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SYSTEMIC SHEET 12.01.04-ENG
INTERNAL INSULATION

JUB Clima control system

1. Description, Application

JUB Clima Control is a thermal insulation drying system that is suitable for the renovation of both older and new buildings where problems with moisture, efflorescence, and thermal bridges occur. It is useful for the restoration of interior walls and ceilings. One of the main components of the system is the JUB Clima Control boards, which are diffusion-open, mould-resistant, capillarily active, non-combustible, and harmless to health. The boards can absorb a larger amount of water, which they redistribute across the entire surface of the boards. In this way, they enable faster and more even drying, thereby creating unfavourable conditions for mould growth. For proper functioning, the entire JUB Clima Control system needs to be installed.

2. Components of the JUB Clima contol system

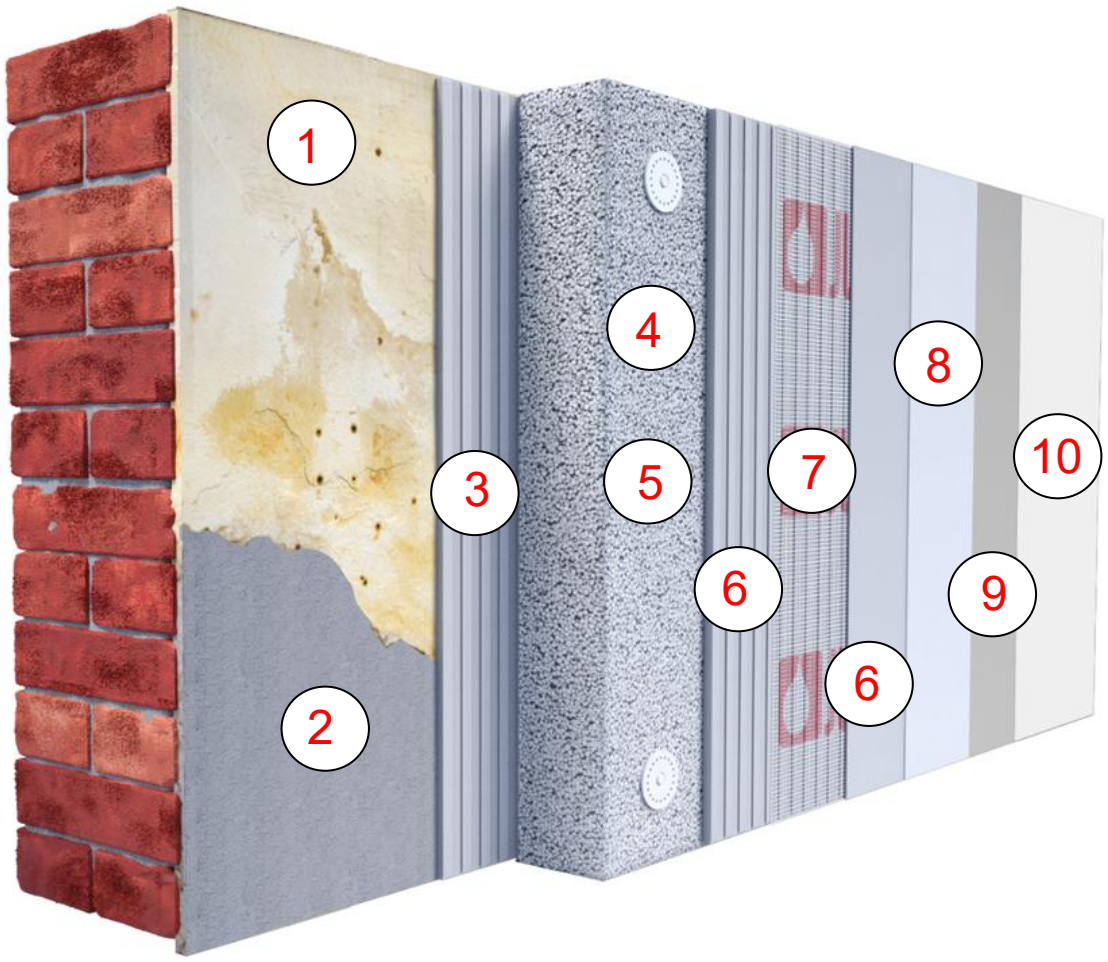


Table 1: Components of the JUB Clima control system

No.	Composition	Product	Thickness	Consumption	Drying time (T=+20 °C RH=65 %)
1.	Substrate	Existing wall	/	/	/
2.	JUBOSAN W System (optionally, depending on the substrate strength of)	JUBOSAN W 110 in W 130	1-3 cm in one coat	16-30 kg	2-3 days
3.	Adhesive	JUBIZOL Microair fix polnoploskovno	~ 8 mm	~12,0 kg/m2	2 – 3 days
4.	Thermal insulation coating	JUB Clima control boards*	in accordance with construction physics calculation – JUBIZOL ENGINEERING	~ 1.05 m2/m2	/
5.	Fixing anchors	JUBIZOL Sidro PP	/	Min 2 pcs per board or 4 pcs/m2	/
6.	Base coat	JUBIZOL Microair fix	~ 2 - 3 mm	~3.0 – 4.5 kg/m2	2-3 days
7.	Reinforcement mesh	1 x JUBIZOL facade mesh 145 g/m2	/	1.1 m2/m2	/
8.	Primer**	SILICATE Primer**	/	90 – 100 ml/m^2	1 day
9.	Levelling***	JUBOGLET Nivelin D or JUBIZOL Fini omet 1,0 or JUBOLIN Silicate 0-4	~1.5 – 2.0 mm or ~1.0 mm or ~2-3 mm	2.25 – 3.0 kg/m2 or 1.3 kg/m2 or 1.8 – 3.0 kg/m^2	1 day/1 mm
