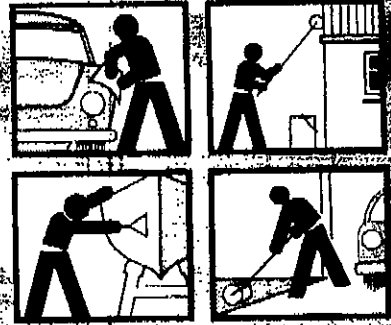
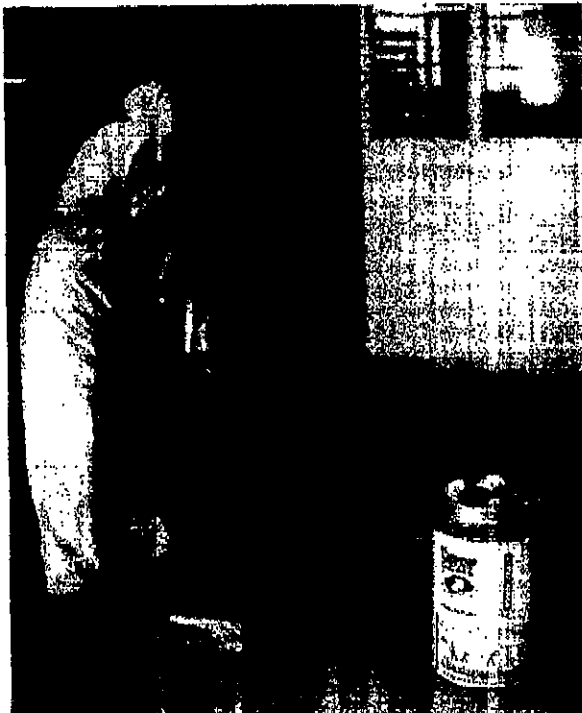


## G.4. Floor Coat



- Non-porous stops rising damp.
- Tough hard wearing plastic surface.
- Super adhesion - bonds dusty surfaces.
- Resistant to many chemicals.
- Easy to apply - brush or applicator.
- Moisture cured.
- Quick - 3 coats in a day.
- Easy to clean.
- Available in red-green-grey and standard.



Concrete floors in factories, warehouses, workshops and vehicle maintenance areas including aircraft hangers are subjected to high stress loads and impact as well as attack from aggressive chemicals. Forklift-trucks, moving pieces of machinery, heavy crates, sack barrows and ordinary foot-traffic all have a continuous wearing action on the floor. An un-treated concrete floor will soon show the deep scars of the work-load it cannot withstand.

An increase in cost and difficulty of cleaning is the first evidence of this wearing action with ever increasing amounts of gritty concrete dust being swept up. Not only does the dust cost more to sweep up but airborne it mixes with oil and grease to

become a most effective abrasive. This leads to shorter intervals between overhauls, unpredictable break-downs and higher replacement costs of equipment and machinery. On many floor areas not only do higher work loads have to be withstood but attack from aggressive chemicals as well.

### G.4. FLOOR SEAL MEETS THESE TWO REQUIREMENTS:-

Abrasion resistance.  
Chemical resistance.

The G.4. floor system is based on the very latest 'state of the art' moisture cured polyurethane systems. The high P.U. content in G.4. seals the surface and the cement lying below the surface so that this zone, which suffers extreme stress under load, is reinforced. Most concrete contains some moisture and being moisture cured means that G.4. is not inhibited from cure by the presence of moisture providing of course that the moisture does not prevent the G.4. from penetrating into the substrate.

### G.4. FLOOR SEAL WITHSTANDS PRESSURE

Besides its properties as a floor seal it also has a damp sealing ability and under test has withstood hydrostatic pressure of 5 bars. This is equivalent to withstanding and preventing moisture penetration through concrete 60 metres below ground.

### TOUGH AND HARD WEARING

G.4. provides a hard wearing brush or applicator applied coating that consolidates the surface. Impact resistance is also good due to the flexibility of the material which is greater than many other resins. The coating is a non-porous liquid D.P.M.

### CHEMICAL RESISTANCE

G.4. resists a range of acids and alkalis that would destroy other systems:- sulphuric acid 50%, lactic acid 10%, citric acid 50%, caustic potash solution 50%, kerosene, fuel oil and skydrol are amongst them.

### NON-SLIP

By adding VP 81/31 non-slip granules to the last coat the floor, or areas of the floor, can be made non-slip eg. gangways for forklift trucks.

