



## The Professional Solution for the Treatment of Dry Rot, Wet Rot and Woodworm



The ProBor Range of products are high performance timber preservatives formulated for use against both fungal decay and wood boring insects. They are designed to be especially effective against dry rot, *Serpula lacrymans*, and the wet rots.

ProBor products are based on a water soluble borate, a timber preservative that has been extensively researched over the past 50 years. Borates offer an alternative to conventional preservatives and exhibit superb penetration into damp timber, hence they can be used in high risk areas such as embedded joist ends, lintels, wall plates etc.

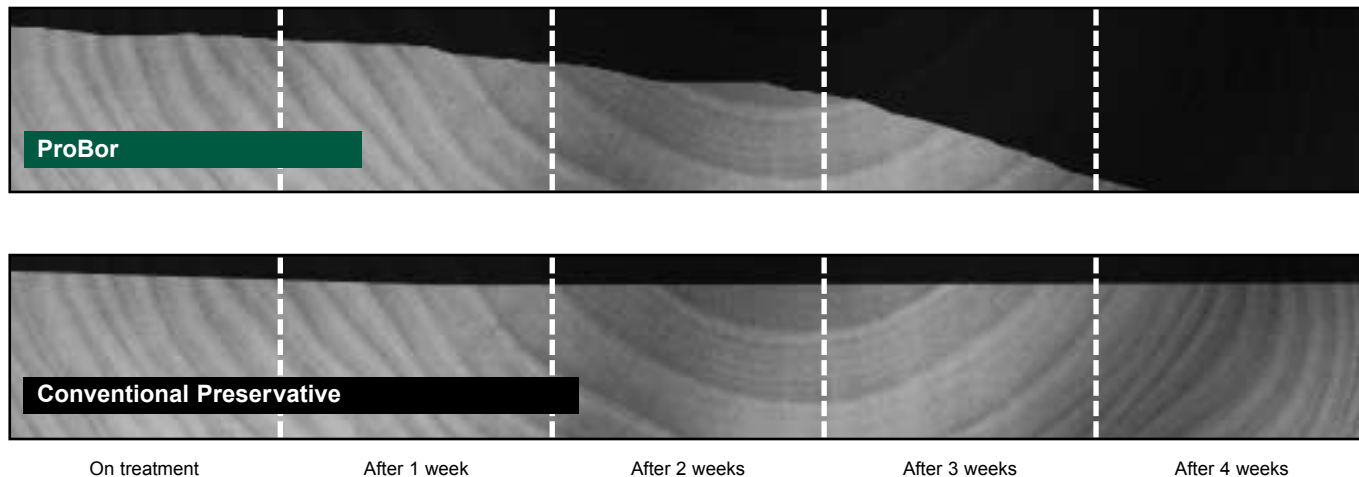
- Long lasting protection
- Protect against woodworm and fungi
- Independently tested
- Particularly effective against dry rot and wet rot
- Deeply penetrating
- Low odour

**TECHNICAL HELPLINE 01403 210204**  
[www.safeguardeurope.com](http://www.safeguardeurope.com)

## How are ProBor products different?

ProBor products are able to penetrate into the timber through the cell walls which allows them to move much more deeply into the timber than conventional preservatives. This gives ProBor products an extensive performance advantage as no timber preservative can start working until it comes into contact with the insects or fungi that it is designed to defend against.

The picture below demonstrates the penetration of ProBor DB into timber compared with a conventional preservative.



## Used and specified by the Professionals

The benefits of using ProBor products are well recognised by architects and those in the building restoration industry. They are often specified on high profile, prestigious projects where re-treatment is not an option. A selection of case studies can be downloaded from our website [www.safeguardeurope.com](http://www.safeguardeurope.com).

In many situations, the high performance of ProBor products may allow original timbers to be retained that would otherwise have had to be replaced. This is obviously an advantage when treating historic buildings.

## The ProBor Range

The ProBor range is centred around three core products, ProBor-DB, ProBor-20 Gel, and ProBor-50 Paste.



**ProBor DB** is a concentrated product that is diluted to give a solution containing 10% active ingredient. Dilute ProBor DB is a liquid and is designed for application by brush or spray. It is suitable for the treatment of woodworm in all dry timbers and for the treatment of dry rot and wet rot in smaller dimension timbers (up to 19x38mm).



**ProBor 20 Gel** is ready-for-use gel containing 20% active ingredient. It is used for the treatment of dry rot and wet rot in larger dimension timbers (up to 225 x 75mm). It is also effective against woodboring insects, and is particularly useful when treating Deathwatch Beetle.



