



innovative building concept



Sustaining

building fabric

using the forces of nature



Contents

<i>Quality and concept</i>	04-05
<i>Research and development</i>	06-07
<i>Where it all began</i>	08-09
<i>benqusan® – more than just renovation plasters</i>	10-11
<i>Mode of operation</i>	12-13
<i>Areas of application</i>	14-15
<i>Floodwater</i>	16-17
<i>Application</i>	18-19
<i>Quality assurance at the highest level</i>	20-21
<i>The origins and the future</i>	22-23



Quality and concept

Over 40 years ago we set out to find a long-term solution for renovating damp and salt-loaded buildings, stone and mixed masonry, basements in contact with earth and former stables – in short, all kinds of masonry – quickly, efficiently and cost-effectively.

This idea, together with the nature philosophy of “panta rhei” (everything flows) formed the foundation for our damp masonry render, which takes advantage of the physical properties of moisture transport, water vapor diffusion, surface area expansion and evaporation. The interaction of hydrophobic characteristics, the massive expansion of evaporation surface and the transformation of water into water vapor create a very special diffusion configuration. Damage caused by capillary moisture, hygroscopic dampness and condensation can be counteracted extremely effectively.

Experience shows, time and again, that the old approach of working against the natural physical processes in damp masonry results in recurring damage with never-ending repair costs. This insight ultimately led to the development of an active agent in powder form that can be used as an admixture to specific mortars: optimal air entrainment in ideally sized and dosed micro air pockets. The admixture has been proven in over three decades of deployment in myriad applications.

This solution was developed further in the early 90s, allowing the positive qualities from our tried and tested damp wall renders to be applied to concrete as a preventive measure.

In line with the philosophy:

What is good for historical buildings cannot be bad for new buildings.



Research and development

ibc focuses on the development and construction of low-cost, high-quality housing, masonry renovation products, innovative formwork and precast concrete systems and alternative concrete reinforcements for walls and foundations.

Our products build on a process that has been successfully tested in the field for over three decades. It combines the advantages of fast and cost effective approaches to construction.

All of our products and construction methodologies are suitable for all climate zones.

Our lime-based damp wall renders and plasters, as well as light-weight concrete mixtures, together with extremely fast production cycles give us a unique position in the market for historical buildings and churches, as well as for low-cost housing construction.

Renovation of historical and listed buildings

The long-term effect of the highly water vapor-permeable mixtures, resistant to salt and harmful substances, that are made with our render, screed and concrete admixtures (up to 45 % entrained air) have been tested not only in the laboratory, but also in a wide range of real-world applications.

Development of alternative to steel reinforcements

Custom-engineered, reinforcing fiber mixtures, in combination with our novel admixtures, allow up to 80 % less steel reinforcement to be used in foundations and walls, resulting in significantly lower construction costs.

Development of prefab and formwork systems

Both the patented flexmobox[®] mobile manufacturing system in a container format for prefab concrete elements and our innovative formwork systems provide clever details that allow them to be flexibly adapted to most any kind of construction project. The flexmobox[®] system is deployable anywhere in the world and highly scalable, making it suitable for both small and large-scale projects. A key feature of our formwork systems lies in our novel formwork panels, which result in a much longer service life than conventional formwork.



Where it all began

The newly developed, trailblazing render was first deployed on a larger scale (45 000 m²) in 1970 in a large Munich brewery. This example provides clear proof of the long-term effectiveness of the underlying technology.