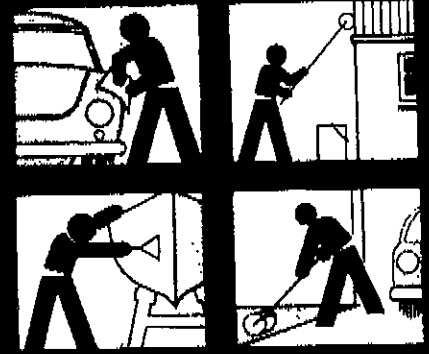
### RAPID APPLICATION

With the 3 coat G.4. system, coats 2 and 3 are applied as soon as the previous coat is 'finger tacky' or can be walked carefully upon with a maximum time between coats of 4 hours. This is to ensure maximum chemical adhesion. Time between coats varies slightly according to humidity but this is normally 60-90 minutes. Three coats are easily applied in a day and can be walked freely upon after 6 hours. Full mechanical hardness in 24 hours and chemically resistant in 72 hours. At low temperatures particularly sub zero the cure time will be prolonged. Avoid puddles since they can, due to the curing method, form blisters.

Bondaglass-Voss Ltd., is only responsible for replacement of material proved to be defective. Before using the user shall determine the suitability of the product for the intended use. This information is offered in good faith, but without guarantee or liability.

# BONDAGLASS VOSS LTD.

BECKENHAM KENT Telephone: 01-778 0071



**G4 Pond Seal** is a moisture cured polyurethane which forms a non-porous seal on concrete, brick or porous stone. G4 uses the moisture in the air and substrate to cure or harden, it can be applied onto slightly damp substrates. However, it is important that the substrate is sufficiently dry to be porous so as to enable the first coat of G4 to bond and obtain a mechanical grip.

G4 can be applied in poor weather conditions, high humidity and at temperatures down to 0°C.

## G4 seals out lime.

G4 is available in standard (brown translucent) - Mid Green - Black.

## Construction - Materials

As a general rule the pond should be constructed to be structurally sound since the G4 only provides the waterproof seal. On no account use a P.V.A. based sealer to seal or prime any surfaces. These materials can contain ammonia.

## Blockwork

Ponds will normally be constructed with either brick, lightweight block or concrete block. With blockwork it is necessary to apply a cement render since the surface is too open and absorbent to seal with G4. It is not necessary to add waterproofing agents to the render mix when G4 is being applied since they increase the density of the render and can inhibit penetration of the G4. However, in practice, it is known that G4 performs well on renders containing waterproofing agents. Fibre Mesh can be used to increase the strength. It is necessary that the fibres are either burnt or sanded off prior to coating with G4 as some will project from the render and can act as a wick, since G4 will not bond to the fibres, which can result in a general leakage. It is also necessary to remove them since the fibres will also damage the scales of the fish. The cement render should be trowelled to an even surface but not to a smooth dense plaster like finish since this prevents the penetration of G4.

Bear in mind that a half inch render should be kept damp for 3 days. New render should be allowed to harden for 21-28 days depending on conditions.

## Brickwork

G4 is an excellent sealer for brickwork -- but below the waterline the brick should also be rendered. The reason is that while the G4 is able to seal hair-line cracks it is not capable of bridging larger joints, cracks or holes.

## Method Of Application

1. Ensure the concrete render is dry, (see earlier section) certainly dry enough to be porous.
2. If an old pond, repair any cracks or replace damaged areas, and allow repairs to dry.
3. Ensure surface is clean, any algae is removed, brush off dust and remove loose material.
4. Consumption figures are given in a separate section.



## Repairing Cracks In Concrete

A normal cement render mix can be made or there are rapid hardening cements that can be used. When using cements to repair remember that it must be allowed to dry out properly before application of the G4 coating.

Alternatively G4 can be used to make an extremely tough repair. Chase out any cracks to provide a reasonable area to fill. Prime with G4 and wait until finger tacky. Mix 6 parts dry fine sharp sand with 1 part G4 (by volume) into a mortar, as dry as possible, consistent with trowelling and using a putty knife or spatula, grout the mix into the crack, leave level. Do not apply in layers thicker than 10mm at a time, If necessary build up layer by layer, leaving a minimum of 8 hours between each application. Very narrow, hair-line cracks can be sealed with G4 prior to general application.

### Other Materials

G4 cannot be used to seal over bitumen, P.V.C. or Butyl Rubber linings. It will not bond to the P.V.C. or Butyl Rubber although it will not attack them.

### G4 Standard

Apply first coat of G4 by brush – a roller can be used but it is necessary to avoid puddling of the G4 on the base. It is best to use a brush.

Allow first coat to become finger tacky (like cellotape) or dry enough to walk carefully upon – approximately 45-60 minutes depending on humidity – then apply 2<sup>nd</sup> coat. When 2<sup>nd</sup> coat is finger tacky apply 3<sup>rd</sup> coat.

No longer than 4 hours should elapse between coats.

Normally 3 coats of G4 Standard is sufficient to build a continuous surface film but on very porous substrates a 4<sup>th</sup> coat may be required, apply as instructed above.