10.	Decorative coating	JUPOL Bio silicat	/	180 – 210 ml/m^2	1 day

*JUB Clima control boards are insulation boards for renovation and thermal insulation with the JUB Clima Control system. The JUB Clima Control insulation board is an IDEAL solution for interior renovation/interior insulation. The boards are perfect for quick and clean processing. Due to their high vapor permeability, they are particularly suitable for use in the renovation of old buildings. The JUB Clima Control insulation board has high capillary water absorption, which significantly contributes to improving the indoor living climate.
** A SILICATE Primer is only necessary if JUBOLIN Silicate 0-4 + JUPOL Bio silicate are used for levelling or final wall finishing in the JUB Clima Control system.

*** SILICATE Primer and levelling with JUBOLIN Silicate 0-4 are recommended for use only when normal conditions are maintained in the building (T=20-22 °C, RH=40-60 %, and regular ventilation – either by regularly opening windows or using modern recuperation systems). In more humid rooms, we recommend using the JUB Clima control system, which for levelling includes JUBOGLET Nivelin D or JUBIZOL Fine omet (fine render finish) 1.0 mm.

NOTE:
For dilating and preventing capillary suction on adjacent surfaces, it is necessary to first apply HYDROSOL Self-Adhesive Tape 100 to all boundary edge surfaces (junctions of Clima Control boards with floors, walls, and ceilings). Excessively wide pieces of tape should be cut to the thickness of the boards. We also recommend using the JUB Clima Control system at least 50 cm wide on walls that connect perpendicularly to exterior walls, or at least 50 cm wider than the observed occurrence of capillary moisture rise. The system should always be applied from floor to ceiling. At the ends, it can be finished in a wedge shape (thickness from 3 cm to 0 cm).

