

AURO

TECHNICAL INFORMATION

AURO Borax wood impregnation No. 111

TYPE OF MATERIAL

Pulverized boric concentrate for prevention of fungus and protection against insect damage in accordance with DIN 68 800, dissolves well with water.

APPLICATION

Protection of rafter and roof timber construction against possible fungus or insects attack (e.g. oak beetle, sapwood beetle, etc.), especially suitable for all load-bearing structural components.

TECHNICAL CHARACTERISTICS OF THE READY-TO-USE IMPREGNATION

Fluid characteristics, easy to use, does not seal the wood against water vapor porosity. It is water soluble and can leach out; if covering timber within a short time period is impossible, then an additional treatment with AURO NO. 131 is suggested to prevent leaching.

BIOLOGICAL-ECOLOGICAL CHARACTERISTICS

Does not emit poisonous or harmful gases, free of chlorinated hydrocarbons, heavy metals and other persisting environmental poisons; odorless. No significant changes in the electrostatic properties of the wood.

OFFICIAL TEST REPORT

PA V - 1226 (Germany).

TEST CERTIFICATES

P - effective against fungus (anti-rot)
Iv - preventive against insects

QUALITY CONTROL

Executed by the Materials Testing Office for Structural Engineering, Braunschweig, Germany.

COMPOSITION

We list all our ingredients, of course
Pulverized boric concentrate (sodium-octoborate) of pure mineral boron compounds (poly-borate).

VOC COMPOUNDS (percent of mass)

Does not apply, 0%.

COLOR

Colorless

DENSITY

In a 15% solution: approx. 1.1 g/cm³.

pH-VALUE

In a 15% solution: 7.5

HAZARDOUS MATERIAL CLASSIFICATION

Not flammable. Product is not subject to warning labels according to German regulations concerning hazardous working materials and trade and transport of poisonous substances.

APPLICATION METHODS

Brushing, spraying, dipping, flooding, trough dipping and also pressure impregnating. Stir well before using.

MIXTURE PROCEDURE

The strength of the borax to water solution depends on the type of wood, its moisture content, methods of application and quantity of material to be treated. To produce a 15% solution the mix by weight has to be 1.5 parts of borax powder poured into 8.5 parts of water (temperature at least 15 C/ 59 F while stirring. According to DIN 68800 (DIN = German Industrial Standard) timber preservation of load-bearing parts requires a 15% solution when brushed on, sprayed, or dipped, and at least a 5% solution when trough dipping, and a 2% solution when pressure impregnating methods are used. For other types of wood construction a 5%-10% solution is required for brush application spraying or dipping (see back side).

QUANTITIES REQUIRED

Minimum quantities according to DIN 68800 when wood preservation is required to satisfy building code regulations (load-bearing and reinforcing parts):

- Brushing, spraying and dipping
- 50 g/ 1.75 oz borax/sq. m of wood
- Pressure impregnating methods and trough dipping
- 1 kg/ 2.2 lb borax/sq. m wood

For thicker timber multiply with numbers in table in DIN 68800 part 3. Other wooden parts, if in danger of insects or fungus attack: 2 - 3 coats.

TOOL AND EQUIPMENT CLEAN UP

Clean tools and equipment well with warm water. If necessary add AURO plant soap No. 411.

STORAGE

Store borax wood impregnation powder in a cool and dry place. Keep the storage container closed. Already mixed impregnation solution should be kept in a closed non-corroding container. Add water, if solution has thickened due to evaporation. Mix very well.

SAFETY MEASURES

Gloves, respirator and protective glasses should be worn while slaking and applying the product. Use only as instructed. Caution, incorrect use of the product can be hazardous to a person's health. Boron compounds are no more poisonous than sodium chloride (common table salt). Boron compounds belong to the essential trace elements of soil, but higher concentrations of it can be damaging to plant life, so allowing mixtures of the borax solution to drain or leach into the soil or water table should be avoided. When significant humidity changes take place, therefore altering the moisture content of the wood after the impregnation (possibly after a subsequent surface treatment), salt crystals may form on the wood surface. This is due to an omitted water treatment of the wood and represents a characteristic of all chromate-free-boric compounds. The degree of preservation is hereby not reduced. The manufacturer has no control over this phenomena. The existence of diffused salt crystals on the wood surface does not justify any claims against the manufacturer. Concentrated boric solutions can cause corrosion in some metals, like any type of salt solution. It is therefore recommended to use corrosion resistant containers, tools and equipment.

Keep natural paints out of reach of children!

Reminder! If you have never worked with our product before you must first try it out and test it on some sample scrap material (our products apply, smell and work differently - start out by using smallest size for testing). Also please see terms and conditions on back of invoice / bill.

Recommended Application

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1.0 SURFACE

1.1 SUITABLE SURFACES

Load-bearing and reinforced construction of wood beneath the roof surface (rafters, trusses, ridge pole, etc.), other wooden structures e.g. formwork or boarding, custom fit wooden installations in attic spaces or in humid rooms where an attack by insects might occur. Wood preservative treatment is usually less frequently required than assumed; thus please consult AURO-information No. 14. Also refer to DIN 63 364 - parameters for different types of wood (natural resistance).

1.2 BASIC REQUIREMENTS FOR WOOD

The surface should be absorbent, clean, grease-free; when applying the product use moist wood; a liberal application of water should be sprinkled on or brushed on before applying the product to dry wood.

