Polybond Universal Product Data Sheet PB85

Polybond is a universal product for use with practically every type of building material. It is a safe, effective and easy to use adhesive, an efficient sealer and a cement additive producing concretes of quite exceptional quality and adhesion. It is non-toxic, non-inflammable and almost odourless.

Main Uses and Advantages Of Polybond

- **Polybond** will provide an immediate key on any existing sound surface to enable cement or plaster renders to be applied, with the knowledge that these renders will hold positively even under the most severe conditions.
- **Polybond** does away with the time and labour costs involved in hacking surfaces to provide a key.
- Added to a standard cement mix, **Polybond** will ensure tough dust free concrete, having a greatly enhanced strength and wearing quality plus a better resistance to mild acids, alkalis, lactic acid, animal urine, oils etc.
- **Polybond** makes repairs to concrete, stone and granite supremely easy and sure.
- Diluted, **Polybond** will prime, seal and stabilise all porous surfaces ready for painting.
- High quality, low price fillers, tile adhesives and emulsion paints can be made up using **Polybond**.
- Full Strength **Polybond**, as supplied, is very cost effective. For nearly all applications, the product is diluted with water before use.

Application

Polybond may be applied by brush, roller, spray gun, squeegee, soft broom etc. All equipment should be washed thoroughly with clean water immediately afterwards. When using **Polybond** as an adhesive, the bond should always be made whilst still wet and tacky.

Preparation

It is important that surfaces are clean, sound, and grease free. Loose materials, powders, oils and greases should be completely removed using **Polybond Concrete Cleaner** whilst **Polybond Fungicidal Wash** is the ideal product for killing fungi and stopping mould growth. All porous surfaces should be primed with a solution of one part **Polybond** to five parts water by volume brushed well into the surface and allowed to dry. Iron and steel must be treated with a rust inhibiting primer paint or treated with **Polybond Rust Converter**.

Dilution and Coverage

These will vary depending on the porosity and smoothness of the surface to which Polybond and its various dilutions are applied. However the following figures based on site reports will act as a general guide:

Polybond + Water	Typical Uses	Approx Coverage
Full Strength	Sticking non-porous surfaces, ie. glass, formica, metal etc. Sealing rope ends.	10m²/litre
1 part + 1 part	Wood and Joinery adhesive.	22m²/litre
1 part + 2 parts	Adhesive for paper and card. Emulsion paint additive. Binding	27m²/litre
1 part + 3 parts	Carpets. Base for plastic woods/fillers.	35m²/litre
1 part + 5 parts	Primer for non-porous surfaces.	45m²/litre
1 part + 10 parts	Slurry coat additive.	55m²/litre
	Bonding agent. Repair mix. Filler additive. Bitumen sealer. Wallpaper protection.	
	Stabilising solution.	
	Admixture to plaster and sandcement renders. Primer and sealer coat on concrete, plater.	
	Admixture for plastic screeds.	
	Primer on very porous surfaces	

Polybond As a General Adhesive

Every type of building material, except polythene and thin rubber can be successfully stuck with **Polybond**. Many workers simply apply undiluted **Polybond** to both surfaces, wait till tacky, then bring together under hand pressure only. It is generally recommended however, that surfaces should be given a priming coat diluted with water, prior to applying the product neat. Porous surfaces should be primed with **Polybond** diluted with about five parts water. On very porous surfaces liable to suction such as asbestos board, Dilute with five to ten parts water.

Non-porous surfaces such as formica, glass, metal etc. should be primed with **Polybond** and water at 1+2. Bare steel should first be primed with a suitable metal primer. The product can be applied direct to galvanised steel. For joinery work dilute 1+1 with water and prime as above. Do not over-clamp as with old fashioned glues. Tight clamping may drive the adhesive out, particularly at the edges and weaken the bond. See Wood and Joinery Applications.

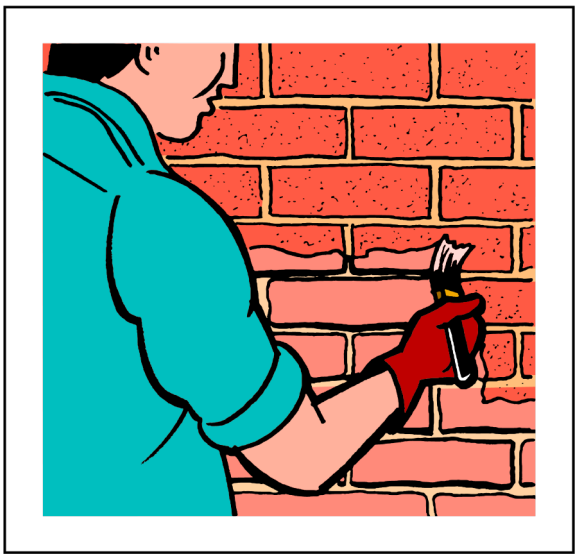
Concrete, Cement and Plaster

1) **Bonding New Concrete to Old.**
Polybond provides an immediate key between new and old concrete. Note that no hacking or joint racking is required.

