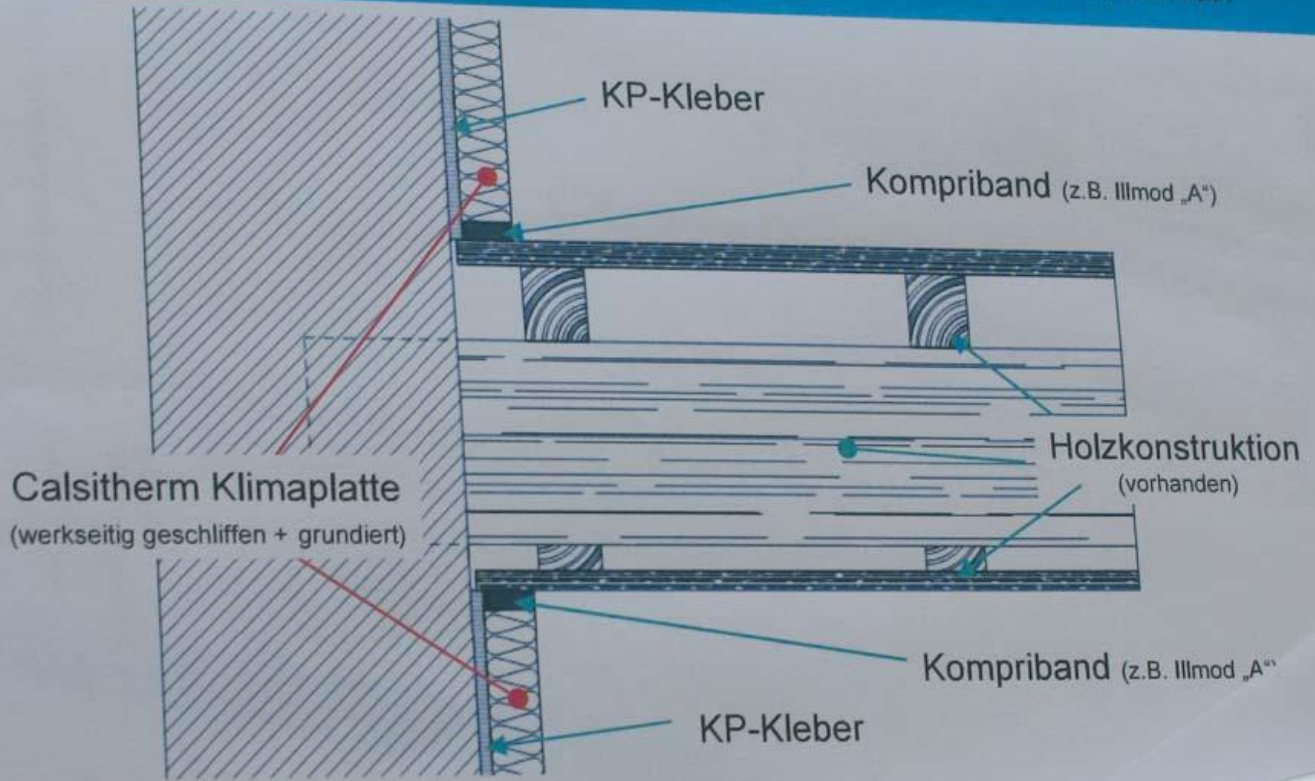


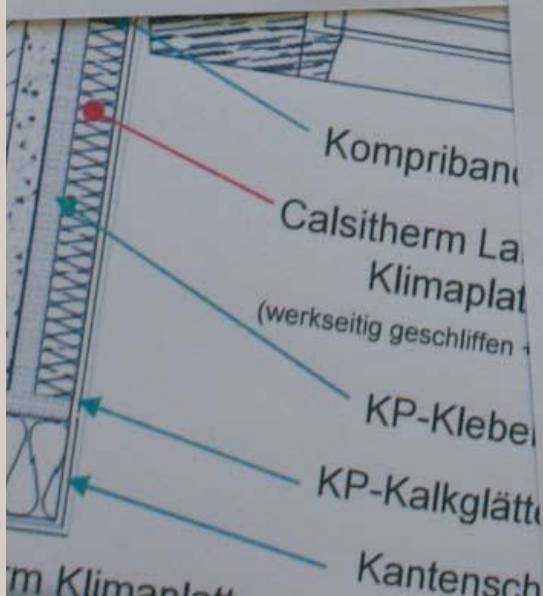
# CALSITHERM® KLIMAPLATTE

## DETAIL

### Calsitherm Klimaplatten bei vorhandenen Holzkonstruktionen

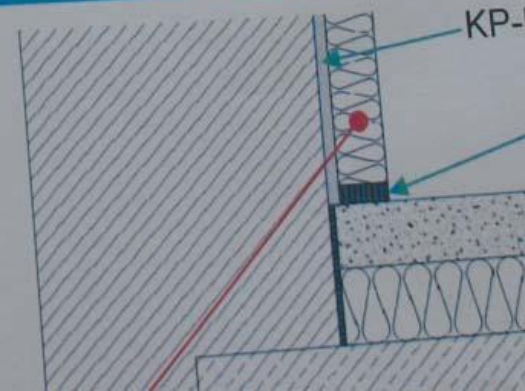


## CALSITHERM



## DETA

### Fußbodenanschluß vorhandene Wand-/Deckenanschluß



## BASIC TECHNICAL FEATURES

Insulating | capillary active | mould inhibiting | non-flammable | environmentally compatible

