Log Sealant

GULBŪVE

User Manual

DESCRIPTION

Sealant for sealing joints and seams of log buildings logs, as well as other wood constructions. The sealant perfectly interconnects with wood, it inheres good adhesion and flexibility. Fully dried sealant is particularly non-freezing, therefore ensuring perfect building sealing both in summer and winter. Ecologically perfect material, contains natural linseed oil, there is no organic solvents or other harmful substances. Dried sealant can be painted with any type of paints.

ADVANTAGES

- Easy workable in wide temperature interval.
- Applicable for new constructions and performing restoration works.
- Thixotropic, doesn't flow out from vertical seams.
- Increased adhesion to wood.
- Perfect resistance against climatic effect.
- High UV radiation resistance.
- Preserves flexibility in wide temperature range.
- Paintable with any type of paint.
- Nature friendly and safe – does not contain isocyanides, silicones or solvents.
- Non corrosive.
- Odorless.
- Slight shrinkage.

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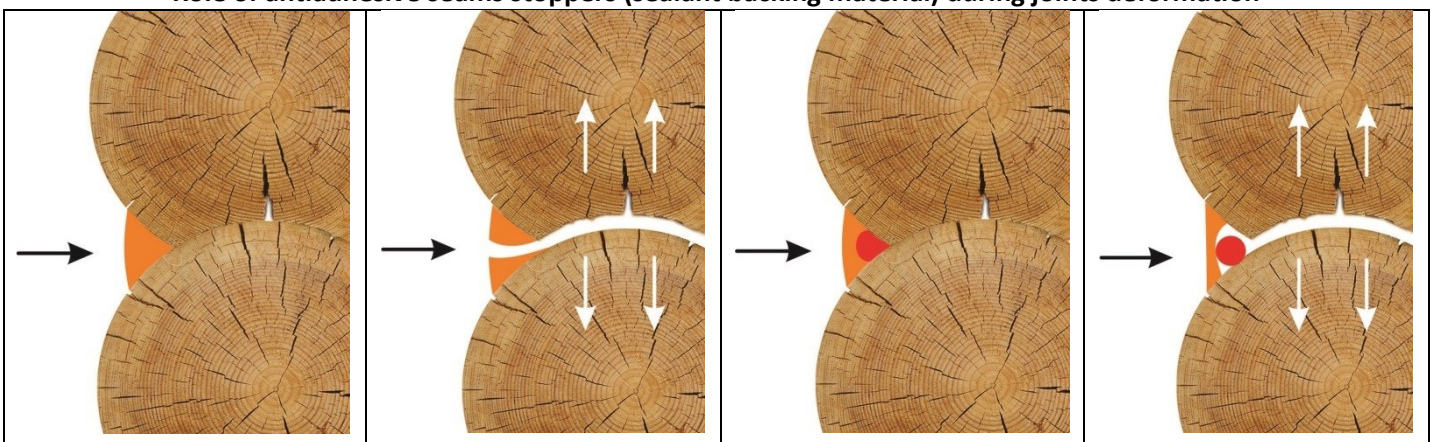
STRUCTURE OF THE EXPANSION JOINT BETWEEN THE LOGS

If it's planned to process high and deep seam or crack, use suitable seam backers like sheep wool, linen rope or tow, sealing materials, polyethylene foam tape, foil, paper in order to prevent sealant's connection with a surface of the third construction element. Backer material (rod) at the same time serves also for regulating the thickness of sealant layer. By using proper size seam backer, it's possible to obtain sealant layer with the indicated ratio of depth and height, as well as regulate its consumption. Backer material serves not only as a depth limiter but also decreases heat loss. When sealing log building it's necessary to observe recommended ratio of seam's depth and height. If sealants layer depth is less than indicated minimal value, durability of the seam diminishes. Whereas, sealant's layer depth exceeding indicated maximal value, cracks can occur in sealants layer, and therefore shorten life time of dried sealant.

