental contact with skin or eyes should be washed off with plenty of clean water. In the event of prolonged irritation, seek medical advice.

Material should be disposed according to local regulations.

For further information refer to the material safety data sheet.

Technical support

Arki provides assistance to its customers and gives site support, consultations and technical advice on all aspects related to specifications and application methods of construction chemicals and building materials.

Additional Arki products

Arki produces high quality products intended for use in construction activity, among these products:

- Concrete admixtures
- Concrete repair materials.
- Mould release agents and curing compounds.
- Adhesives and waterproofing materials.
- Flooring systems.
- Protective coatings.

Product quality

All Arki products are manufactured under a quality management system independently certified to conform to the requirements of the international standards.