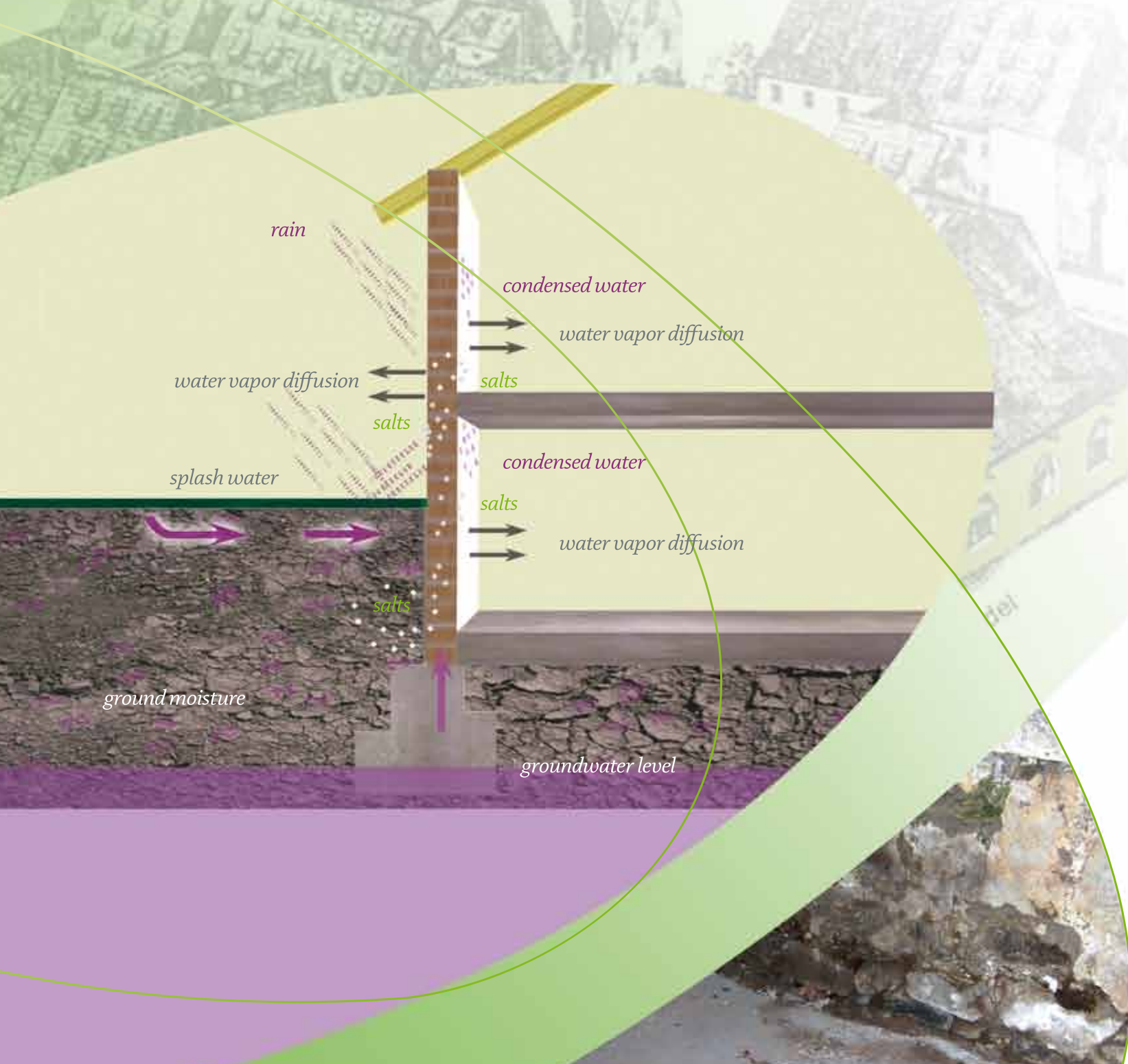
The building located at the Promenadeplatz in Munich was used over the centuries to permanently store up to 1000 salt barrels.

Mongelas Palace – then and now

Since 1975, Mongelas Palace has been home to an internationally renowned historical restaurant.

The highly salt-loaded, vaulted cellar of the old salt store was renovated in 1975 using our revolutionary damp wall plaster in a very efficient and cost-effective manner. The excellent long-term function remains unabated to this day.

benqusan® – more than just renovation plasters



The reliable, multifaceted rendering and plastering system for damp and salt-loaded walls

Damp and salt-loaded building elements slowly and permanently destroy the building fabric, but also stored items, machines and furniture – your assets. They are ideal breeding grounds for harmful molds and bacteria and thus pose a true health risk. Damp walls are cold and provide little insulating power, thereby leading to unnecessarily high heating costs.