Role of antiadhesive seams stoppers (sealant backing material) during joints deformation



Seam between log building's logs completely filled with the sealant	Sealant's fracture at the moment of expansion during logs deformation	Sealant embed in the seam with an appropriate backing (sealant material)	During logs deformation and expansion sealant spindles and compensates deformation

PREPARING SURFACE OF SEAMS

Sealing surfaces should be mechanically resistant, clean and dry. Check the surface before embedding sealant; there should be no signs of degradation or putrefaction. If necessary replace or restore damaged wood. Surfaces should be purified from all dirt and mechanically non-resistant layers that can diminish sealant's adhesion – dust, chip, wax, remains of previously used sealant etc. Purification can be done by processing the seam with sand paper, brush or electric tools and blowing with compressed air. Clean oily or greasy surfaces using a proper solvent that is suitable for specific surface and which is permitted to be used in accordance with work safety rules. Wood construction seams with concrete or wall are sealed when concrete or mortar has dried out in its whole volume, i.e. usually 28 days after embedding concrete or java.

Any filmogenic coating should be purified from wood surface before the sealing in order to ensure direct and close sealant contact with the wood surface of the sealing seam.

Previous wood processing with linseed oil colors or coatings is acceptable (for example, linseed oil color NATURA), not forming film on wood surface. Thus it is possible to avoid sealant's stain when processing logs. In case of such processing before sealing, coating should dry for at least two weeks. The sealing surface of the seam cannot be oily.

If the surface of the seam is well absorbent (unpolished or old) wood, it must be primed in beforehand with linseed oil primer GULBUVE.

Create a test seam in order to check the quality of preparatory seam. If surface preparation instruction is observed but adhesion is insufficient, a special seam processing is necessary. In that case consult with STAFOR representative.

TOOLS FOR SEALING (CHINKING) LOG BUILDINGS

Depending on the chinking goals and working methods you might need the following tools:

- Sealant cartouche gun, sealant "sausage" gun (sealant embed gun), electric sealant embedding gun.
- Trowel for loading sealant from a bucket and trowel for forming the seam.
- A bucket with water for washing the tools and moisturing the seam, water dispenser for moisturing the seam.
- Painters tape for logs protection against dirt.

To embed sealant that is packed into cartouche, use a standard sealant cartouche gun. Before use cut off sealant's cartouche end according to the height of the sealing seam.

When using sealant's „sausage" packaging – insert packaging with the sealant into gun's cylinder, create a cut in the packaging or cut off a little piece of packaging next to the injector of the gun. Close the cylinder of the gun. Choose an injector which size precisely fits the seam's cavity or crack.

When using sealant in buckets, fill it in sealant bedding gun's cylinder (standard sealant "sausage" gun) using a trowel. Close the cylinder of the gun. Choose an injector which size precisely fits the seam's cavity or crack. If there are holes in gun's piston, cover them with an appropriate piece of polyethylene before filling the sealant.

CONSUMPTION OF SEALANT DURING CHINKING

When making calculations of the necessary sealant consumption, you should take into account horizontal seams, vertical seams, the perimeter of windows and doors. Consumption is calculated basing on the following formula:

$$Q_l = \frac{W \times T}{1000}$$

where Q_l – sealant's consumption (l/linear meter), W– height of the seam (mm), T– approximate thickness of the sealant's seam (mm).

For example, for the building with a total seams length of 200 linear meters, average seams height 1,5cm and thickness 0.7cm it is necessary:

$$200 * Q_l = \frac{15 \times 7}{1000} = 200 * 0{,}105 = 21 \text{ liters of sealant for log buildings}$$

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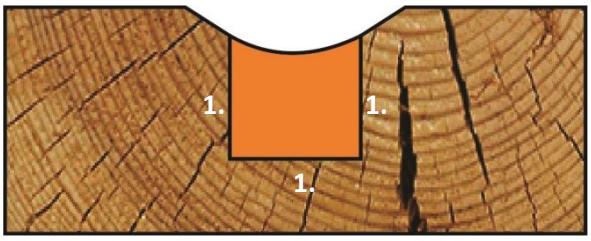
SEALING OF LOG BUILDINGS' LOGS AND WINDOWS, AND DOOR FRAME JOINTS