**ProBor 50** is a highly concentrated paste containing 50% active ingredient. It is supplied in a 310ml mastic cartridge and is normally injected into holes drilled into the timber. It is usually used for treating dry rot and wet rot in large dimension timbers. It is also useful for treating wooden window frames and joist ends, and makes an excellent masonry sterilant.

## Effectiveness against Dry Rot and fungal decay

Removing the source of moisture should form the core of any dry rot or wet rot eradication strategy. However, it is not always possible or practical to be sure that the remaining timbers will remain dry in the long term. Therefore, it is important that any timbers at risk of fungal attack are treated with an effective fungicide.

The effectiveness of any borate based preservative depends on the levels of boron that can be deposited. Both ProBor 20 and ProBor 50 contain a high level of boron and this is distributed extremely effectively by the glycol carrier.

ProBor 20 and ProBor 50 have both been tested by a national independent testing laboratory in Norway, the tests also involving comparisons with other competitive products.

The report on their efficacy against dry rot states that, "The results from all four products [ProBor plus two reference materials] were excellent, as visible decay was only evident in the untreated control blocks."

Under the section 'Discussion' the report finds that, "The included products all had sufficient penetrating ability and toxicity to prevent decay from *Serpula lacrymans* in the full depth of the test specimens, i.e. 45mm"

The report concludes that, *the products tested "all work well under the test conditions. The depth at which the wood is protected even from colonisation from actively growing mycelium, suggest that timber surfaces properly treated with either of the products will be efficiently protected against colonisation by *Serpula lacrymans* or *Coniophora puteana*."*

### A guide to 'Dry Rot and its

**Control:** can be downloaded from [www.safeguardeurope.com](http://www.safeguardeurope.com) giving full details of dry rot, its control and the use of ProBor boron preservatives.

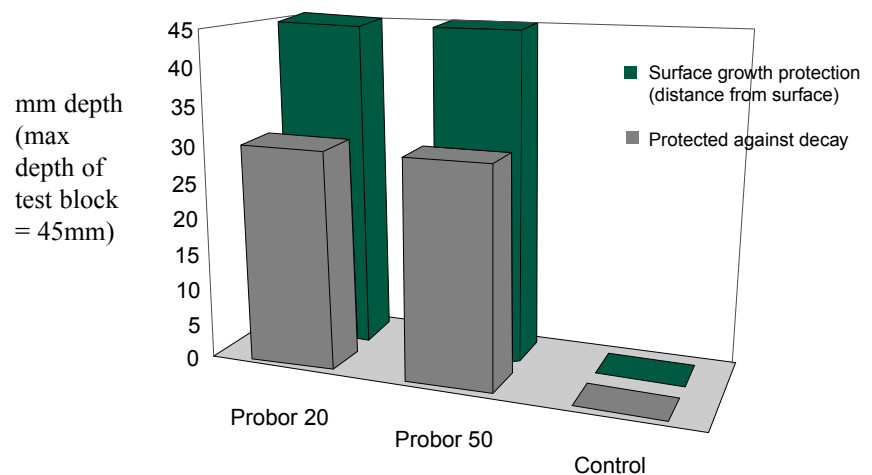
**Important Note:** Dry Rot can cause widespread structural damage. We recommend that a professional timber treatment company is called in to carry out a survey if Dry Rot is suspected. If you suspect Dry Rot, call 01403 210204, and we will arrange for an experienced treatment company to contact you.

## Effectiveness against insects

Because borates have been used for so long in wood preservation, an enormous amount of data has been compiled on their effectiveness against wood-boring insects. The following table is a summary of that data relating to wood-boring insects currently indigenous to the UK. Application of ProBor products at the rates recommended in this leaflet will achieve the loadings recommended in this data.

Because borates do not work by attacking the nervous system of insects, they need to be ingested by the insect before taking effect. For this reason they may take longer to have an effect than conventional synthetic insecticides such as lindane or permethrin.

However the treatment can be expected to last longer as the active ingredient in ProBor is non volatile and will not "offgas" into the surrounding air.



Efficacy of ProBor 20 and ProBor 50 against dry rot

Table 1 Effectiveness of boron compounds against selected wood destroying insects: levels required to prevent attack by killing target organism.

