

# PPG EP301 - High Build Epoxy Floor Coating

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## DESCRIPTION

PPG EP301 is a two-component solvent free epoxy floor coating offering excellent abrasion and chemical resistance. PPG EP301 provides a tough, hard wearing coating for medium duty traffic giving excellent wear resistance.

## APPEARANCE

PPG EP301 has a gloss finish and is available in a range of standard colours (see the PPG Epoxy Colour Chart). For non-standard colours or specific RAL colours please speak to PPG for information.

## TYPICAL USES

Suitable for use in medium duty areas requiring an easy to clean, tough and durable coating with good resistance to chemicals. Ideal for use in areas such as warehouses, factories, workshops, showrooms, packing and storage areas.

PPG EP301 is suitable for regular foot traffic, light duty fork lift truck traffic and occasional hard plastic-wheeled trolleys.

## FEATURES & BENEFITS

- Protects concrete from oil and chemical spillages
- High build with excellent wear and abrasion resistance
- Easy application - no need for solvent/thinners
- Gloss, easy to clean finish
- Non-dusting
- Slip-resistant options available

## DRY FILM THICKNESS

Approximately 350 microns from two coats.

## TYPICAL PROPERTIES, 28 DAYS AT 20°C

BS 8204-6 and FeRFA Type 3

Adhesion to concrete (BS EN 13892-8) > 1.5 MPa (concrete failure)

The typical physical properties given above are derived from testing in a controlled laboratory environment. Results derived from testing field-applied samples may vary dependent upon substrate and site conditions.

## SUITABLE APPLICATION SUBSTRATES

Concrete and polymer modified cementitious screeds.

## CURE SCHEDULE AT 20°C

Working/Pot life of full packs \* 25 minutes

\* Maximum usable working life of material following mixing and immediate spreading as per the application instructions.

Over coating time 16 - 36 hours

Cure time to pedestrian traffic 24 hours

Cure time to light wheeled traffic 4 days

Full chemical resistance 7 days

The floor should be protected from contact with water for at least 7 days.

These cure times are approximate and given as a guide only. These times can vary and are dependent on site conditions. At lower temperatures curing times will be extended. At higher temperatures the working life will be reduced. If the over coating interval of 36 hours is extended, the first coat should be lightly abraded to ensure inter-coat adhesion.

## COVERAGE GUIDE

0.25 Kg/m<sup>2</sup> per coat.

Coverage will vary depending on the texture and porosity of the substrate, film thickness and the application technique used. Two coats are normally sufficient but on very porous substrates, an initial coat of PPG EP002 Epoxy Floor Primer should be applied.

## AVAILABLE PACK SIZES

PPG EP301 is available in pack sizes of 5, 10 and 12.5Kg

## APPLICATION CONDITIONS

Substrate and ambient temperature should be in the range of 10°C to 25°C. In extreme high or low temperatures localised heating or cooling equipment may be required outside this range to achieve ideal application temperature conditions. For heating, use only electric powered systems. Fossil fuel powered heaters emit undesirable amounts of water vapour and CO<sub>2</sub>. The maximum air relative humidity is 75%. To reduce the risk of "bloom" caused by condensation, the climate above the uncured floor should be maintained at least 3°C above the dew point for at least 48 hours after application.

## SUBSTRATE QUALITY

The surface strength of the concrete base or screed should be assessed using a rebound hammer in accordance with BS EN 12504-2 and should be above 25, and the surface tensile strength should exceed 1.5 N/mm<sup>2</sup>. Substrates should be clean and free of surface laitance and contaminants such as dirt, dust, loose material, oil, grease, poorly bonded coatings and surface treatments. An effective structural damp proof membrane should be present and the relative humidity at the surface no more than 75% when measured by the method of BS 8203. New concrete should be a minimum of Grade C35 with a minimum cement content of 300 Kg/m<sup>3</sup> and should not contain a water repellent admixture. If the concrete is not dry then PPG EP001 DPM Floor Primer may be used. For further information on PPG EP001 see the appropriate Product Data Sheet.

