

## Repair of cracked walls

### using the spiral anchor method

The method of strengthening and repairing buildings with spiral anchors focuses on repairing cracks in structural walls, reinforcing connections between partition walls and structural walls, stabilizing roof attics, strengthening balcony slabs, repairing and strengthening lintels, beams, ceilings, and anchoring detached layers of protective walls.

This technique is particularly useful for stabilizing bulging walls and strengthening walls in structures. Benefits of this approach include increased load-bearing capacity of structural elements, quick application, low invasiveness, avoidance of reappearing cracks, and low implementation cost.

#### CRACK REPAIR

Structural walls made of brick, stone, concrete

#### INJECTION WITH ANCHOR

inserted in the injection hole, forms a kind of armament

#### INCREASE IN LOAD CAPACITY

Walls, columns, girders, beams, slabs, foundations

#### WALL REINFORCEMENT

in contemporary objects



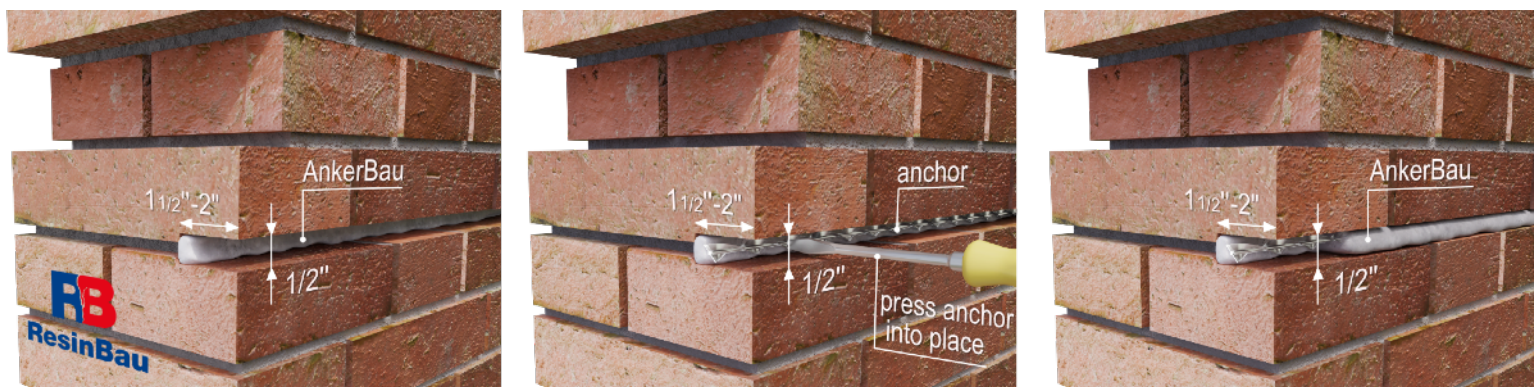


## Required products

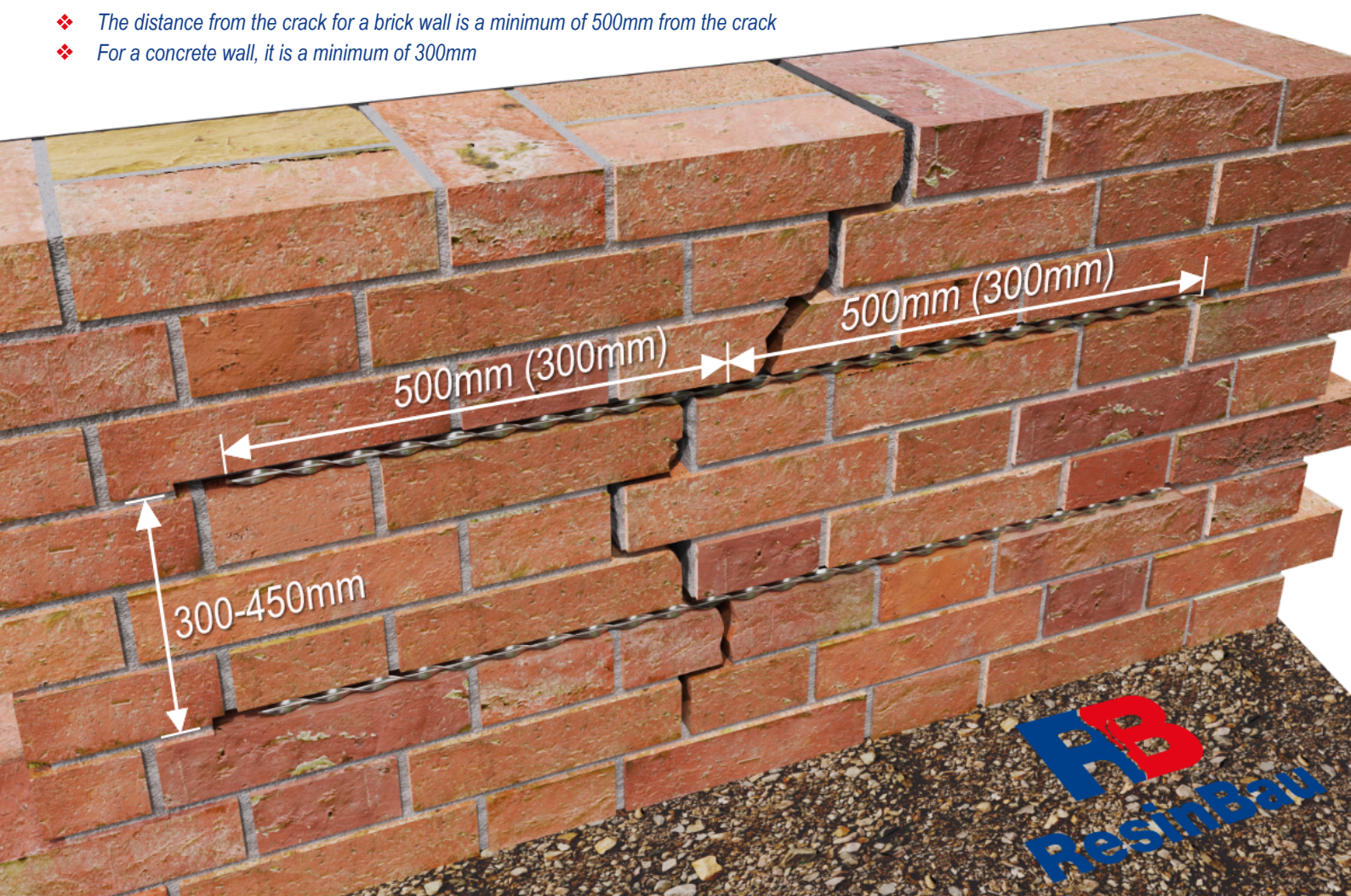
- ❖ Wall chaser
- ❖ Spiral anchors - Hammpack® Spiral Hammer
- ❖ Stabilizing clips
- ❖ ResinBau AnkerBau mortar
- ❖ Hammpack® GroutGo mortar application pump

*The graphic shows:*

- ❖ consecutive steps of anchoring the structure. Groove width for the anchor 8mm, i.e., anchor +4mm



- ❖ The distance from the crack for a brick wall is a minimum of 500mm from the crack
- ❖ For a concrete wall, it is a minimum of 300mm





## STEP 1

- ❖ Repair work should begin with making grooves according to the design assumptions. It is recommended that the resulting groove has the same length on both sides of the crack.