Insect	Boric acid equivalent (BAE)	Reference
<i>Lyctus brunneus</i> (Powder Post Beetle)	0.12 - 0.14%	Cummins (1939)
	0.33%	Cann (1940)
	2kg/m <sup>3</sup> in Oak	Cann (1940)
<i>Anobium punctatum</i> (Common Furniture Beetle)	0.04%	Spiller (1949)
	0.1%	McQuire (1974)
	0.1 - 1.9%*	Taylor (1967)
	0.46%	FPRL (1957)
	4.2kg/m <sup>3</sup>	Becker (1959)
	0.87%	Becker (1959)
<i>Hylotrupes bajulus</i> (House Longhorn Beetle)	0.23kg/m <sup>3</sup>	FPRL (1957)
	0.09%	Becker (1959)
	0.45kg/m <sup>3</sup>	Becker (1959)
	0.01%	Taylor (1961)

\*High variability due to different test procedures (egg laying versus larval attack).

Further data is available relating to foreign species of wood-destroying insects, particularly termites. A summary of this is available from our technical department

## The Range

Probor Glycol Borate Wood treatments are available in a number of different concentrations, each product has a different use:-

# ProBor™

## DB

HSE No. 6673

Dilutable Borate apply by brush, spray or injection

The first Glycol Borate Preservative to have 8hr re-entry.\*

Water diluteable concentrated liquid preservative to be applied by brush or spray for treatment against wood boring insects and wood rotting fungi.

### Uses:

- Treatment of small sectional timber, roof spaces etc.
- May also be used for treating larger dimension timbers against woodworm only.
- Masonry sterilant against dry rot.

### Features and benefits:

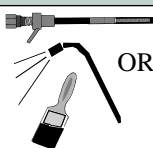












- Concentrated product – dilutes with water.
- Low odour.
- Excellent penetration – more thorough treatment.
- **8 hour re-entry\*** – faster turn around.
- Contains no permethrin or phenol ethoxylates.
- No hydrocarbon solvents.
- Triple purpose fungicide - insecticide - masonry sterilant.

\*HSE registration allows re-entry 8 hours after treatment or until surfaces are dry.

### Pack Size

6 litres (dilutes with water to make 25 litres of ready for use material)

## Application

	APPLICATION RATE	APPLICATION BY	ACTIVE INGREDIENT	TIMBER DIMENSION											
				6mm x 25mm	25mm x 25mm	19mm x 38mm	Sizes up to and including 50mm x 50mm	50mm x 75mm up to and including 225mm x 75mm	Sizes above/masonry other						
<b>ProBor DB</b> Diluteable 8 hour re-entry concentrate. Apply by brush, spray or injector	0.25 L per m <sup>2</sup> (0.27 Kg per m <sup>2</sup> )	 OR	10% (DILUTED)												

Where timbers are below 15% moisture content ProBor DB can be used on all timber sizes against wood boring insect attack.

## Mixing Instructions

ProBor DB is quite viscous (thick) and will require fairly vigorous mixing initially to ensure dispersion. The simplest way to mix is as follows:

- Ensure that operative responsible for dilution is wearing protective clothing.
1. Half fill a 25 litre translucent plastic drum with water – carry out this task in a designated safe area.
  2. Pour in 6 litres of ProBor DB Concentrate.
  3. Place cap on drum and agitate by rolling the drum back and forth. ProBor DB is coloured a dark green and once a uniform colour is obtained in the solution, the ProBor DB is properly mixed. Add approximately 1 litre of water to the concentrate container, shake then add this to the large drum. Repeat this twice or until the concentrate pack is clean. (This ensures no material is wasted and that the concentrate pack can then be disposed of as uncontaminated plastic waste).
  4. Top up drum to 25 litres with rinse water – the diluted ProBor DB is now ready to apply.

## Application as a Timber Treatment for the control of wood boring insects and wood rotting fungi.

- **Coarse spray.** 0.25 litres per square metre (0.27 kilos per square metre).
- **Brush.** Three liberal coats should be considered to be the equivalent to a coarse spray treatment.

### Storage of dilute material

We recommend that you only dilute as much ProBor DB as you require. However, dilute ProBor DB may be kept in a warm environment (above 10°C). If the temperature falls below this level there is a risk that crystals may form in the diluted product. If this occurs, the product should not be used.

Typical Fluid requirements (Diluted Material)							
<b>1) Roofs</b>	2 Bed Terrace:	15-25 litres	Guidelines only, Depends	<b>2) Floors</b>	2 Bed Terrace:	15-25 litres	Guidelines only, Depends
	3 Bed Terrace:	40-50 litres			3 Bed Terrace:	40-50 litres	
	3 Bed Detached:	50-65 litres	On		3 Bed Detached:	50-60 litres	On
	4 Bed Detached:	75-90 litres	Porosity		4 Bed Detached:	70-80 litres	Porosity

## Application as a Masonry Biocide for the control of Dry Rot.

For full details, refer to 'Dry Rot and its Control' – Available from [www.safeguardeurope.com](http://www.safeguardeurope.com)

Brush applied gel formulation for large section timbers. It is suitable for surface application (will not stain). Also particularly suitable for use against Deathwatch beetle.