CHARACTERISTICS OF BOARDS:

- For renovation and thermal insulation
- The boards are capillary active
- Diffusion open
- Fire protection class A2 - non-combustible
- Can be used indoors
- Free of environmentally harmful components
- Easy and quick to install
- Cost-effective
- Improve living conditions

3. TECHNICAL SUMMARY FOR BOARDS: in accordance with ETA-25/0922:

Key characteristics	Test standard	Capacity	Technical specification
Embankment density area	EN 678	(200-20+10) kg/m³	ETA-25/0922, issued on 02/10/2025
Fractile value of thermal conductivity	EN 12667	λ10 90/90 0,0615 W/(mK)	ETA-25/0922, issued on 02/10/2025

Nominal value of thermal conductivity	EN 12667	λ23/50 0,0615 W/(mK)	ETA-25/0922, issued on 02/10/2025
Nominal value of thermal conductivity	EN 12667	λ10 0,0604 W/(mK)	ETA-25/0922, issued on 02/10/2025
Nominal value of thermal conductivity	EN 12667	λ23/80 0,0627 W/(mK)	ETA-25/0922, issued on 02/10/2025
Water vapor diffusion resistance coefficient	EN 12086	μ=5	ETA-25/0922, issued on 02/10/2025
Reaction to fire, unplastered boards	EN 13501-1	Euro class A2-s1, d0	ETA-25/0922, issued on 02/10/2025
Bending strength	EN 12089	105 kPa	ETA-25/0922, issued on 02/10/2025

NOTE:
JUB Clima control boards are available in thicknesses of 3, 5, 6, 8, and 10 cm.

4. Preparation of the substrate for fixing JUB Clima control boards

Example A – The substrate consists of solid and well-adhered old lime-cement render finishes painted with one of the dispersion paints. Discoloration and salt efflorescence are visible on the substrate. The substrates are also affected by mould:

Suggested renovation

First, mechanically remove all impurities from the substrate (they can also be sanded mechanically with sandpaper P-60 to 80), and then coat them twice at 24-hour intervals with diluted ALGICIDE Plus concentrate: water = 1:4, or with ready-to-use ALGICIDE Plus spray product. After 24 hours, apply a primer JUKOL Primer: water = 1:1.

Example B – The walls are old and salt-damaged, the existing render finish is soaking wet and crumbling. Rainwater soaks the soil in direct contact with the exterior walls of the basement areas of the building. There is no waterproofing under the screed. The walls are also wet due to capillary water rising from the ground.

Suggested renovation
We remove old, salt-damaged render finishes that are saturated with water, 80-100 cm above the visible efflorescence line, clean all joints between bricks or stones to a depth of 1 cm, and thoroughly wash the surfaces with a jet of water to remove all dust particles. We fill all larger gaps created during cleaning using JUBOSAN W130 and pieces of brick or roof tiles. The surfaces should be well moistened the day before applying JUBOSAN W110. After applying JUBOSAN W110, surfaces are levelled to a thickness of 1 to 2 cm with JUBOSAN W130. The plaster should dry for at least 2-3 days.

The appropriate thickness of thermal insulation covering is determined according to the customer's wishes and the regulations on permissible heat loss through building façade walls. These regulations are not uniform across EU countries.

Clima control boards are fixed to any sufficiently strong, dry, and clean substrate. The substrate should be flat – when checked with a 3 m long levelling lath, the gap between the control lath and the wall surface should not exceed 10 mm.

5. Preparation of mortar compound for fixing Clima control boards and for making the base coat

We prepare the mortar compound by pouring the contents of the bag (25 kg) into approximately 5.75 litres of water while stirring continuously. Mix in a suitable container with a hand-held electric mixer or a mortar and concrete mixer. After 10 minutes, when it swells, stir the compound again and, if necessary, add a little more water. The open time of the prepared comound is 2 to 3 hours.

6. Cutting and fixing Clima control boards

The support for the first row of Clima Control boards is usually the upper edge of the screed. Before installation, we cover all perimeter edges of the renovation with HYDROSOL self-adhesive tape to prevent capillary water rise from the screed. We cut the boards along a straight batten with a utility knife. After cutting, we chamfer and dust off the panel.