Method: Thoroughly clean the surface of oil, grease and excess laitence etc. Thin some **Polybond** with five parts or water, apply and allow to dry. Bruch on another coat of **Polybond** thinned with three parts of water. Allow this second coat to become tacky, then float on the new concrete mix.

2) **Bonding Concrete or Plaster to Asbestos, Brickwork, Blockwork, Metals, Wood, Terrazzo etc.**

Method: As in 1) above.



3) **Repairing Concrete Floors and Stairs.**
Repairs can be made from a feather edge to an inch or more thick. They will be tremendously strong and stand the hardest wear.

Method: Thoroughly clean surfaces to remove oil, grease and dirt. Seal the surfaces witha mixture of **Polybond** and Water 1 + 5. Allow to dry. Take required amount of dry sand and cement and use **Polybond** and water at a 1 + 3 to make this into a workable mass. Apply the cememnt mix, and lay-off with a steel trowel.

4) **Filler for Gaps, Cracks, Holes etc.**
Polybond makes an ideal filler for joints, gaps, cracks, holes etc. on all types of building surfaces. It's use substantially reduces the shrinkage experienced with some fillers.

Method: Make up an adhesive mix of either cement, plaster, wood flour or branded filler using **Polybond** and water diluted 1 + 3.

5) **Mortar Joints and Pointing.**
To Improve mortar joints and pointing in new and old brickwork, use method 1) above.

6) **Plastering and Rendering without Keying.**
Polybond bonds all plasters to surfaces rough and smooth. These include shuttered concrete, glazed bricks, tiles and painted brickwork.

Method: All types of plaster or render may be bonded to normal porous surfaces by using the method in 1) above.
When plastering or rendering over non-porous (eg. glazed or painted surfaces) or for renders greater than 12 mm thick, work as follows. Make sure the surfaces are clean, dry and grease free. In the case of tiles or ridged laminates etc. clean carefully. Mix two parts of washed sharp sand and one part cementm wet down with **Polybond** and water 1+2. Apply as a slurry with a fairly stiff brush or 6mm notched trowel. Rub up and score. Allow to dry thoroughly for at least twenty four hours. Apply new plaster or render. Note: Polybond complies with BS 5270:1976 Polyvinyl Acetate (PVAc) Bonding Agents for internal use with gypsum building plaster.

Admixtures with Polybond

When added to ordinary plaster or sand-cement renders, Polybond ensures that the finished plaster/render will have a fineness and toughness which improves its resistance to penetration by damp and other liquids. It will also enable subsequent decorative treatment to be carried out without the necessity for any special priming costs.

Method: Simply substitute the normal gauging water by Polybond and water 1 + 5. Added to standard concrete mixes, it gives vastly improved properties to the concrete. The concrete is dust free, has greater resilience and tensile strength. There is no change in the rate of curing. Polybond should be added at the rate of from 1.5 litres to 10 litres per standard (50kg) bag of cement depending on the quality required, together with water and aggregate in accordance with normal building practice. Alternatively, substitute the usual plain gauging water for a mixture on one part Polybond and from three to five parts of water. Note: Add the Polybond first to the dry mix and then add the required gauging water. This avoids making the mix too wet.

Concrete Floors

Bonding a New Concrete Floor and Screed to and Old Sub-Floor When laying new concrete on old, all hacking to obtain a key is unnecessary. Application method is per 1) above. Lay section by section whilst the bonding coat is still tacky. If the bonding coat is allowed to dry out first, then the plain gauging water of the mix must be substituted by **Polybond** diluted 1+3 with water.

Plain cement floors generally have a number of disadvantages. **Polybond** overcomes these. Incorporated in a standard mix, it produces a floor having increased resilience and resistance to attack by many common substances to which concrete is prone ie. beer, yeast, milk, acids, urine, water etc. The presence of **Polybond** ensures that the new floor will adhere soundly to the old floor. The floor will also be dust free.

Almost any type of sub-floor is suitable for supporting a new Polybond floor. It must however, be sound and clean and have an effective DPM. It is essential that no oil or grease be present and laitance be removed as far as possible. A commercial cleaner such as Polybond Concrete Cleaner will assist in thorough preparation.