## SUBSTRATE PREPARATION

Inadequate preparation will lead to loss of adhesion and potential failure. With coatings, there is a tendency for the finish to reflect imperfections in the substrate. Grinding, or light vacuum-contained shot-blasting is therefore preferred to planing for these systems. Percussive scabbling or acid etching is not recommended. Weak concrete must be removed and voids filled with a suitable repair material. High spots must be removed e.g. by grinding. If the floor requires levelling or repairing then please choose a suitable product from the PPG Cementitious Flooring Range. Excessively porous concrete should be primed using PPG EP002 Epoxy Floor Primer. If in doubt, apply a test area first and check subsequent adhesion using appropriate testing methods. Refer to PPG Extra if further information on suitable floor preparation methods is required.

## MIXING

Materials should be stored at 15°C to 25°C for a minimum of 8 hours prior to use. Mechanically pre-mix the coloured resin component before use. Add the hardener component to the coloured resin component and mix using a low speed electric mixer (300 - 500 rpm) for at least 3 minutes until homogeneous. Use a spatula to scrape the sides and bottom of the mixing vessel as unmixed material will result in uncured patches in the final finish. Pouring the mixed material into a second mixing container and mixing again will greatly reduce the possibility of soft spots. Do not add solvent/thinners to the product.

## POT LIFE

The mixed material must be used immediately. When mixed, a chemical chain reaction takes place which creates heat and further reduces pot life. Therefore, we recommend that the product is removed from the mixing vessel and applied to the floor as soon as possible after mixing. High ambient temperatures within the application area will reduce pot life.

## APPLICATION

For best results we recommend that the temperature in the area of installation is kept at a minimum of 15°C. Apply the fully mixed product with a short pile roller and ensure it is worked well into the surface. Take care during application not to exceed the coverage rate. Edges and difficult to reach areas may be applied thinly by brush. The second coat should be applied at right angles to the first.

An anti-slip finish may be achieved by fully broadcasting the first coat with the appropriate grade of kiln dried silica sand at 3 - 4 Kg/m<sup>2</sup>. Allow the first coat to fully cure (24 hours at 15°C or longer in colder temperatures) then remove all excess sand with a stiff broom and vacuum. Apply a second coat to encapsulate the aggregates using a squeegee followed by back-rolling with a short pile roller. The coverage rate will depend on surface profile but will be significantly greater than for the first coat.

SAND GRADING	MAXIMUM AREA	ACHIEVABLE PTV (BS 7976-2)	
mm	m <sup>2</sup> /Kg	Dry	Wet
0.3 - 0.6	2.5	≥40	≥40
0.7 - 1.2	1.5	≥55	≥55

Please Note: These coverage figures are approximate as silica sand grading can vary widely as can site conditions. If in doubt, order extra material to account for wastage or install a test area prior to starting works to establish practical coverage rates. The pendulum test values given above are derived from testing in a controlled laboratory environment and are given for guidance only. Results derived from testing field-applied samples may vary dependent upon site conditions and application technique. Slip resistance can reduce over time due to poor maintenance, general wear or surface contaminants. Good housekeeping practices should be observed.

## TOOL CLEANING

Tools and equipment should be cleaned whilst the resin is still wet using an appropriate cleaner.

## GENERAL MAINTENANCE

PPG EP301 can be easily cleaned using industry standard cleaning chemicals and techniques designed for epoxy resin flooring. Test cleaning agents prior to use in a small area. Do not steam clean or subject to temperatures in excess of 50°C. Spillages must be removed immediately. For further information please download the FeRFA Guide to Cleaning and Maintenance of Resin Floors at [www.ferfa.org.uk](http://www.ferfa.org.uk)

## PRECAUTIONS

Remove food products from the area during application and curing. As with all high gloss paint finishes, scratching of the surface will occur with use due to surface contamination and abrasion. In common with all smooth floor finishes, PPG EP301 may become slippery under certain conditions. In areas of chemical spillage, please consult our Technical Department for specific advice regarding the products suitability. Do not apply over a commercial cementitious underlayment.

As with most epoxy products, PPG EP301 is not colour fast and may yellow over time. The rate of change will depend on UV light and heat levels and cannot be predicted. This will be more pronounced with lighter colours and blue shades and does not compromise the product's performance or chemical resistance characteristics. This product should only be applied by professional, competent and experienced users of resin flooring systems due to the careful application and preparation these products require.

