



# LIQUID NAILS VBS VAPOUR BARRIER FOR SEALING CONCRETE SLABS

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## DESCRIPTION

A highly cross-linked, pigmented, two-pack epoxy vapour barrier system.

The mixed product is dark green in colour.

## SIZES AVAILABLE

Available in a 3.6 Litre kit.

(Sufficient for 20 sq. metres at 6 sq. m per litre.)

## USES

- For sealing concrete floor slabs to reduce the amount of water vapour emanating from the concrete.
- Suitable for use on concrete slabs prior to using Selleys Liquid Nails DIRECT STICK Polyurethane Timber Flooring Adhesive to lay timber flooring.

Water vapour from a concrete slab can affect wooden flooring overlays.

Application of a suitable moisture vapour barrier such as VBS can reduce the chance of problems developing with wooden floors at a later stage.

## TECHNICAL FEATURES

- Normally a one-coat system.
- Colour coded components to aid proper mixing
- Controlled opacity: - The dark green pigmented colour of the mixed product helps the applicator to gauge a consistent application rate by eye.
- Rapid cure
- Very low water vapour transmission rate.
- Excellent adhesion and application properties
- Optimal properties for subsequent bonding with Selleys Liquid Nails DIRECT STICK Polyurethane Timber Flooring Adhesive
- Separate pail and measure stick allows easy division of the large pack into quarters for smaller areas.

## LIMITATIONS

- Very fast cure. For maximum working time tip product onto concrete slab immediately after mixing. (See 'How to Use')
- Two coats may be required on very porous concrete or if there is high moisture content in the slab.

## TECHNICAL DETAILS

The following information provides typical properties. These are not intended for the purpose of setting specification.

Resin:	yellow (epoxy resin )
Hardener colour:	blue (amine based)
When Mixed :	green thixotropic liquid suitable for brush or roller application.
Coverage:	One full pack is sufficient for 20m <sup>2</sup> per coat when used at 6m <sup>2</sup> per litre. Two coats may be required in case of very porous concrete or very high moisture levels in the slab.
Mix Ratios:	Normally the whole pack is mixed at once (see Mixing). For other amounts mix 4 parts of resin to 1 part of hardener by volume (or 4.42 parts to 1 by weight)
Packaging:	Resin – Metal can; Hardener – Metal can
Curing Time:	Normally floors can be walked on, re-coated or adhered to in 8-12 hours.
Re-coat Time:-	After curing and before 24 hours. If re-coating is required after 24 hours the floor will need to be lightly sanded and wiped over with MEK solvent to ensure adhesion of the next coat.

**Working Time:** Usually 20-30 minutes when poured out onto a cool slab. (This product has a short pot-life if kept in the original mixing container. For maximum working time keep kits cool before mixing and pour out onto floor as soon as fully mixed.)

**Water Vapour**

**Barrier permeance:** 167 micron coating will normally achieve a mvt of less than 15g/m<sup>2</sup>/24 hours.  
(Application at 6m<sup>2</sup> per litre)

**Note:-** To be effective as a vapour barrier, there must be a continuous glossy film left on the surface. If this is not achieved in one coat then a second coat is required.

**Shelf Life:** 12 months in original containers

### **HOW TO USE**

**Selleys Liquid Nails VBS cures rapidly. Ensure that all your preparation is complete and the application area is clear and marked out before commencing mixing.**

- Product is supplied ready to mix and use.
- For application use a 5-6 mm mohair roller (or an applicator to minimise splatter) and cut in with a paint brush.