Picture 1: Cutting Clima control boards

Bonding of JUB Clima Control Boards is carried out using the ‘‘floating-buttering method’’, whereby the adhesive is applied both to the JUB Clima Control Boards and to the wall substrate. The mortar mixture is manually applied to the insulation board using a notched steel trowel with a tooth width and depth of 8 to 12 mm.

The adhesive is applied to wall or ceiling surfaces using a notched trowel (minimum notch size 10 mm). The direction of adhesive application on the substrate should be perpendicular to the orientation of the boards. To prevent premature drying and skin formation, the adhesive is applied to both the boards and the substrate immediately prior to bonding. The boards are installed by slightly sliding and vibrating them into position against the adjacent board to ensure a joint-free fit, and then firmly pressed onto the substrate. We fix the boards tightly next to each other, but in such a way that the adhesive does not seep into the joints. We check the flatness of the exterior surface of the covering throughout the fixing process using a suitably long batten. The boards in adjacent rows are staggered according to brickwork rules, ensuring that the vertical joints are offset by at least 15 cm. Brickwork rules are also followed at corners, where the boards of one wall surface should extend a few centimetres beyond the outer surface of the adjacent covering, and a so-called cross bond is carried out at the corner. The excess part of the boards at the corners is cut cleanly, but only 2 to 3 days after fixing. Any gaps and cavities are filled with appropriately sized pieces, and if necessary, wedge-shaped pieces of JUB Clima control boards or low-expansion polyurethane foam.

NOTE:
In heated indoor areas, JUB Clima Control Boards must be additionally mechanically fixed with JUBIZOL PP anchors after surface sanding or 2 to 3 days after bonding, once the adhesive has fully cured. A minimum of 2 anchors per board or 4 anchors per m² shall be used. The anchorage depth into standard masonry substrates must be at least 50 mm; anchor holes shall always be drilled at least 20 mm deeper than the required anchorage depth.

7. Reinforcements of corner and reveal edges, additional diagonal reinforcement of opening corners.

Before applying the base coat to the Clima control boards, but not earlier than 2 to 3 days after fixing the insulation boards, we carry out all additional reinforcement, reinforcements of corner and reveal edges of the building, and also install all necessary profiles. Profiles with mesh are pressed into a layer of adhesive mortar approximately 2 mm thick, previously applied with a notched trowel. When doing so, we need to apply at least 5 cm more adhesive mortar than the size of the glass mesh on each profile.

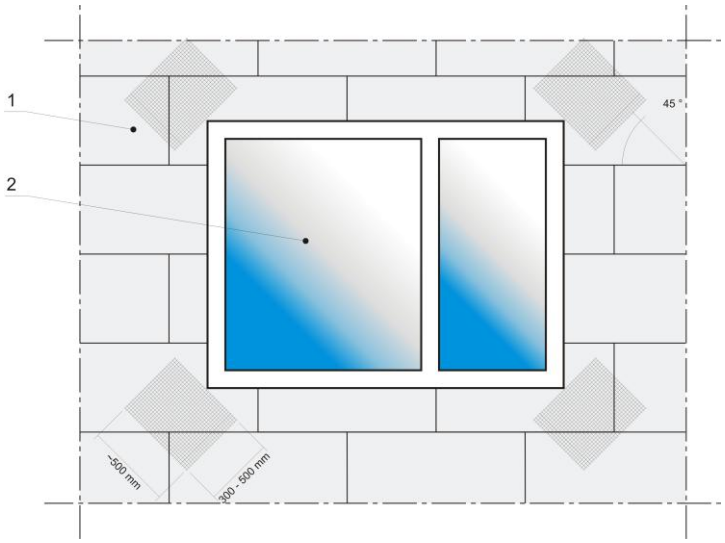
We reinforce corner and reveal edges as well as corners with hard plastic corner profiles, which are fixed onto at least 20 cm wide strips of plastic-coated glass mesh. We attach the corner profiles to the insulation with a layer of adhesive mortar, which is previously applied with a notched trowel in a strip approximately 10 cm wide and 2 mm thick on both sides of the corner edge being reinforced. The corner profile and mesh are then firmly pressed into the adhesive mortar.