## TECHNICAL ADVICE

For further information on this or any other PPG product, please contact PPG Extra.

## HEALTH AND SAFETY

Before using this product, please ensure that you have received and read the product Safety Data Sheet. Refer to hazard labelling on the product. Wear gloves and avoid contact with skin and eyes.

## EU DIRECTIVE 2004/42/EC

Complies with category J type SB (< 500 g/l).

## STORAGE

Materials should be stored in their original unopened containers in a dry weatherproof area maintained within a temperature range of 10°C to 30°C on pallets and away from walls. Protect from frost and direct sunlight.

## SHELF LIFE

12 months if stored in accordance with the above recommendations.

## LIMITATIONS

Do not proceed with application if atmospheric relative humidity is, or is anticipated to be >75% or if the surface temperature is <3°C above the dew point. Application should not commence when the substrate or the ambient temperature is, or is anticipated to be <10°C during the application or within the curing period. The manufacture of PPG EP301 is a batch process and despite close manufacturing tolerances, minor variations in shade may occur between batches. Products from different batches should not be used on the same surface or surfaces close together. If mixed batches are unavoidable, it is best practice to use the different batches only in areas where the colour cannot be directly compared. Touching up should only be attempted using product from the same batch using the same application methods. Product should be reserved specially for this purpose. It is recommended that touching up is carried out up to a break in the floor or surface.

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## LIMITATIONS

Do not proceed with application if atmospheric relative humidity is, or is anticipated to be, >75% or if the surface temperature is <3°C above the dew point. Application should not commence when the substrate temperature or the ambient temperature is, or is anticipated to be <5°C during the application or within the curing period. The design strength of concrete surfaces must be a minimum of 25 MPa compressive strength at 28 days. The manufacture of PPG EP001 is a batch process and despite close manufacturing tolerances, colour variation may occur between batches.

## WARRANTY


PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG's specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

## TECHNICAL ADVICE

For further information on this or any other PPG product, please contact PPG Extra on 01924 354354 or [ppgextra@ppg.com](mailto:ppgextra@ppg.com)

## LIMITATIONS OF LIABILITY

IN NO EVENT WILL PPG BE LIABLE UNDER ANY THEORY OF RECOVERY (WHETHER BASED ON NEGLIGENCE OF ANY KIND, STRICT LIABILITY OR TORT) FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO, ARISING FROM, OR RESULTING FROM ANY USE MADE OF THE PRODUCT. The information in this sheet is intended for guidance only and is based upon laboratory tests that PPG believes to be reliable. PPG may modify the information contained herein at any time as a result of practical experience and continuous product development. All recommendations or suggestions relating to the use of the PPG product, whether in technical documentation, or in response to a specific inquiry, or otherwise, are based on data, which to the best of PPG's knowledge, is reliable. The product and related information is designed for users having the requisite knowledge and industrial skills in the industry and it is the end-user's responsibility to determine the suitability of the product for its own particular use and it shall be deemed that Buyer has done so, as its sole discretion and risk. PPG has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Therefore, PPG does not accept any liability arising from any loss, injury or damage resulting from such use or the contents of this information (unless there are written agreements stating otherwise). Variations in the application environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results. This sheet supersedes all previous versions and it is the Buyer's responsibility to ensure that this information is current prior to using the product. Current sheets for all PPG Products are maintained at [www.ppgpmc.com](http://www.ppgpmc.com). The English text of this sheet shall prevail over any translation thereof.

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	17	DOP PPG EP301 17131DUT004/5	
EN 13813 SR-B2,0-AR0,5-IR4 Synthetic resin screed material for use internally in buildings			
Reaction to fire	E <sub>fl</sub> <sup>(1)</sup>	Impact resistance	IR4
Release of corrosive substances	SR	Sound insulation	NPD
Water permeability	NPD	Sound absorption	NPD
Wear resistance	AR0,5	Thermal resistance	NPD
Bond strength	B2,0	Chemical resistance	NPD

(1) According to Commission Decision 2010/85/EU of 9 February 2010, the product satisfies all requirements of the performance characteristics 'reaction-to-fire' class E without need for further testing.