### **SURFACE PREPARATION**

- All surfaces must be clean, dry and sound, free of voids, loose materials and contaminants (curing compounds, oil, grease, waxes, sealers, previous coatings or adhesives, etc).
- Complete removal of any contamination must be carried out where it is suspected or evident.
- Surface preparation may be achieved by diamond grinding, shot blasting, sand blasting, captive abrasive blast cleaning (Blastrac) or other suitable method. (Acid etching is not recommended as the concrete has to be neutralised and dried afterwards.)
- Best preparation is to diamond grind the surface of the slab, as it enables the removal of high spots as well as laitance.
- Surface shall be structurally sound and level. [Concrete slabs shall be in accordance with AS2870-1996 Residential Footings and Slabs Code.]
- Concrete surfaces shall have a finish equivalent to that obtained when using a steel trowel.
- VBS can be applied if the concrete surface is dry and the slab has stabilised. To be stable, new concrete should be cured for at least 28 days or until the moisture content of the slab is less than 5.5%. (This is to ensure that the slab has cured & shrunk to a stable dimension) – (See special notes on dampness below.)

- Concrete should be flat and level (Refer ASTM F710-98 for determining).

### **SPECIAL NOTES ON DAMPNES**

- If dampness is suspected in a concrete slab, check by securely taping a 1m x 1m square of heavy duty plastic onto the slab, and leaving it for 24 hours. Any visible dampness or discolouration of the slab under the patch on removal of the plastic is a warning sign.
- If the slab is below grade, and there is a possibility of the water table being high enough to pressurise the concrete, perimeter drains would need to be installed.
- If the slab is still green and high in water-of-placement, then allow the excess water to migrate out by providing good ventilation or by using a dehumidifier until the surface is dry.
- Slabs known to be of, or prone to, high moisture levels may require 2 applications of VBS. See recommendation to confirm barrier effectiveness below.

### **Quick reference guide for controlling moisture from concrete slabs :-**

1. If the slab passes the 24 hour taped plastic sheet test, and the slab is older than 4 months, then test to show that moisture transmission is <15 g/m<sup>2</sup>/24hrs, **or apply one coat of LIQUID NAILS VBS VAPOUR BARRIER to specifications.**
2. If the slab does not pass the 24 hour taped plastic test but is >60 days old, apply one coat of LIQUID NAILS VBS VAPOUR BARRIER and test that moisture transmission rate is <15 g/m<sup>2</sup>, **or use 2 coats of LIQUID NAILS VBS VAPOUR BARRIER.**

If no testing is possible, or the slab is <60 days, seek specific recommendation from SELLEYS.

### **MIXING THE WHOLE KIT** (For 20m<sup>2</sup> areas)

- **Keep VBS kits cool before mixing.**
- **Each pack will cover approximately 20m<sup>2</sup> at the recommended application rate of 6m<sup>2</sup> per litre.**
- **Mark out approximately 20m<sup>2</sup> on floor.**
- **Pre-mix (or thoroughly shake) the hardener can before decanting.**
- Add **ALL** of the **Blue** hardener component to the **Yellow** resin component in the 4 litre can. There is sufficient room to mix in the supplied container.
- Once blended the mix is a uniform green colour.
- Use a Jiffy mixing blade with a slow speed drill, or the stirrer supplied.
- Use the stirrer to scrape around the sides and the bottom of the resin can during mixing to make sure all of the resin is properly incorporated.
- Streaks of yellow or blue in the mix will demonstrate insufficient mixing.
- Mix for approximately two minutes.

- Once thoroughly mixed and streak free, **immediately** pour out the mixed product onto the floor over the area marked in such a way as to allow an easy consistent roll-out to give an even build.

#### **Important Note**

**Do not leave the mix in the can while brushing and rolling out or else application time will be shortened. This is a fast curing product that will heat up in the can after mixing. By decanting the mix out onto the floor it is kept cool and allows a longer time to work it.**

#### **SPREADING / ROLLING**

- Detail (“Cut-in”) around edges, corners and fine cracks with a brush before completing the roll-out phase.
- The colour of the mix has been formulated to give a visual indication of varying thickness – shallow areas will tend to give a “grin-through” effect.
- **Surface should be even, glossy and streak free.**
- If coating soaks away, gives dull patches, or if pinholes are visible, a second coat should be applied once the first coat has cured.