We can most effectively separate the base and render finish from window or door frames using a special dilatation profile (JUBIZOL Reveal Profile) made of hard plastic, which we install before fixing the insulation boards. From the sealing self-adhesive tape on the side surface of the profile, we remove the protective silicone-coated paper and attach the profile to the cleaned window or door frame. The adhesive tape on the outer surface of the profile's wing, which we break off after installing the render finish, serves to secure a protective foil that shields both the window or door frame and the glazed surfaces from dirt and damage. We press the mesh of the reveal profile into a thin layer of adhesive mortar that we apply

around the window or door frame in the appropriate width onto the insulation layer. The mesh can also be left free until the installation of the base coat, embedding it directly in the mortar, but this should be done before pressing in the main reinforcing mesh.

If the base coat has not been separated from the window or door frames with special dilatation profiles – at the junction of the frames with the render finish – we create joints approximately 2 to 3 mm wide, which are filled with a suitable permanently elastic sealant, e.g., Sigill Hybrid Universal 820, after the final render finish. The joints are made in a V-shape using a painter's spatula while the render finish is still fresh. The same procedure is applied to the junction of the base coat with stone sills and other facade elements made of natural or artificial stone, wood, plastic, and other materials.

We protect all corners and reveal edges with reinforced JUBIZOL PVC corner beads. The corners of all openings (windows, doors) as well as those into which we install various utility and other cabinets must be additionally reinforced diagonally. The additional reinforcement consists of pieces of JUBIZOL fiberglass mesh measuring 30–50 cm x 50 cm, which are pressed into a layer of adhesive mortar approximately 2 mm thick, previously applied with a notched trowel. In doing so, we must apply at least 5 cm more adhesive mortar than the size of the fiberglass mesh. The mesh is rotated so that its threads form a 45º angle with the horizontal or vertical. Similar additional reinforcement must also be carried out at the corners of all construction elements that "protrude" from the facade or "penetrate" the surface. This work is also performed 2 to 3 days after fixing or before applying the base coat.



1 - INSULATION LINING
2 - WINDOW

IMPORTANT! There must not be more than three meshes in one place at junctions. This refers to the meshes of frame profiles, drip profiles, corner meshes, and junctions of the main reinforcement mesh.

8. Consumption of material

Product	Consumption:

JUBIZOL reveal profile	app. 1m/m1 of window or door frame
JUBIZOL mesh for additional diagonal reinforcement of facade openings	app. 1 m^2/ façade opening
JUBIZOL corner fitting	app. 1m/m1 of corner or reveal edge

9. Application of adhesive mortar on the base coat

The mortar compound is applied to the insulation coating either manually or mechanically in two layers (for manual application, a notched steel trowel is used (notches' width and depth 8 to 12 mm)). The thickness of the bottom layer on JUB Clima control boards is approximately 2 mm. Immediately after applying the base coat, insert the JUBIZOL plasticized glass mesh in JUBIZOL Microair fix, lowering it from the top edge towards the ground. Mesh strips should overlap by at least 10 to 20 cm both in width and length. All external and internal corners are reinforced with JUBIZOL PVC corner profiles. After drying for at least 1 day per millimetre of thickness, apply the top layer of the base coat at a thickness of ~1 mm, ensuring that the reinforcement mesh lies in the outer third of the total render finish thickness (the glass reinforcement mesh should not lie directly on the insulation board!). The surface of the base coat is then levelled as much as possible. The total thickness of the base coat is approximately 3 mm. Finishing the surface can begin once the base coat is completely dry, which is 1 to 2 days after applying the top layer.

Works are carried out only in suitable conditions or suitable microclimate conditions: the temperature of the air and the wall surface should be between +5ºC and +30ºC and the relative air humidity should be below 80 %.