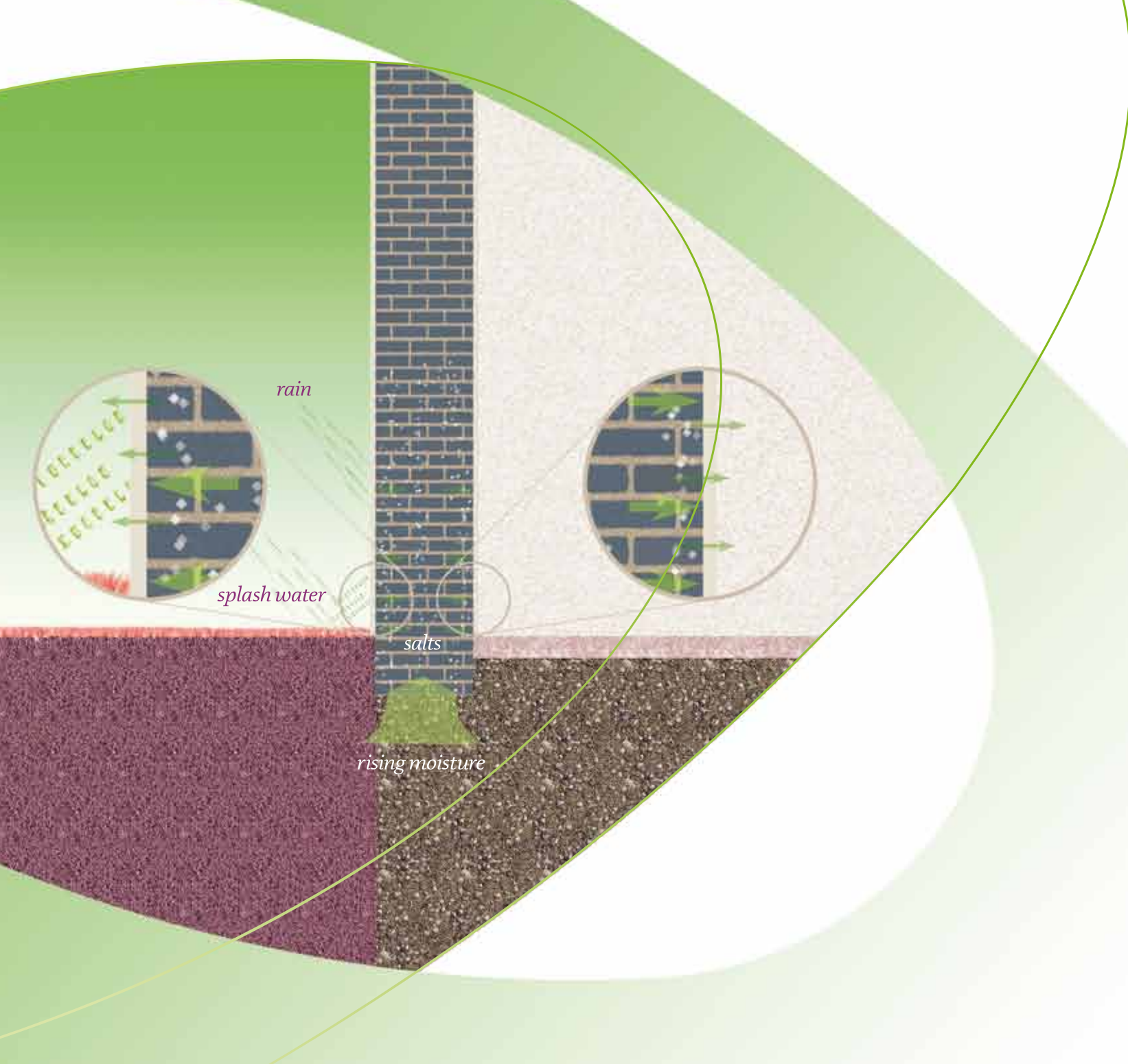
Wall dampness and salts are common culprits of damaged masonry. The barely noticeable penetration of moisture and the frequently associated salinization of walls resulting from years of water penetration from the ground or through cracks and defective pointing pose a real threat to building integrity. Moisture is transported to the inside and the dissolved salts move upwards in walls. Harmful substances attack pointing, plaster and paint to the point of decay.