# Comfortable interior insulation

## Areas of application of the CALSITHERM KLIMAPLATTE

- building restoration
- historical monuments
- public buildings (schools, churches, museums)
- new construction

## Applications of the CALSITHERM KLIMAPLATTE

- interior insulation of existing buildings
- maintain brick-, stucco- and ornamental facades with additional thermal insulation
- effective utilization of the heating system when quickly heating interior rooms in public buildings, meeting rooms and offices
- humidity control and generation of a healthy room climate in hospitals and charitable institutions
- increase in comfort and mould damage prevention

## Advantages of the CALSITHERM KLIMAPLATTE

- reduced heating costs
- easy to work with and install
- increased value of the restored building
- improvement of room climate
- custom profiles available



*Erfurt Cathedral window*



*Kindergarten in Erfurt*

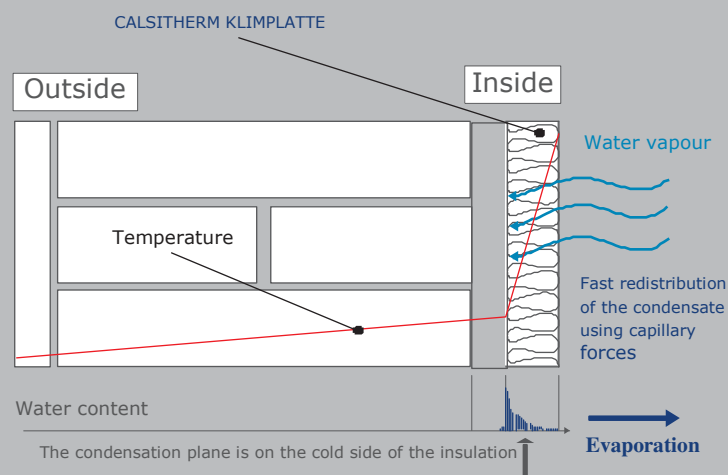


*Residential building*

## Capillary active interior insulation with the CALSITHERM KLIMAPLATTE

Due to the difference in temperature between the inside and outside of a wall, water vapour diffuses into the building construction. Because the capillary forces are directed inward and due to their ability to draw water into their pores, the CALSITHERM KLIMAPLATTE transports the condensed water back to the surface. There the water can evaporate back into the air in the room.

The diffusion-open, capillary active calcium silicate interior insulation compensates for humidity peaks in the room air and helps regulate the climate in the room. The capillary activity ensures the moisture in the insulation is drawn away and quickly distributed into the room over a large area.



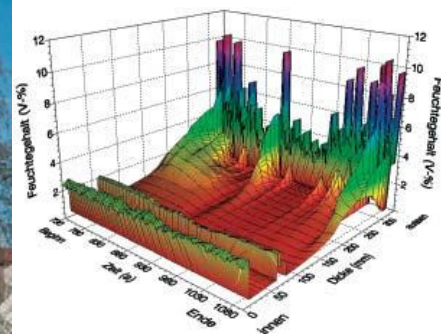
Principle of operation of the capillary active calcium silicate interior insulation  
(Institute of Building Climatology of the TU Dresden)



Infrared image of the Herrenschießhaus



Herrenschießhaus in Nuremberg



Flow of moisture in the wall construction

## Manufacturing of the CALSITHERM KLIMAPLATTE

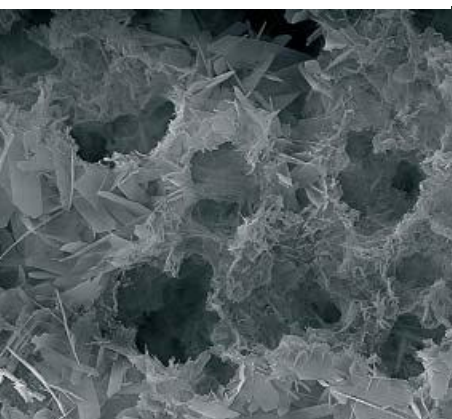
Sand and lime (silicon dioxide and calcium oxide) are natural raw materials used to manufacture the CALSITHERM KLIMAPLATTE. When slurried with water, they react to form a preliminary stage of calcium silicate.

After being formed into large panels, the tiny calcium silicate crystals grow in an autoclave process while subjected to heated steam and high pressure to produce an open structure with fine pores.

This produces a micro porous, mineral building material with good insulating properties, high capillary forces, and good humidity compensation capabilities. Since it is non-flammable, it belongs to building material class A1.