Feather Edging
One of the important advantages of a **Polybond** floor is that the thickness can be taken down to a feather edge. This is particularly useful when bonding a new floor to an existing worn surface and when the problem of differing floor heights may arise. Therefore, under doors etc a **Polybond** floor can be made as thin as necessary without risk of weakness or loss of adhesion.

Stronger Floors
New floors can be laid having a range of qualities depending upon the amount of Polybond used in the mix. Substituting the usual plain gauging water in a mix by Polybond and water 1 + 3 will produce a floor of exceptional strength and flexibility. This is the equivalent of about 6 litres of Polybond per 50kg of cement and assumes that up to 25 litres of water are usually used with each 50kg of cement in an average cement:sand:aggregate mix of 1:2:4. As little as 1 litre of Polybond to each 50kg of cement will product markedly improved concrete. Note that not more than 10 litres of Polybond to each 50kg of cement should be used.

Plastic Floor Screeds
A plastic screed has only one third the thickness of a conventional screed and this brings real savings in time, labour, weight and cost, with positive adhesion to the sub-surface. Therefore, the laying of a Polybond Plastic Screed instead of a conventional one is an obvious advantage to the builder. A 37 mm conventional screed would be replaced by a 12 mm Polybond Plastic Screed.

Method: A 1+5 **Polybond** to water dilution is simply brushed on to the clean sub-surface and allowed to dry. This will obviate all hacking. The following screed is then mixed.

Sharp sand (washed)	3 parts by volume.
Cement	1 part by volume.

Wash down to trowelling consistency with a 1+10 **Polybond** and water mix and apply the screed in conveniently sized bays. Drying out should be controlled and the floor covered for 18 to 24 hours with polythene.

Dust-proofing Floors

To dust proof all types of cement/concrete flooring, apply one or two coats of **Polybond** and water 1+5.

Priming, Sealing and Painting Porous Surfaces

1) **Polybond Stabilising Solution**

Polybond and water 1+3 is the perfect sealing and stabilising medium for porous surfaces such as bricks, cement and concrete, plaster, asbestos, hardboard, chipboard etc. Any type of paint or emulsion paint may then be applied over **Polybond**. Crumbling, porous surfaces can be improved by using the following method. Brush off loose dirt etc, apply a coat of **Polybond** and water 1+5 and allow to dry. Then apply a second coat of **Polybond** and water 1+3. Allow to dry.

2) **Emulsion Paint**

Equal parts of Polybond and water added to emulsion paint will make an undercoat that will ensure thorough binding of under surfaces and save a second finishing coat of emulsion.

3) **Distemper**

Polybond will change ordinary distempers into inexpensive, high class emulsion paint. Simply add 500ml of Polybond to every 5 litres of distemper.

Tiles

Fixing Tiles

Polybond offers by far the easiest and cleanest method for attaching tiles to any sort of surface. They can be laid on floors or walls, on flat or uneven surfaces. The following method can be used for many types of tile including acid and alkali resisting, acoustic, cement, cement/asbestos, cork, glazed and quarry tiles.

Method: Brush over the entire wall or floor area with a mixture of Polybond and water 1+5. Allow to dry. This can be done at any time and left until ready. Use the same mix to prime the back and edges of the tile. Any number can be prepared and held in stock indefinitely. Make up a mix of Polybond and water 1+3 and stir in cement for form a smooth workable mass. Apply this adhesive mix at no more than 6mm thick to the backs of the tiles. These can then be stuck straight on to the primed surface. There is a firm instantaneous bond but the tile can be slid into any position. This method can also be used for replacing loose or broken tiles etc. If surfaces are smooth, undiluted **Polybond** may be used as an adhesive.

Wood and Joinery Applications

Polybond is outstanding for bonding wood, hardboard, chipboard and composites to each other or to other materials including glass and metals. No heating or mixing is required and the dry bond never goes brittle. Tack is developed very rapidly, yet it is possible to adjust the assembly after the joint is made without difficulty. No excessive cramping is required and in many cases, hand pressure is sufficient to give a bond of enormous strength. When quite dry, the joint is stronger that the wood itself! It can be used on flat surfaces, edges and end grain. Bond strength on tenons, halving and flats exceeds 125.8kg/cm².

Method: Clean the surface to be coated. Apply Polybond and water 1+1 to both surfaces, allow to become tacky, then bring the coated surfaces together under moderate pressure. If surfaces are non-porous, use undiluted.

Plastic Wood

A first class plastic wood can be made by adding wood-flour or sawdust to **Polybond** and water 1+1.

Method: Make up a paste with sawdust or wood-flour to the required consistency. Add Stainer's to tint if desired. Apply in the usual way and allow to dry off completely before working the surface.