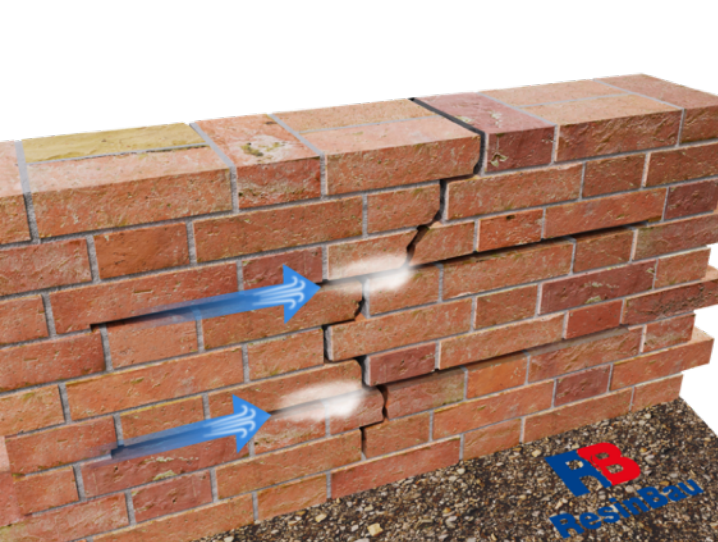
Parameters of the performed groove:

- ❖ The width of the groove should not be less than the diameter of the rod + 4mm
- ❖ The depth of the grooves should be in the range of 35 mm to 70 mm
- ❖ The distance between anchors 300 - 450mm



## STEP 2

- ❖ After making the grooves for the anchors, remove any remaining dust. The cleaning process can be carried out using air and/or a water jet





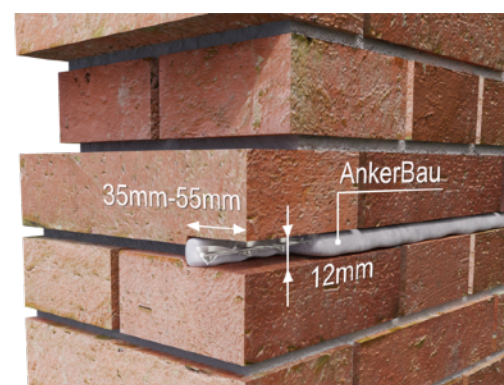
### STEP 3

- ❖ The next step is filling the groove with a first layer of mortar of about 10 mm thick and placing the appropriately cut anchor in it beforehand



### STEP 4

- ❖ The next stage of work is the application of the second layer of mortar and smoothing the joint using a putty knife
- ❖ Open cracks should be filled with ResinBau CrackOn.5
- ❖ After about 24 hours, when the binder has dried, you can proceed with plastering the areas after the work has been completed





## OPTIONAL STEP

To further protect the wall (strengthening and thermal insulation), we suggest using injections in the resulting crack.

- ❖ Perform proper drilling to carry out the injection (more information in the instructions for proper drilling)
- ❖ Clean the injection holes
- ❖ Seal the crack surface with CrackOn.5 mortar
- ❖ Carry out the injection using ResinBau InjectGrout 4035, remembering that it is a cement suspension, so choose the appropriate injection packers and an injection pump (different from the one for resin injections)
- ❖ Packers should allow for venting
- ❖ *If you want to additionally strengthen the structure, instead of injection holes, install a properly selected spiral anchor (injection hole  $\varnothing 14\text{mm}$  - for anchor  $\varnothing 10\text{mm}$ , cut to a length allowing the installation of the appropriate injection packer)*

## IMPORTANT INFORMATION

Designing repairs of damaged structures using spiral anchors begins with an analysis of the damage and its causes. Based on this, the repair method, the use of profiles, and their quantity and location are decided. Practice shows that the use of this method eliminates the need for other reinforcing technologies. However, it should be remembered that anchoring alone does not remove the causes of damage. Therefore, it is worth considering whether additional repair methods are needed, especially in the context of strengthening foundations.

The project should take into account:

- ❖ Physical and technical features of the profiles and mortar
- ❖ Installation location, quantity, diameter, and length, dimensions of grooves and holes, type of mortar, and other necessary information for the proper execution of the repair.