If rain is expected make provision for covering the coated area, since water can damage the G4 during the curing process. As soon as it is superficially dry water should not affect G4.

### G4 – Colours

The system is slightly different. When using coloured G4 the first two coats must be G4 standard. This is because G4 standard provides the maximum non porous seal and adhesion.

Follow the application instructions as detailed earlier but the last two coats will be G4 coloured.

## G4 – Cure (Hardening)

G4 is mechanically hard after 24 hours and walkable on some 6 hours after final application. However, 72 hours must elapse for full chemical cure, before washing down the G4 with copious amounts of clean water. This water should be drained off. The pool can then be filled.

### Consumption

Consumption will vary slightly according to the porosity of the substrate. The coverage is based on practical experience gained from many users.

**G4 Standard** – 3 coats = 550 grs/sqm (for the 3 coats)

### G4 Coloured System

1<sup>st</sup> and 2<sup>nd</sup> coats G4 standard = 410 gr/sqm (for the 2 coats)

3<sup>rd</sup> and 4<sup>th</sup> coats G4 coloured = 400 gr/sqm (for the 2 coats)

### Waterfalls

G4 is used to seal waterfalls and from the practical experience of customers it performs satisfactorily.

It is advised that the base of the waterfall is rendered. When dry, apply 3 coats of G4 Pond Seal and allow to harden. The ornamental stone can then be 'bedded in' and grouted. If using a liner on the base, before rendering, then additional time must be allowed for the render to dry, since the render can only dry from the surface.

### Pipework and Fittings

Pipework and fittings for ponds are usually in stainless steel, PVC or uPVC (unplasticized PVC). Normally uPVC is used for groundwork pipes. Sealing around the pipes in a cement rendered pond can be a problem due mainly to the shrinkage of the cement and lack of adhesion to plastic. Normally a mastic is used but some care needs to be taken with silicone based mastics since the G4 may not bond to silicone mastics.

It is preferable to use a moisture cured polyurethane mastic sealant such as Bondaflex PU. Alternatively a fibreglass collar can be laminated around pipework to provide a seal before the G4 is applied.

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# G4

## Product Description

G4 is moisture hardened one component polyurethane resin, with a high solids or resin content. Because G4 actively uses moisture or humidity to cure it can be applied to damp but not wet surfaces. G4 can also be applied in poor application conditions with temperatures down to 0°C and high relative humidity without effecting the curing system.

A continuous surface film of G4 provides a non porous coating on brick, porous stone, metal and wood. The cured coating is tough but flexible, hard wearing and resistant to many acids and alkalis in normal concentrations.

## Typical Uses

- \*A damp sealer for brick, concrete – cement render.
- \*Non porous coating for metal.
- \*Primer coating for cast iron ballast keels.
- \*Bonding primer for polyester resin to metal – wood – concrete.
- \*For sealing ponds
- \*A sealer (varnish) for wood, for internal use only, unless protected by opaque topcoat.
- \*For sealing dusting concrete floors.

## Specifications

Flash Point	42°C		
Volume Solids	55%		
Specific Weight	0.99 grs/cm <sup>3</sup>		
Viscosity	Approx. 14 sec – cup		6mm
Film Thickness	Wet Film (non absorbent surface)		63 microns
		Dry Film	35 microns
Compressive strength	DIN 1164	Approx.	45N/mm <sup>2</sup>
Flexural strength	DIN 1164	Approx.	20N/mm <sup>2</sup>
Young's Modulus			
determined by the flexural test		Approx.	8200N/mm <sup>2</sup>

## Surface Preparation

Remove all existing coatings such as paint, varnish and other sealants. Ensure area to be coated is clean, free of oil or other surface contaminants. On walls and floors ensure that any loose material is removed and repaired before application. Porous surfaces should be as dry as possible to enable maximum penetration.

It is sensible to abrade or sand metal surfaces to ensure good mechanical key.

### Application

Application is by brush or roller. G4 is not intended for external use unless a topcoat is applied to protect it from ultra violet light.

Three coats of G4 are normally recommended to build a continuous surface film. Each coat can be applied when the previous coat is finger tacky but no longer than 4 hours should elapse between coats.

Full mechanical cure is achieved in 24 hours and full chemical resistance in 72 hours.

### Cleaning

Brushes and rollers should be cleaned immediately after use with Bondacleaner, acetone or cellulose thinners. Then washed out thoroughly in a strong detergent and hot water.

### Storage

Store in a cool dry place. Once opened G4 will have a limited storage time since it is moisture hardened material.

### Health & Safety

Work in well ventilated area. Do not breathe vapour. Do not spray. Wear gloves. Keep out of reach of children.

A Health & Safety leaflet is available.

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