



Diagnosekoffer für Mauerwerkssanierung

- Salt Test-Set -

Availability	
Size / Quantity	1 pcs
Container code	01
Art. no.	
4953	■

Range of use

- Determining salt type and concentration
- Basic equipment for sampling

Property profile

- **Indicator reagents:**
1 pc each of MQuant™ sulphate, nitrate and chloride test, 100 pcs Fisherbrand™ colour-fixed pH indicator strips, 1 bottle natural (L+) tartaric acid

Possible system products

- [WTA restoration render systems](#)

Directions

Conducting the measurement

- Take an analysis strip from the tube, then re-close the tube immediately. Do not touch the test fields with your fingers.
- Submerge all the test fields on the analysis strip in the prepared analysis solution for approx. 1 second.
- After waiting for 1 minute, compare the colours on the analysis strip (test fields) with the colours on the label. Read off the salt concentrations in g/l.
- Convert the recorded value in g/l into the corresponding salt concentration [% by mass]. To do this, use the table provided in the application examples section.

Tips on use

Distilled water is required for preparing samples. Please pour distilled water into the 250 ml spray bottle before using the diagnostic kit.

Different building materials must be analysed separately. We therefore recommend that building material samples are collected separately for subsequent analysis according to type (render, brickwork mortar, stone, etc.). The following water-soluble salts are normally tested: chlorides, sulphates and nitrates. The test strips required for these are included in the kit.

Sample preparation

Using the hammer, break up and pulverise the separate building material samples as finely and as free from impurities as possible.

Weighing the samples

Using the spoon scale, weigh out 10 g of the building material sample. Pour the pulverised sample material into a wide-necked glass bottle.

Quick guide to the spoon scale

- always use on a flat surface!
- Do not use any solvent-based materials!
- Weighing range up to 300 g
- Switches off automatically after 1 minute when not in use

(To switch on: ON/Tare button, weighing unit: gram or oz can be set by pressing the Σ /Unit button for 3 seconds, to switch off: press the ON/Tare button for 3 seconds.)

Sample preparation

- Use the plastic syringe to take up 50 ml of distilled water and slowly add it to the sample in the wide-necked glass bottle.
- Shake vigorously.
- Using the metal weighing scoop, add tartaric acid in portions until a pH value of 5 is set. To do this, shake vigorously after each addition of tartaric acid then use a pH test strip to check the pH value.

Accuracy/reproducibility



The accuracy of the results depends on the following parameters:

- 10 g weighed-in quantity
- 50 ml distilled water (quantity by volume)
- pH value 5 (tartaric acid crystals completely dissolved)

The results obtained provide valuable indications as to the condition of the examined building material and the stresses on it. However, they do not replace a professional material analysis in a chemical laboratory and do not comply with any standards. Further investigations, either in the laboratory and/or by specialist planners, may be conducted through Remmers GmbH or the Bernhard Remmers Institute of Analytics.

Notes

General

Weathering processes and the presence of moisture and salt in the surrounding soil lead to increasing moisture loss in building materials, up to destruction of the rock structure, which breaks down into its mineral components or rock fragments. In addition to natural weathering, accelerating influences on the construction site include the influence of the urban atmosphere, which contains airborne pollution (SO₂, NO_x), the creation of different material combinations (e.g. stone – joint mortar), and the particular microclimatic effects dictated by the shape of the building structure.

Salt weathering

The presence of salt and salt-containing solutions in the pore structure of building materials can cause severe damage over time. The damage mechanisms are:

Linear growth pressure: When salt crystallises out from oversaturated solutions, it grows against the pore walls and exerts pressure.

Hydration pressure: Depending on the environmental conditions (temperature, relative humidity), harmful salts are present in different "hydrate stages". This means that, depending on the humidity and temperature conditions, the "water of crystallisation" accumulates in the crystal lattice or is released from it. This is associated with significant volume changes, which in turn exert pressure on the pore walls in zones containing large amounts of salt. Readily soluble salts, e.g. alkaline and alkaline earth sulphates, chlorides and nitrates, are therefore especially dangerous.

Hygroscopic effect of salts: In combination with the damage pattern of salt loads, the "hygroscopic" effect of many salts is also important. It is based on the principle that, even at ambient humidity levels of well below 100% RH, salt wants to absorb water from the air and dissolve in it.

Please note that the data and information given above have been calculated as guidelines in the laboratory and from real-life experience and are therefore not binding as a basic principle.

This information is therefore of a general nature only and describes our products and how they are used and worked with. In this respect, it must be borne in mind that the varied and diverse nature of the

prevailing working conditions, materials used and construction sites encountered means that not every individual case can be covered. In this respect, we therefore recommend either conducting tests or liaising with us in the event of any doubt. Unless we have provided express written assurance of the products' specific suitability or characteristics in respect of a contractually stipulated intended use, any technical application-related advice or instruction will never

be binding, even though it is provided to the best of our knowledge. In all other respects, our general terms and conditions of sale and delivery shall apply.

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