Sealing the exterior surfaces with waterproof renders, tiles or the likes simply pushes the zone of salinization further upward in the walls.

benqusan® renders and plasters for damp walls takes advantage of the physical characteristics of moisture transport, diffusion, surface area expansion and evaporation. They counteract damage from capillary water, hygroscopic moisture and condensation, all at once.

Sources of moisture

- Rising water through capillary action
- Hygroscopic water from salt-loading
- Condensation from temperature differentials
- Precipitation and flooding



Mode of operation

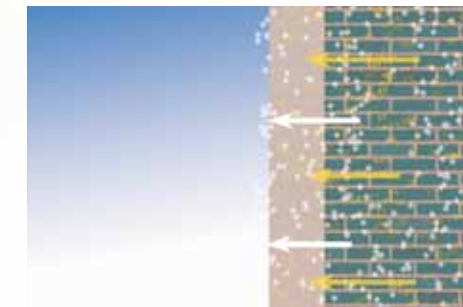
The evaporation zone required for transforming water into water vapor is located at the interface between the wall and plaster. Unlike traditional plasters, water and dissolved salts cannot enter into the microscopic air pockets of our products, where they would destroy the plaster.

Quite to the contrary, the natural flow of air in the plaster layer ensures that the water molecules become detached from their bonds and escape to the surface in the form of water vapor.

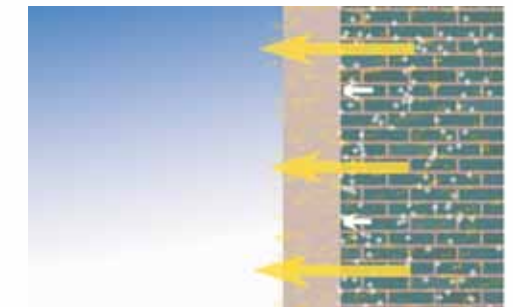
- No crystallization of salts in the air pores
- Water vapor diffusion is not inhibited in any way
- No efflorescence at the plaster/render surface