## Properties of the CALSITHERM KLIMAPLATTE

- insulating
- diffusion-open
- capillary active
- mould inhibiting (high pH value)
- non-flammable
- dimensionally stable, self-supporting, and compression-resistant
- environmentally friendly
- harmless to the environment and health
- pest-resistant
- quick and easy to work with



*Climate panel under a scanning electron microscope*



*Dryer*

*Autoclaves*

## Installation of the CALSTHERM KLIMAPLATTE

### **Preparing the base surface:**

Inspect the surface and fill in any holes or recesses with patching mortar.

### **Manufacturing the fitted pieces:**

Cut the panels using a hand saw, jigsaw, circular saw etc. and then form the panel using a sanding board.

### **Adhesive mortar:**

Stir the Calsitherm adhesive mortar (KP-Kleber) and apply to the entire surface of wall using a notched trowel. Comb into place using a trowel with a notch size  $\geq 12$  mm.

### **Climate panel:**

Apply KP adhesive mortar (KP-Kleber) to the joint edges, press the CALSTHERM KLIMAPLATTE panel softly on the surface of the wall, adjust the position of the panel until it butts against the adjacent panels and then press it into its final position.

### **Surface texturing:**

Apply the KP lime plaster (KP-Glättspachtel) or the KP interior plaster (KP-Innenputz) and design the surface texture using existing technologies.



*Combing the KP adhesive*



*Arch with soffit panels*



*Positioning and pressing the panels into place*

## System components and the CALSTITHERM KLIMAPLATTE

**Calsitherm KP-Kleber:** The KP adhesive mortar (KP-Kleber) is a high quality, diffusion-open, Capillary active, hydraulically binding adhesive Mortar for the CALSTITHERM KLIMAPLATTE:

- ready to use and easy to apply
- for interior walls, ceilings, and connections

**Calsitherm KP-Tiefengrund:** The KP undercoating (KP-Tiefengrund) is an aqueous dispersion for treatment of the CALSTITHERM KLIMAPLATTE panels after installation:

- alkali-proof
  - hardens the surface
  - reduces the capillary action close to the surface
- The Calsitherm KP undercoat (KP-Tiefengrund) is used to prepare the surface for further surface improvement with KP lime plaster (KP-Glättspachtel), KP interior plaster (KP-Innenputz), coats of paint, wallpaper, or tiles.

**Calsitherm KP-Kalkglätte:** The KP lime plaster (KP-Kalkglätte) is suitable for use in damp rooms, and when applied to the CALSTITHERM KLIMAPLATTE it provides a diffusion-open, capillary active coating:

- smooth and solid surface
- applied in thicknesses between 0.5 mm and 2 mm

**Calsitherm KP-Innenputz:** The KP interior plaster (KP-Innenputz) uses a calcium basis like the KP lime plaster (KP-Kalkglätte) and is applied in thicknesses of 4 mm to 6 mm. It can be applied up to a thickness of 10 mm. Suitable for:

- evening out rough spots
- producing rough and structured surfaces
- producing textured surfaces



Erjurt Cathedral



Residential building in Kirchlengern



Schloß Pillnitz

## Additional calcium silicate components

### Accessories

#### Other versions:

- Calsitherm window soft panel
- wall-ceiling joint panel (WD-Anschlussplatte)
- stucco elements and custom made forms

#### General accessories:

- fabric tape for covering cracks and joints
- compressed tapes for special joints (window, wood constructions etc.)
- edge insulating strip
- insulation and expansion anchors
- edge and corner protectors

#### Equipment:

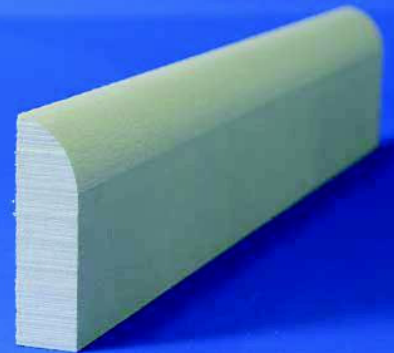
- drill with mixer bit
- sawing tools such as a hand saw
- cutting knife and ruler
- notched trowel, putty knife
- sanding board



Stucco element



Profile of the WD-Anschlussplatte



Half-circular profile

## Technical Data of the CALSITHERM KLIMAPLATTE

Approval	Z-23.11-1464
Dry bulk density	200 - 240 kg/m <sup>3</sup>
Thermal conductivity ( z)	0,065 W/(mÂk)
Measured thermal conductivity ( 10Tr)	0,059 W/(mÂk)
Water vapour transmission rate	=6
Porosity	90%
Building material class (DIN 4102)	A1 non-fammable
Environmental Product Declaration (EPD)	AUB-CSP-10106-D

## Standard format of the CALSITHERM KLIMAPLATTE

Climate panel		
Length	mm	1250 ± 5
Width	mm	1000 ± 3
Thickness	mm	25, 30, 50 ± 1
Window soffit panel		
Length	mm	500 ± 3
Width	mm	250 ± 1
Thickness	mm	15 ± 1
Wall-ceiling joint panel		
Length	mm	1250 ± 5
Width	mm	500 ± 3
Thickness	mm	30 / 8 ± 1

Custom formats and shaped parts available upon request



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