*Uses:*

- Fungicide/Insecticide for large dimension timbers.








*Features and benefits:*

- Superior performance on wet and dry timber.
- Robust, no spill keg – avoids spillages.
- Out-performs current paste technology – up to 20 times stronger than many other conventional paste formulas.
- Extremely low odour – fewer complaints.
- No staining problems (associated with conventional pastes).

*Pack Size*

Ready for use material packed in 5 litre kegs.

### Application

	APPLICATION RATE*	APPLICATION BY	ACTIVE INGREDIENT	TIMBER DIMENSION					
				6mm x 25mm	25mm x 25mm	19mm x 38mm	Sizes up to and including 50mm x 50mm	50mm x 75mm up to and including 22.5mm x 75mm	Sizes above
<b>ProBor 20</b> Ready for use brushable gel.	0.44 L per m <sup>2</sup> (0.57 Kg per m <sup>2</sup> )		20%			 	 	 	

ProBor 20 Gel is designed to be applied by brush directly onto the surface of the timber. The application should resemble a thick coating of gloss paint. Do not attempt to lay on thicker than this, or excess material may run off.

For effective results wood should be bare and clean. The gel will not penetrate through paint, varnish or other treatments which seal the surface of the timber and such coatings must be removed prior to treatment.

Apply a generous brushed coat, taking special care to ensure that end grain, corners, joints and crevices are treated. Brush apply to surfaces exposed by cutting after treatment.

(\*This is sufficient to treat up to 100cm<sup>2</sup> in cross section. Large timbers may need more than one coat or an additional treatment with ProBor 50. *On dusty timbers it is recommended that the timber is 'wetted' by the application of sprayed water; this will stop the gel from 'balling'.*

310 ml mastic cartridge – for use on very large dimension and inaccessible timbers.

For injection into timber/masonry for treatment against rot/insects.

*Uses:*

- Timbers – very large dimension/inaccessible.
- Masonry injection.
- Window joinery.

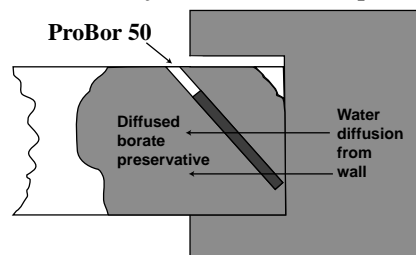
Please note - ProBor 50 is designed to be injected into timber or masonry. It can also be applied to the timber surface, but it should be noted that a white deposit will be left.

*Features and benefits:*

- Designed for deep impregnation into large dimension timber.
- Highly concentrated paste formula in cartridge – replaces dated boron rod technology. Minimises operative contact.
- Diffusion starts well below the 18-22% moisture content where wood becomes susceptible to dry rot – boron rods do not start to diffuse until >30% moisture content.

ProBor 50 is supplied as a clear, odourless, viscous gel-like formulation pre-loaded into a handy, ready-to-use cartridge to fit a standard mastic gun. Its main purpose is to be injected deep into the wood via pre-drilled holes thereby ensuring complete distribution of the boron preservative deep within the wood (flexible extension nozzles are supplied). In general we recommend 10mm diameter holes spaced no further than 150mm apart. The number of holes should be adjusted to achieve a product loading of 5.9 litres per m<sup>3</sup>.

*The action of ProBor 50 boron paste*



### Application

	APPLICATION RATE	APPLICATION BY	ACTIVE INGREDIENT	TIMBER DIMENSION					
				6mm x 25mm	25mm x 25mm	19mm x 38mm	Sizes up to and including 50mm x 50mm	50mm x 75mm up to and including 225mm x 75mm	Sizes above/ masonry other
<b>ProBor 50</b> Gun applied paste formula.	5.9 L per m <sup>3</sup> (8.0 Kg per m <sup>3</sup> )		50%						

### General

- Warning:** Do not use on painted, varnished or polished timbers.
- Painting:** Once timbers have dried, fillers and glues can be used to prepare timbers for painting or varnishing with certain oil or water based products. Please contact our technical department for further details.
- Cleaning:** Tap water will clean all tools, brushes etc. and wash down spillages.
- Shelf life:** 6 months in cool, dry conditions.
- Storage:** Store in original containers and keep tightly closed. Do not allow to freeze.
- Health & Safety:** For full health and safety data consult the material safety data sheet available on request.