In order to fill the free space in joints between windows, door frames and log buildings' logs appropriate antiadhesive seam backing material should be used – sheep wool, linen tow, foam polyethylene, foil, paper. The use of backer rod is a must in order to reach the recommended ratio of sealing layer's height and depth. In order to diminish the consumption of the sealant, it's recommended to use a backing material that corresponds to the actual height and shape of the seam. After inserting the backing rod it's recommended to cover the joint of logs and frames (for example using a painters tape) in order to prevent logs being soiled with the sealant.

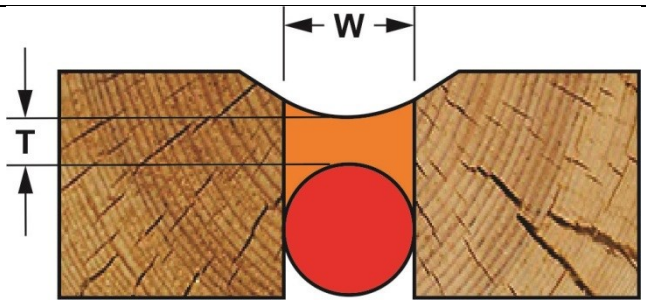
SEALANT FOR LOG BUILDINGS EMBEDDING – CHINKING PROCESS

Before embedding the sealant read through the data safety sheet and make sure that all the safety requirements are observed. Ensure sealant's embedding within the required temperature range and seam that has been prepared in accordance with the instructions mentioned above. Recommended height and depth of the seam – the smaller diameter of logs or beams, the smaller height of sealant's seam is necessary. For buildings with the average diameter of logs is 25 to 30 cm, the recommended height of the seam is up to 2,5cm. The height of the sealing seam depends on the depth of the seam. The optimal seam depth of the sealant's layer is approximately one third from its height.



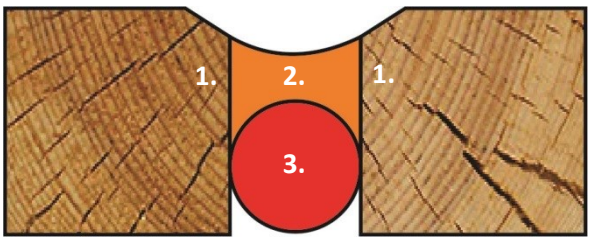
1. Contact area.

For wide seams (10mm and more) avoid sealant's close contact with three surfaces – use seam backing (antiadgezive material). Otherwise, cracks can flaw due to high inner strain of sealant.

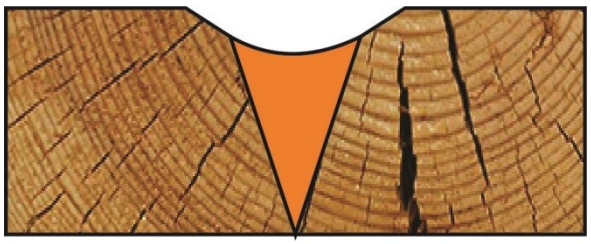


$$T = \frac{1}{3}W$$

The optimal seam depth of the sealant's layer is approximately one third of its height. Condition mentioned is also applicable for log buildings edges.



1. Contact areas.
2. Sealant for log buildings.
3. Seam backing material.



In case if it's not possible to put backing rod in a narrow seam or crack, its filling can be done without the sealant backing.

Log building chinking is performed by squeezing the sealant into a seam with the help of a special embedding gun. Put the nozzle into seam hollow in the angle of 45 degrees. Filling vertical or oblique seams should be started from the upper part of the seam by moving embedding gun down. Horizontal seams should be sealed by moving embedding gun to the side of the arm holding the gun (for example from the left to the right side). Fill the seam

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evenly, without air inclusions and breaks. It's necessary to ensure close sealant's contact with the upper and lower logs' surfaces of the seam.