Making plaster vapor permeable

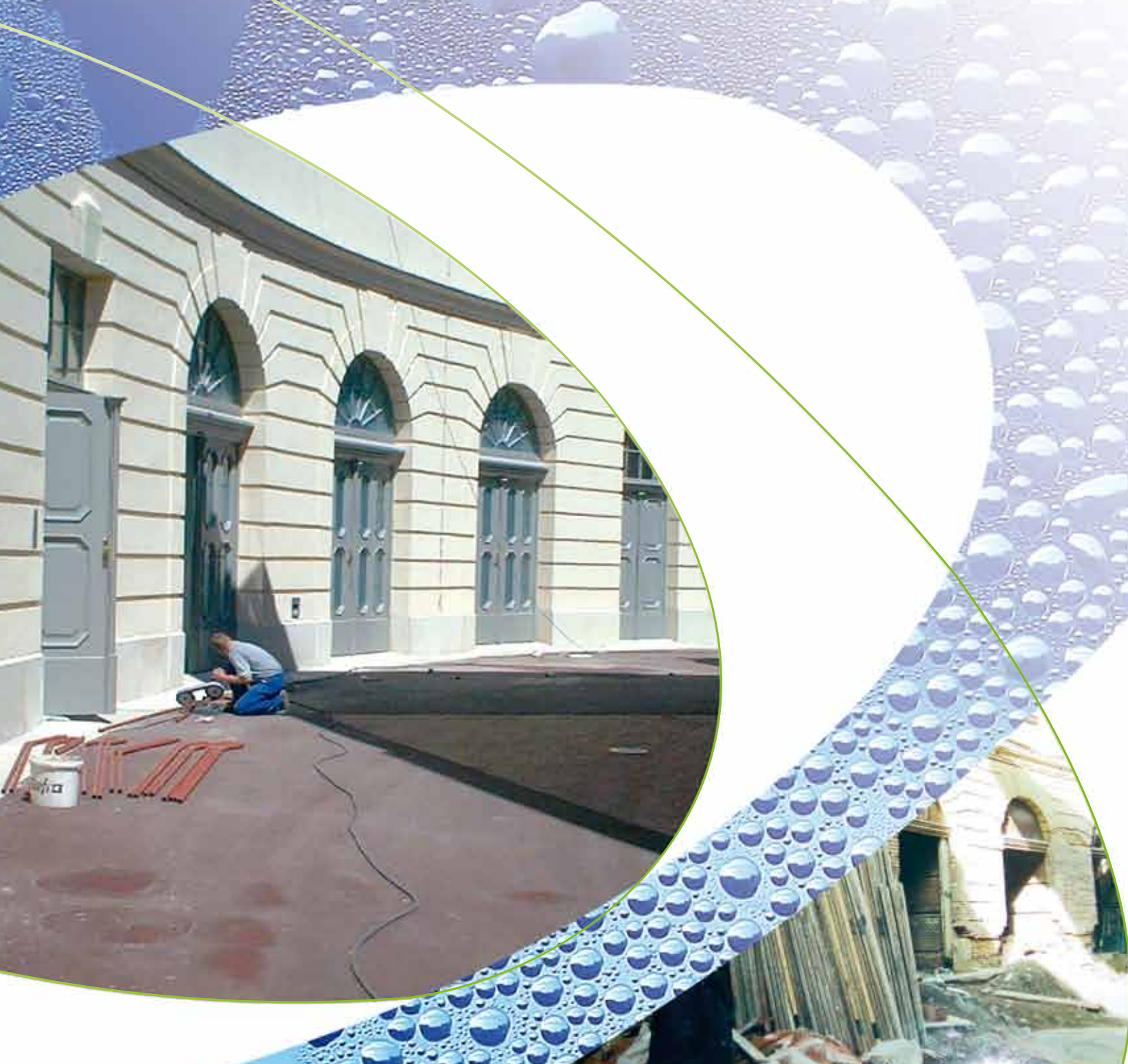
Our damp wall renders and plasters do not differentiate between bricks, mixed masonry, stone masonry (interior or exterior), cellars or stables. With up to 45 % entrained air in the micropore structure, the surface area of the masonry is multiplied many times in all areas of application.



Traditional renovation plaster in accordance with WTA: Salts are deposited in the plaster matrix, where they crystallize and destroy the plaster. Hydrophobing agents in the plaster prevent the quick transport of moisture out of the wall.



benqusan® damp wall plasters: The countless number of micro-pores interconnected in a network of fine capillary structures force moisture to leave the wall in the form of vapor. The harmful substances thus remain dissolved in the wall, where they are unable to damage either plaster or masonry.



Areas of application

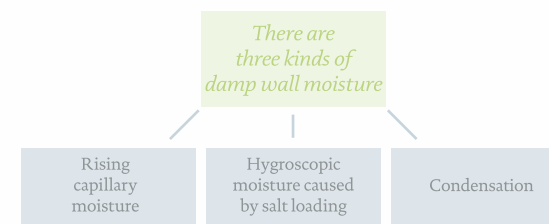
benqusan® damp wall plasters and renders were developed for exactly these kinds of moisture problems. They represent the water vapor permeable, air entraining solution for mortar and concrete.

Our renders and plasters are suitable for all kinds of masonry: concrete walls, façades, interior rooms, cellars, stables and freestanding walls. They are not intended for applications with pressing or seeping water.

benqusan® damp wall renders and plasters are ideal for renovation and restoration work in damp and salt-loaded building fabric.