#### **MIXING LESS THAN A WHOLE KIT**

One quarter mix. For **5m<sup>2</sup>** areas

- The kit supplied has provision to easily mix one quarter of kit quantities by means of the separate mixing pail and calibrated mixing stick. This mix will cover 5m<sup>2</sup> (approx).
- Mark-out area on concrete floor where VBS coating is to be applied.
- **First thoroughly mix each part (Resin & Hardener) separately in its own can.**
- The mixing stick has yellow and blue markings on it.
- Place mixing stick in the one litre empty pail provided, pour (yellow) resin to the mix pail until it reaches the top of the yellow mark.
- Now add hardener to the top of the blue mark.
- Stir thoroughly until a uniform green colour with no streaks (see mixing notes above). **Wipe the mixing stick clean** with a cloth for later use and **immediately** decant the mix over the area and apply as above.
- Any VBS remaining in/on the mixing pail can be peeled off after curing so that the pail can be reused for mixing other quarter mixes.

**CAUTION: The mixing stick is calibrated for the supplied 1L pry-off pail only. Do not use this method with another container or the ratio will be wrong.**

#### **Mixes different to one quarter**

- Mixes less than a whole kit can be made on a volume or weight basis. **Always ensure that the resin and hardener components are thoroughly mixed in their own containers before decanting.**
- Accurately measure out 4 volumes of resin and add 1 volume of hardener and mix as described above.
- Alternatively scales accurate to 10g may be used to accurately “split” a pack. The weight ratio is 4.42 parts of resin to 1 part of hardener.

#### **CONFIRM THAT THE COATING IS SATISFACTORY**

- After coating floors with VBS they should still be confirmed as having a moisture transmission rate of less than 15g/m<sup>2</sup>/24 hours before applying flooring overlay. It is recommended that this testing be done by the anhydrous calcium chloride method (ASTM F1869-98).
- If less than 15g/m<sup>2</sup>/24 hours is not achieved a second coat is recommended.
- If cured coating surface is not uniformly glossy (there should be no dull patches), pinhole and streak free, then a second coat is required.

#### **CURE TIME**

Normally floors can be walked on, re-coated or adhered to in 8-12 hours.

(This product has a short pot-life if kept in the original mixing container. For maximum working time keep kits cool before mixing and pour out onto floor as soon as fully mixed.)

#### **CLEAN UP**

- Discard brushes and rollers after use.
- Clean up with acetone, MEK, epoxy or lacquer thinners, or for minor spills and splashes with Polywipes (pre-moistened disposable cloth wipes).

#### **WARNINGS/FIRST AID**

**This material is hazardous according to criteria of NOHSC.**

**Refer to Safety Directions and Warnings on Pack Labels and refer to Material Safety Data Sheet before using.**

- Avoid contact with eyes and skin, and avoid breathing vapour.
- Wear eye protection, protective gloves and clothing when mixing and using.
- Good ventilation and appropriate organic vapour mask protection is essential.

**SHIPPING/STORAGE/DANGEROUS GOODS INFORMATION**

Store in cool place out of direct sunlight.  
Keep containers sealed when not in use.

Dangerous Goods Classification:-

Classified as Dangerous Goods for transport by Road and Rail, International Marine, and by Air Transport.

**Kit of Resin & Hardener**

Road , Rail, Air, Sea:

AMINES,LIQUID,CORROSIVE,FLAMMABLE,  
N.O.S. (CONTAINS 2-METHYL-1,5-  
PENTADIAMINE AND 1,2-  
CYCLOHEXANEDIAMINE); Class 8; UN 2734;  
PGII

**Resin Only**

Road , Rail, Air, Sea:

FLAMMABLE LIQUID, NOS (CONTAINS  
D-LIMONENE); Class 3, UN1993; PGIII

**Hardener Only**

Road , Rail, Air, Sea:

AMINES,LIQUID,CORROSIVE,FLAMMABLE,  
N.O.S. (CONTAINS 2-METHYL-1,5-  
PENTADIAMINE AND 1,2-  
CYCLOHEXANEDIAMINE); Class 8; UN 2734;  
PGII

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