Pay special attention to preventing air inclusions („bubbles") when applying several layers of the sealant.

As the temperature drops, viscosity of the sealant increases. In order to ease sealant's squeezing out of the embedding gun in lowered temperature, it is recommended before sealants use to keep it indoor for at least a day. Immediately after sealant's embedding even and form the surface of the sealant's seam with the help of trowel, specially made tool with a tip or finger of corresponding width and form. The surfaces of the tools used for evening the surface as well as seam surface can be moisturized with water or diluted detergent (for example, soapy water) in order to prevent sealant sticking to the tool. Formation of seam's shape of the sealant (shaping) also ensures closer sealant's contact with logs surfaces.

When forming the seam, it's not recommended to smear the sealant over the log in a thin layer since it will cause sealants cracking. Smeared sealant should be removed from logs' surface.

If no previous experience in sealing log buildings, it's recommended at a time, before shaping the seam, embed the sealant into the seam in the length not more than 1 linear meter and in place where the seam is less noticeable. It is also recommended to use painter's tape or other material in order to protect logs' surface around seam from soil with the sealant. Tools can be moisturized in water in order to prevent sealant sticking to the tool. Clean the tools with warm water immediately after performance of works, partly or fully dried sealant should be cleaned mechanically. The log building's sealing mastic remains are removed from the logs mechanically using a moist cloth, towel or napkin. It's recommended to remove the sealant's remains before the sealant has started to dry.

In case painter's tape or other material is used to protect log building's logs surface from soiling (limited width of the seam), it's recommended to remove it before shaping (evening) the seam.

Just embedded sealant's moistening with water or soapy water in order to ease shaping of the seam can cause prolonged forming of water resistant surface film.

WEATHER CONDITIONS WHEN CHINKING AND SEALANTS DRYING TIME

Before embedding sealant for log buildings we recommend to get acquainted with the weather forecast for the upcoming days. Environmental temperature for works with the sealant should not be less than +5°C.

Under normal conditions the sealant for log buildings creates water resistant film on the surface within 4-6 hours.

Just embedded sealant should be protected from the rain (can cause leaching) and direct sun that may cause accelerated water evaporation from the thin layers of the sealant as well it's cracking. Protection is necessary for the time that exceeds the time of surface film creation. Protection of just embedded sealant can be ensured using polyethylene film, tape, cardboard sheets or other material. Ensure that material used for protection doesn't stick to undried sealant's seam surface as well as doesn't damage the look or coloration of the sealing construction. Take into account that air circulation between protective material and sealant filled in the seams must be ensured.

Factors influencing mastic drying – weather temperature and moisture, wind and surface ability to absorb moisture, the height and depth of the seam, method of applying the sealant.

Sealant for log buildings dries completely within 24 hours. Mastic shouldn't be exposed to temperatures lower than 0°C for at least a week. Sealant gains final features by all volume in approximately 1-3 months from the moment of applying.

NOTES

Information regarding product usage provided in this product description is based on STAFOR current knowledge and experience. Information is in force only in case if the product is stored, used and embedded according to the manufacturer's recommendations. When using products, environmental conditions and sealing surface features can differ significantly. Therefore; product use should check if it corresponds to the planned usage and purpose. STAFOR reserves the rights to change the features of the produced products. The latest edition of products description is in force in all cases.

QUALITY STAFOR® MARK

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SEALANT FOR LOG HOMES

ENERGY EFFICIENCY

Reduction of heating and conditioning expenses.

AESTHETIC APPEAL

Authentic appearance and visual structural integrity.

FLEXIBILITY

Ensures the necessary flexibility in order to compensate log building's deformation by preserving optimal inner premises climate.

CONNECTING ABILITY

Connects logs and ensures durability of the seam necessary for long term protection.

LOG BUILDING PROTECTION

Protects logs and beams from adverse cyclical weather conditions – rain, UV radiation, frost.

EASY TO USE

Easy to use, applicable for sustainable incorporation or professional use.

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