The advantages

- Larger volume than normal plasters
- The plaster function requires no supporting measures
- The plaster function is independent of the degree of dampness and salt loading
- No salt treatment required
- Easy to apply
- No chemicals at the work site
- No ventilation of the masonry required
- No waiting periods between the application of individual layers
- No construction delays
- One material for all kinds of moisture (rising capillary moisture, hygroscopic moisture and condensation)
- No limitations in the final façade or surface design
- Tried and tested for over 3 decades





Floodwater

benqusan® damp wall renders and plasters are also suitable for treating floodwater damage.

Recurring heavy weather brought on by climate change represents a major problem for people living in areas prone to flooding. In addition to the immediate threat to personal safety and property comes the residual damage, which can be very extensive and result in large repair expenses.

Buildings in flood zones are exposed to extreme situations and generally need to be renovated from the ground up.

Water, dirt and oil that has penetrated into walls becomes stubbornly trapped and can normally be extracted only with great effort. The dampness in the walls (pores filled with water instead of air) makes them colder, which leads to additional condensation – a vicious cycle.

Subsequent damage includes destroyed rendering and plastering, mildew attack and foul and musty smells.

benqusan® can help you to master these problems and protect your building.

benqusan® damp wall renders and plasters: Our experience is your benefit.



Application

Mixing

Use only smooth, clean mixers: free-fall mixers with a capacity of at least 130 liters, single agitator up to 15 liters bucket size, fixed double agitator on a rotating plate with mortar tub capacity of at least 50 liters, and to a limited extent mortar pumps. Do not use continuous mixers. It is essential that the prescribed mixing time is observed. Do not add lime or chemical additives.

Substrate preparation

Completely remove damaged render/plaster up to at least one meter over the measurable dampness zone and scrape away pointing to a depth of approx. 2 cm. The substrate must be sufficiently sound and stable. Under no circumstances should gypsum be used to fasten electrical cables and the likes; all gypsum remnants must be completely removed.

Application

- Wet an area of wall corresponding to one batch of mortar to the point of saturation.
- Bond and key coat: see instructions
- Functional coat: see instructions
- Use at least 20 mm thickness for the functional layer
- Smooth coats in a single pass; do not rub in repeated passes
- Always dampen sufficiently before applying the next coat
- Allow 24 hours before applying subsequent coats. Longer setting periods are also possible

Paint

Use only paints with very good vapor permeability.



Quality assurance at the highest level

The high-performance, high-quality line of benqusan® products will allow you to achieve consistent quality at the highest level, even when time is short.

With our novel benqusan® products, you will easily and reliably fulfill the desired performance values.

Our blends of highly effective active agents and admixtures bound in a solid carrier substrate will help you stay a step ahead of the competition and provide your customers with the best performance regarding thermal and acoustic insulation, durability and indoor living climate.

benqusan® products are subject to strict works-internal production controls. In addition, our products are independently tested and monitored by the LGA in Nürnberg.





The origins and the future

The original active agent for damp wall renders and plasters, with its one-of-a-kind long-term functionality has been tried and tested for decades. Adapted to local sands and bonding substances, it is used by reputable foreign mixing plants as an admixture to their damp wall renders and plasters. Sales and distribution are done under the proprietary labels of the distributors.

The original damp wall active agent developed by S. Maier is now produced in the third generation by the family-owned business.

Are you interested in our ready-mixed mortars or in producing and distributing your own line of renders and plasters in line with our motto: *“Renovate only once”*?

We can also provide you with concrete admixtures for producing high performance normal and lightweight concretes with very specific properties.

We look forward to giving you a competitive advantage with our products and to welcome you as a valued customer and partner.

Sincerely,
Christoph Maier

Preserving

building fabric

in style



innovative building concept

innovative building concept GmbH & Co. KG

info@ibc-home.eu
www.ibc-home.eu