

Spiral Anchor System For Masonry Reconstruction

Anchoring of multilayer wall constructions with the Ruberstein® Spiral Anchor System with General Building Inspection Approval Certificate No. Z-21.3-1967

Damage causes

Missing, insufficient or damaged anchoring between the individual masonry layers, causing:

Endangerment of static stability of facing layers and visible layers due to own weight as well as due to loads in vertical direction to the wall level

Reconstruction targets

Creation of a standard-complying anchoring, with respect to load carrying capacity and durability as well as quantity and arrangement, between the individual masonry layers

Reconstruction procedures

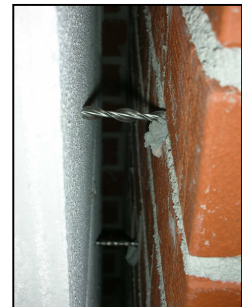
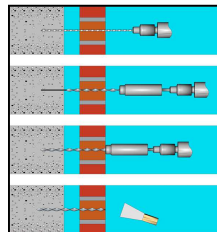
Installation of Ruberstein® Spiral Anchors into the existing masonry in vertical direction to the wall level for a subsequent connection of facing layer and the load-bearing layer

3 variants (depending on wall material)

Wet/wet procedure

Dry/wet procedure

Dry procedure with/without pre-drilling



Construction rules

according to DIN 1053-1 and DIN 18515-2

- ⇒ Dimension of insertion into the outer layer $\geq \frac{2}{3}$ of wall thickness
- ⇒ Dimension of insertion into the load-bearing layer ≥ 50 mm
- ⇒ Vertical distance between anchors ≤ 500 mm
- ⇒ Horizontal distance between anchors ≤ 750 mm
- ⇒ At least 5 anchors per m² of wall surface
- ⇒ On free borders additionally at least 3 anchors per m border length

Material and accessories

Ruberstein® Spiral Anchors, type SS (two tips)
or Type Standard (without tip) - for wet/wet procedure)

Ruberstein® Anchor grout (for wet procedure)

Commercially available hammer drill with SDS shank

Mortar gun with filling tube (for wet procedure)

Setting tools (for dry procedure)

Extraction measuring device



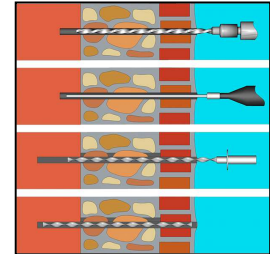
Wet/wet procedure

Similar to needling

Very appropriate for multilayer wall constructions without air layer

For walls with air layer, use of perforated sleeves or drill grouting in two steps:

- ① Make a bore into facing layer and load bearing layer
- ② Blow out the bore, moisten with water, cut spiral anchor to length, prepare anchor grout
- ③ Press the anchor grout into the load-bearing layer bore
- ④ Turn in the spiral anchor straight into the fresh grout
- ⑤ Press anchor grout into the bore and the spiral anchor of the facing layer
- ⑥ Close the wall surface with anchor grout, joint mortar or stone restoration mortar



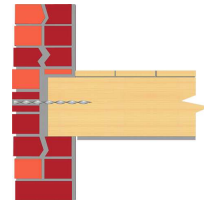
Dry/wet procedure

Core drilling in the facing/visible layer, if necessary pre-drilling in the load-bearing layer

Particularly appropriate for two-layer wall constructions with air layer and relatively soft, homogeneous structure of the load-bearing layer

Also appropriate for rear anchors in wooden constructions

- ① Bore in facing layer, if necessary pre-drill in load-bearing layer
- ② Blow out the bore/s
- ③ Insert the spiral anchors with appropriate setting tool in dry condition into the brick backing
- ④ Prepare anchor grout
- ⑤ Press anchor grout into the bore and spiral anchor of the facing layer
- ⑥ Close the wall surface with anchor grout, joint mortar or stone restoration mortar



Dry procedure

Dry installation of spiral anchors over the entire wall section, if necessary pre-drilling depending on wall material

- ① If necessary, pre-drill the masonry and blow out the bore
- ② Insert the spiral anchors with appropriate setting tool in dry condition into the masonry
- ③ Close the wall surface with joint mortar or stone restoration mortar



Advantages of the Ruberstein[®] Spiral Anchor System

- ⊕ Simple processing, no heavy machinery necessary; cost-effective
- ⊕ Little invasion into the building structure; trouble-free application even on sensitive surfaces
- ⊕ Load carrying investigations easily possible on site

Ruberstein[®] Service

Further information under www.spiralankersystem.de – Project consulting on request