2.0 PREPARING THE READY-TO USE SOLUTION

The boric concentrate is supplied as powder to allow the user to prepare the preservative themselves by pouring the concentrate into water while stirring the liquid thoroughly. The water should have a min. temperature of approx. 15 C/ 59 F. Repeat stirring after about 30 minutes.

2.1 LOAD-BEARING AND REINFORCING WOODEN STRUCTURES SUPPORTING THE ROOF (requiring preservation treatment according to DIN 68 800)

- When being brushed on or sprayed on or applied by dipping a 15% solution should be used in general (weight ratio 1.5 parts of borax poured into 8.5 parts of water).
- When using pressure impregnating methods the solution should be 2% (weight ratio 2 parts borax poured into 98 parts of water).
- With trough dipping or steeping a solution of at least 5% should be used (weight ratio 5 parts borax poured into 95 parts of water).

2.2 OTHER PARTS OF THE ROOF STRUCTURES EXPOSED TO POSSIBLE DAMAGE

2.2.1 BRUSHING, SPRAYING OR DIPPING

- With moisture content more than 20% (semi-dry or moist wood) prepare of a 10% solution (weight ration 1 part borax poured into 9 parts of water).
- With moisture content less than 20% (dry wood) prepare of a 5% solution (refer to 2.1).

2.2.2 TROUGH DIPPING OR PRESSURE IMPREGNATING

refer to the above mentioned quantities.

3.0 INSTRUCTIONS FOR APPLICATION

3.1 DRY WOOD (moisture content less than 30%)

3.1.1 PREPARATION OF UNTREATED SURFACES

Apply water.

3.1.2 LOAD-BEARING AND REINFORCING WOODEN STRUCTURES (wood preservation required by building codes, according to DIN 68 800)

- minimum amount of solution when brushing, spraying or dipping 50 g/ 1.75 oz borax per sq. m
Depending on the type of wood, absorption characteristics, and type of surface more than one application may be necessary.
- minimum amount of solution when using pressure impregnating methods or trough dipping 1 kg/ 2.2 lb of borax/ m³ of wood.
The amount of solution used in trough dipping can be estimated by measuring the level of the liquid in the trough; the absorption is not proportional to the time of dipping. Pressure impregnation requires professional equipment and operators.
- Regulations according to DIN 68 800 Part 3 must be observed.

3.1.3 OTHER ENDANGERED WOODEN PARTS

Depending on the type of wood, absorption characteristics and type of surface approx. three applications are necessary (when only some preservative is absorbed) by applying the coats while the surface is still wet; trough dipping and pressure impregnation methods as described under 3.1.2 b.

3.1.4 POSTTREATMENT

Impregnated wooden surfaces should be moistened thoroughly after coating or spraying to increase the depth of absorption. Cracks caused by the drying process should be treated once again. For types of wood which are subsequently treated for decoration (e.g. glaze, wax or varnish) intermediate sanding is absolutely recommended.

3.2 SEMI-DRY OR MOIST WOOD (moisture content more than 30%)

3.2.1 PRELIMINARY TREATMENT

None.

3.2.2 LOAD-BEARING OR REINFORCING STRUCTURES (wood preservation required by building codes, according to DIN 68 800)

As described under 3.1.2. Regulations listed under DIN 68 800 Part 3 must be observed.

3.2.3 OTHER CRITICAL WOODEN PARTS

As described under 3.1.3. Conditions for dipping, trough dipping and pressure impregnation for freshly cut wood are listed in DIN 68 800.

3.2.4 POSTTREATMENT

Cracks caused by the drying process should be treated once again.

4.0 SUBSEQUENT TREATMENT

Excessive amounts of preservative may occur on the surface of the wood after treatment (whitish borax deposit). This is typical for chromate-free protective boric solutions and in no way represent an deficiency in coating or wood protection (refer to notices on front page). In most cases this deposit can be washed off with water (adding some vinegar).

Since boric concentrates do not fix in wood, they can be successively washed out by precipitation. When it is impossible to cover timber during the storage or building period an additional treatment using AURO natural resin oil glaze No. 131 prevents leaching for a short period.

For a permanent water-resistant posttreatment AURO natural resin oil primer No. 121 and AURO natural resin oil glaze No. 131 can be used or any other weather-resistant surface treatment. Technically AURO borax wood impregnation No. 111 does not present a typical coating as preventive wood protection, i.e. subsequently applied posttreatments are carried out as for untreated surfaces (refer to technical information on the appropriate AURO products).

5.0 DISPOSAL OF PRODUCT RESIDUE

Excess solution of borax wood impregnation should not be poured out but should be kept in an open container until the liquid has completely evaporated. The dried-up borax is taken back by any AURO retailer with no charge to be reprocessed in the factory.

All information is based on knowledge compiled from long term research and practical tests and experience. It is meant to inform and advise the customer or user but does not release him from checking the suitability of the product for the intended application. No claims can be derived from this information. Issuing this leaflet makes previous technical information leaflet obsolete.
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AURO

AURO Pflanzenchemie GmbH • Postfach 12 38 • D-38002 Braunschweig • Tel. (05 31) 2 81 41 41

GB AUROLtd. 01799-584888 IRL AURO Ltd. 071-43452 USA Sinan Comp. 916-753-3104 J Inui Corp. 0081-6-231-2971 S.-E. Asia Living Stone Corp. 0082-2 5631404