10. Installation of finishing layers

As mentioned earlier, salts in the walls are released while water evaporates toward the surface of the wall, so we must be careful not to block the water's path by installing vapor-resistant materials. Vapor-permeable materials allow the passage of water vapor and thus the release of salts into the pores of the JUB Clima Control system.

For the final treatment of the surfaces of the JUB Clima Control system, we recommend the following products:

JUBOLIN Silicate or JUBOGLET Nivelin D or JUBIZOL FINI omet (FINE render finish) 1.0 mm + JUPOL Bio Silicate or BIO Lime Interior Paint

NOTE:
In rooms where the JUB Clima Control system has been installed, occasional ventilation of the rooms is mandatory. The most elegant solution is to use local recuperators.

We recommend using the SILICATE Primer and levelling with JUBOLIN Silicate 0-4 only when normal indoor conditions are maintained (T=20-22 °C, RH=40-60 %, and regular ventilation – either by regularly opening windows or using modern recuperation systems). In more humid spaces, we recommend using the JUB Clima Control system, which includes JUBOGLET Nivelin D or JUBIZOL Fini omet (Fine Plaster) 1.0 mm for levelling.

11. Installation of JUB Clima control boards on the ceilings of uninsulated basements and garages:

11.1 Preparation of substrate

The substrate must be solid, dry, clean, and level. When checking the levelness with a 3 m long lath, the gap between the control lath and the wall surface must not exceed ±5 mm. Larger irregularities should be levelled with plastering and not by applying a thicker layer of adhesive. All impurities or release agents (panelling oils, poorly adhered old plasters and mortars, etc.) must be removed beforehand.

For untreated, clean concrete substrates, apply a primer coat of JUBIZOL Unigrund before fixing the insulation. JUBIZOL Unigrund is applied using a long-haired paint roller (length of threads 18 to 20 mm). The insulation can be fixed 24 hours after applying the primer under normal drying conditions.

For all other types of substrates, an installation method must be prepared based on adhesion tests. Consultation with Jub's technical advisory service is recommended.

11.2 Fixing and installation of insulation boards

We apply JUB Clima control boards to the ceiling using the "floating-buttering" system, where we apply adhesive both to the JUB Clima control boards and to the ceiling surface. The mortar compound is applied to the insulation layer manually with a notched steel smoothing trowel (notches' width and depth 8 to 12 mm).

We apply adhesive to the ceiling surfaces with a notched smoothing trowel (notches' size at least 10 mm). The direction of adhesive application on the substrate with the notched smoothing trowel should be perpendicular to the board layout. To prevent drying and the formation of a crust, the adhesive on the boards and substrate should be applied immediately before bonding. The boards are placed by gently moving and vibrating them to push them against the adjacent board so that there is no gap between them, and then pressed firmly against the substrate. Care is taken to ensure surface flatness.

The boards are laid in staggered lines following the brickwork pattern, starting from the wall towards the open space. Additional mechanical fixing is not necessary for panel thicknesses up to 10 cm. In a given room, only up to 50 m² of boards can be laid in one day. If this area is larger, the boards must be temporarily supported before continuing work (at least the last laid line) until the adhesive sets (which is approximately 24 hours under normal conditions: T=20 °C, RH=65 %, and substrate humidity below 4 %). We recommend preventing any possible vibrations or shocks to the structure during the adhesive curing period.

11.3 Installation conditions

Implementation is only possible in suitable weather conditions or under suitable microclimatic conditions: the air temperature and the wall substrate should not be lower than +5 ºC and not higher than +35 ºC. In no case should the relative humidity exceed 80 %. High humidity and low temperatures significantly extend the adhesive curing time and may cause JUB Clima control to sag under its own weight..

11.4. Surface finishing of boards - visible side

1. Suitable primer
2. 2 x painting with interior silicate paint - JUPOL BIO Silicate

11.4.1 Preparation of substrate

The substrate should be solid, dry, and clean – without badly adhered particles, dust, remains of panelling oils, grease, and other filth.

