

DESCRIPTION

PPG EP4501 is a medium duty, flow applied epoxy floor topping for use on concrete and polymer modified cementitious screeds. PPG EP4501 is designed to give the user a floor that has excellent durability, impact, abrasion and chemical resistance.

TYPICAL USES

PPG EP4501 has an easy to clean, smooth, gloss finish. This makes the product ideal for use in environments such as the food, beverage, engineering and chemical industries. PPG EP4501 can also be used in clean rooms, retail showrooms, schools, hospitals and hotels.

FEATURES & BENEFITS

- Flow applied - rapid installation
- Resistant to general chemical spillages
- Non-dusting
- Seamless
- High wear & abrasion resistance
- Easy to clean

THICKNESS

PPG EP4501 should be applied at a minimum thickness of 2-3 mm.

TYPICAL PROPERTIES, 28 DAYS AT 20°C

BS 8204-6 / FeRFA Type 4 and 5

Adhesion to concrete (BS EN 12504-2) > 1.5 MPa (concrete failure)

Mixed density approx. 1.8Kg/litre

Shore D hardness approx. 70

SLIP RESISTANCE (SMOOTH SYSTEM) (BS 7976-2)

DRY > 40 LOW SLIP POTENTIAL

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 site conditions.

CURE SCHEDULE AT 20°C

Working life/pot life of full packs *25 minutes

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

FINISHED FLOOR*

Cure time to light pedestrian traffic 24 hours

Cure time to medium duty traffic 48 hours

Full cure 7 days

*The above cure times are approximate and given as a guide only.

These times can vary due to prevailing site conditions.

AVAILABLE PACK SIZES

31Kg

COVERAGE*

3.6Kg/m² at 2 mm or 5.4Kg/m² at 3 mm

* Coverage figures given are theoretical. Practical coverage rates may vary due to wastage factors and the type, condition, profile and porosity of the substrate.

APPLICATION CONDITIONS

Ideal ambient and substrate temperature range is 15 - 25°C. Localised heating (electric powered warm air blower) or cooling equipment may be required outside this range to achieve ideal temperature conditions. The aggregate can be stored in a cool area (or warm area in the case of low ambient temperature) in order to control product temperature and working life. The substrate and uncured floor must be kept at least 3°C above the dew point to reduce the risk of condensation or blooming on the surface, from before priming to 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/mm². 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/m³ and should not contain a water repellent admixture. If the concrete is not dry then PPG EPO01 DPM Floor Primer may be used. For further information on PPG EPO01 see the appropriate Product Data Sheet.

SUBSTRATE PREPARATION

Inadequate preparation will lead to loss of adhesion and failure. In flow applied systems there is a tendency for the finish to mirror imperfections in the substrate. Grinding, or light vacuum-contained shot-blasting is therefore preferred over planing for these systems. Percussive scabbling or acid etching is not recommended. The substrate should be finished to a surface regularity when tested according to BS 8204-1 of class SR1 otherwise a scratch coat or other method of levelling may be required. If the floor requires levelling or repairing then please choose a suitable product from the PPG Cementitious Flooring Range. Refer to PPG Extra if further information on suitable floor preparation methods is required.

APPLICATION INSTRUCTIONS

PRIMING

Priming, and sealing of the surface is essential when laying this type of product. Priming should be carried out using PPG EPO02 Epoxy Floor Primer at 4 - 8m²/Kg depending on substrate porosity. Apply using a medium nap roller ensuring complete coverage and avoiding pooling. If, when cured, there are dry patches, or voids in the coating, a further primer coat is required. Allow to cure completely before proceeding. If the primer has been left to cure for >48 hours then the primer surface should be lightly mechanically abraded and the area re-primed. Failure to do so may result in pin-holing of the surface topping.

APPLICATION OF PPG EP4501

Prior to mixing, the temperature of the three components must be between 15 and 25°C. 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 (200 - 500 rpm) for 2 minutes until homogeneous. Decant the mixture into a suitable mixing vessel and gradually add the aggregate component whilst continuing the mixing action. When all the aggregate has been added, mix for a minimum of 3 minutes until a uniform coloured, lump-free mix is obtained. Care should be taken to ensure that any material adhering to the sides, bottom and corners of the mixer is thoroughly blended in. Unduly extended or vigorous mixing should be avoided in order to minimize air entrainment. Apply the mixture immediately onto pre-primed areas, spread to the required thickness using a steel float then de-aerate using a spiked roller. Continue spiked rolling until air is released finishing well before the material begins to gel. An anti-slip system may be achieved by applying EP301 to the surface and whilst still wet apply the appropriate grade of kiln dried silica sand at 3-4 Kg/m² to the surface. Allow to fully cure then remove all excess sand with a stiff broom and vacuum. Apply a coat

PPG EP4501 - Medium Duty Flow Applied Epoxy Floor Topping

2 of 3

of PPG EP301 High Build Epoxy Floor Coating to encapsulate the aggregates using a squeegee followed by back-rolling with a short pile roller. The coverage rate of the PPG EP301 will depend on surface profile. See PPG EP301 product data sheet for further information on coverage rates.

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

The cured product should be protected from other trades with a breathable material. Polythene should not be used. Protect the installed floor from dust, traffic, damp, condensation and water for at least 24 hours or longer at colder temperatures.

CLEANING AND GENERAL MAINTENANCE

PPG EP4501 can be easily cleaned using industry standard cleaning chemicals and techniques designed for epoxy resin flooring. Test cleaning agents prior to use. Do not steam clean or subject to temperatures in excess of 60°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

HEALTH AND SAFETY

Refer to product Safety Data Sheet before use.

EU DIRECTIVE 2004/42/EC

Complies with category j type SB (< 500 g/l VOC content).

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 temperature or the ambient temperature is, or is anticipated to be <10°C during the application or within the curing period. This product is designed to be laid at a minimum of 2 mm thickness, applications below this will affect surface flow and finish. The manufacture of PPG EP4501 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.

PRECAUTIONS

Remove food products from the area during application and curing. As with all high gloss paint finishes, scratching of the surface may occur with use due to surface contamination and abrasion. In common with all smooth floor finishes, PPG EP4501 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 EP4501 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.

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.

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.

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PPG Architectural Coatings UK Limited, Huddersfield Road, Birstall, Batley, West Yorkshire, WF17 9XA			
	17	DOP PPG EP4501 17131DUT001/2/3	
EN 13813 SR-B2,0-AR1,0-IR14 Synthetic resin screed material for use internally in buildings not subject to reaction to fire regulations			
Reaction to fire	E _{fl} ⁽¹⁾	Impact resistance	IR14
Release of corrosive substances	SR	Sound insulation	NPD
Water permeability	NPD	Sound absorption	NPD
Wear resistance	AR1,0	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.