Paper Sealer and Adhesive

Polybond is a first class clear glue for sticking paper, prints, drawings, maps etc. to boards and walls.

Method: Apply Polybond diluted with an equal volume of water to the surfaces it is desirable to stick. Allow them to become tacky and bring together. Expel any air bubbles outwards by means of a squeegee or roller, or by smoothing with the hand. As an alternative, wait for the adhesive to dry thoroughly then iron on to the substrate using a medium heat and protective over-sheet.

Sealer

A simple coat of Polybond and water 1+3 applied to the surface gives permanent protection from dirt and grease. Polybond diluted with water 1+3 used as a sealer will protect wallpaper from dirt and grease which can then be easily wiped off with a damp cloth.

Lapping Vinyl Wallpaper

Simply coat undiluted **Polybond** onto both surfaces and bring together wiping away any excess before it dries. The product is recommended by leading wallpaper manufacturers for the lapping of vinyl papers.

Sealing and Binding Carpets

Polybond will bond carpets, sacks, mats, all trimmings and fittings.

Method: Apply a coat of **Polybond** and water 1+1 to both surfaces to be bonded. Allow to become tacky and then bring them together under moderate pressure.

Wilton Carpets

Cut the carpet from the back to the size required. Apply undiluted to the edge and back for about 25 mm from the edge. Allow the **Polybond** to dry and the binding is complete.

Axminster Carpets

Fray out the carpet ends by pulling out the cross weft for about 25mm, apply **Polybond** in a 25 mm strip to the back of the carpet and fold the ends down on to this strip. To complete, paint over the ends and allow to dry. Bind the edges as with Wilton.

Coco Matting

Liberally apply **Polybond** to the edge taking it back about 50mm to bind, allow to dry before use.

Rope Ends

These will never unravel if they are dipped in Polybond.

Method: Twist together and dip into **Polybond**. Allow to dry.

Important Note

One of the uses of Polybond is to provide a bond. If surfaces are badly prepared, or inferior materials are present, it cannot do this. Certain substances, particularly distempers, lime washes and emulsion paints may in time be unable to bear the weight of renders, coats of cement etc. Unless firm and permanent surfaces are present Polybond should not be used.

Polybond Specification	
Type	Plasticised Poly(vinyl acetate) homopolymer
Mechanical stability	Good
Appearance	Milky liquid. Clear when dry.
pH	4 to 6
Typical viscocity	100 poise @ 25°C (Brookfield RVT 5/20rpm)
Storage stability	Excellent
Freeze-thaw stability	Do not freeze liquid Polybond. Dry
	Polybond is stable below 0°C.
Specific Gravity	1.07 at 25°C

Performance

Bond Strength: Wood to wood, wood to concrete, concrete to concrete and concrete to ceramic show shear failure at the substrate and not the bond line. Tensile tests on plaster to lightweight concrete blocks show loads of around 290kN/m² before failure.

Water: Renders formed from cement mortars or plaster containing the product have a high resistance to penetration by damp but must not be used in constantly wet conditions, eg. ponds, pools etc.

Fire/Combustability: Non flammable in the liquid form and when dry.

Durability: Withstands all climatic conditions and does not become brittle with age when used as a surface sealer or admixture. Indefinate under dry conditions. Limited by hydrolysis in constantly damp conditions except when used as a concrete admixture.

Biological: Will not support the growth of moulds and fungi.

Health and Safety: Polybond is non-toxic and does not create a health hazard under normal conditions of use. For more details, please consult the Health and Safety Datasheet available on this site.

Odour: Slight odour in the liquid form, odourless when dry.

Chemical: The addition of the product to cement mortar increases the resistance of the mortar to attack by weak acid or alkali solutions, milk, beer, urine, oils and greases. Polybond will not adhere to surfaces contaminated with oil or grease.

Temperature: The product is affected by frost when in liquid form but is unaffected when set. When dry it remains durable within the range -15°C to +60°C.

Handling and Storage: Store in dry conditions and protected from frost. The product then has a shelf life in excess of twelve months.

Setting Time: When used as an adhesive, the full bond strength develops after about nine hours or when completely dry. Does not affect the rate of cure of concrete when used as an admixture.

Limitation of Use: Polybond will not bond PVC, ABS, thin rubber, polyethylene, polypropylene or related plastics and should not be used under conditions where continuous running water is encountered.

Packing: Supplied in polypropylene buckets and drums - 250ml to 25 litres. All containers are non-returnable. Prices, Conditions of Sales: Published separately.

Technical Services

A comprehensive advisory service is available to advise on specific queries relating to any of the Polybond building products range.

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