Under normal conditions (T = +20 ºC, relative humidity = 65%), newly applied render finishes and levelling compounds should be dried or allowed to cure for at least 1 day per millimetre of thickness, while for concrete substrates, the drying time is at least one month. From previously painted surfaces, remove all easily and quickly water-soluble paint layers as well as splashes of oil-based paints, varnishes, or enamels. Surfaces infected with wall mould must be disinfected before painting.

A primer is mandatory before the first painting. We recommend a water-diluted SILICATE primer (SILICATE primer : water = 1 : 1) or simply diluted paint (JUPOL Bio Silicate : water = 1 : 1). For more demanding and lower-quality substrates (less durable coverings made of gypsum-cardboards, plaster renders, fibre cement boards, chipboards, and unplastered concrete surfaces, surfaces treated with paints and plasters based on polymer binders), JUBOSIL GF is

recommended. The primer is applied with a painter's or mason's brush or with a long-haired fur or textile painting roller, while JUBOSIL GF can also be applied by spraying. Under normal conditions (T = +20 ºC, relative humidity = 65 %), painting can begin 12 hours after applying the primer.

For renovation painting of substrates coated with silicate paints or substrates of silicate decorative render finishes, a primer is usually not required.

Approximate or average consumption (depending on absorption and roughness of the substrate):	
SILICATE Primer	90 – 100 ml/m^2
or	
JUPOL Bio silicate	90 – 100 ml/m^2

11.4.2 Preparation of paint

Only stir the paint well before use and, if necessary, dilute it with water (maximum 10 %) in accordance with consistency corresponding to application technique and conditions. ATTENTION! Paint coverage decreases with diluting!

Equalise the paint needed to coat the finishing wall surface (or, better still: all surfaces, which are painted in the same shade) in a container of appropriate size. In the case of large surfaces, where, in such a manner, it is impossible to technically ensure sufficient quantity of paint even for a one-layer application, mix paint from at least three containers in an equalisation container first. When a third of the so prepared paint is used, pour new paint into the container and stir it well together with the rest of the paint already in the container, etc. Equalisation of white paint of the same production batch, which has not been diluted, is not necessary.

Any “repairs” of the paint during painting (addition of tinting agents, diluting and similar) are not allowed. Quantities of paints necessary to paint individual surfaces are calculated or estimated based on the their surface and data on consumption rate, and, in specific cases, consumption is determined by making measurements on a test surface that is large enough.

11.4.3 **Paint Application**

Apply the paint in two coats 4 - 6 hours apart (T = +20 ºC, rel. air humidity = 65 %) using a long-fibre fur or textile paint roller (length of hairs or threads is 18 to 20 mm; the following can be used: textile linings made of different synthetic threads – polyamide, dralon, vestan, nylon, perlon or polyester), a paint brush suitable for the application of dispersion wall paints. When applying the paint with a roller, use a suitable bucket grid.

Paint an individual wall surface without interruptions from one corner of the wall to the other. Always process surfaces inaccessible to a standard long-fibre paint roller or a spray gun (corners, gutters, narrow reveal surfaces, and similar) first using suitable brushes or smaller paint rollers adjusted to existing conditions.

Painting is possible only in suitable conditions or suitable microclimate conditions: the temperature of the air and the wall surface should be between +8 ºC and +35 ºC and the relative air humidity should be below 80 %.

Approximate or average consumption for a two-coat application:	
JUPOL Bio silicate	180 – 210 ml/m^2 , depending on absorption and roughness of the substrate

Thoroughly clean the tools with water immediately after use. Using a spatula, empty the cylinder, and wash the tool immediately and thoroughly with water. Keep unused paint in a well-sealed packaging for potential repairs or later use .

12. Other information

Technical instructions contained in this brochure are provided based on our experience and with the aim of achieving optimal results when using the product. JUB cannot accept any responsibility for damage caused by incorrect selection of a product, incorrect use or unprofessional work.

This technical sheet supplements and replaces all preceding editions. JUB reserves the right to change and supplement

data in the future.

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