Epoxy Top Coat

High Build Epoxy Floor Coating

Revision: 6.4 - 23rd March 2023
Code: 701-HB

INTRODUCTION

Newton Epoxy Top Coat is a two-component, solvent-free, epoxy resin-based floor coating which, when cured, provides a hard-wearing and chemically resistant decorative coating to indoor areas that are subject to high levels of chemical and physical wearing agents, such as car parks, garages, warehouses and plant rooms.

The material is supplied as a two-part system comprising weighed amounts of both the epoxy and hardening agent and is finished by brush or roller to correctly prepared and primed substrates of concrete, screed or steel. Epoxy Top Coat is also is a key constituent of the Newton NewCoat Flooring System.

APPLICATION

PROPERTIES

H - Hardness and Durability; E - Elasticity and Flexibility; V - Vapour Resistivity; C - Curing and Drying; W - Working Time

PACKAGING

A & B components - within two containers

COVERAGE

KEY BENEFITS

- Solvent-free, low odour
- Provides a fully sealed surface with very good chemical and abrasion resistance
- Excellent adhesion to concrete and steel
- High build
- Reaches 80% of chemical resistance within 48 hours
- Tough and durable
- Hygienic and easily cleaned

TYPICAL APPLICATIONS

- Covered car parks
- Garages
- Factories
- Warehousing and storage
- Abattoirs
- Chemical bunds

SUITABLE SUBSTRATE

Indoor floors of correctly formed, compacted and prepared concrete or screed of at least 28 days old (if not applied over NewCoat DPM).

METHOD OF APPLICATION

- Brush
- Short hair roller
- Squeegee (Application only, not finishing)

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Opening Hours:
Monday to Thursday 8:00am - 5:30pm
Friday 8:00am - 5:00pm

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TECHNICAL DATA

Features	Result	Units
Form – Two components	Liquid epoxy resin	
Colour	Graphite Grey (RAL 7015) & Carmine Red (RAL 3013)*	
Specific gravity	1.6	
Pack size	5	kg
Shelf life	12	Months
Pot life @ 20ºC & RH of 40%	30	Minutes
Pot life @ 10ºC & RH of 40%	60	Minutes
Application rate - First coat over primer	0.25 - To a minimum thickness of 0.15mm	kg/m^2
Application rate - Further protective coats	0.25 - To a minimum thickness of 0.15mm	kg/m^2
Application method	Brush, roller or squeegee**	
Minimum application temperature - substrate	+8 (and rising)	°C
Maximum application temperature - air	+30	°C
Odour	Slight ammonia	
VOC content	152g/Litre	

Drying***	8°C	10°C	15°C	20°C	25°C	Units
Inter-coat adhesion window	15-48	13-40	12-30	11-28	9-24	Hours
Ready for temporary foot traffic	16	14	14	12	10	Hours
Ready for site traffic	55	51	47	42	36	Hours
Ready for vehicular traffic	60	56	52	48	42	Hours
Ready for exposure to chemicals	14	10	8	7	7	Days
Fully cured	14	10	8	7	7	Days

Cured Performance	Result	Units	Test Method
Colour	Grey or Red		
Membrane thickness - First coat over primer	0.15****	mm	
Membrane thickness - Further protective coats	0.15****	mm	
Adhesion to concrete (>B2.0)	3.5	MPa	BS EN 13892-8
Impact resistance - Class 2	14	Nm	ISO 6272-1
Abrasion resistance	AR 0.5		BS EN 13813:2002
Resistance to dilute acid/alkaline	Excellent		
Shore Hardness - D	82		
Slip resistance*****	+45	PTV	Manufacturer test
Reaction to fire classification – Not determined	F		Euroclass

The above data, even if carried out according to regulated tests are indicative and they may change when specific site conditions vary. *Colours are based on the RAL colour pigment used, not the finished product. The exact colour is slightly lighter. Carmine Red is not a stock item. **Finishing must be by brush or roller. ***Figures are influenced by humidity also and so are indicative. **** Minimum thickness of 0.15mm. *****Slip resistant variant is standard to Carmine Red only unless by special order.

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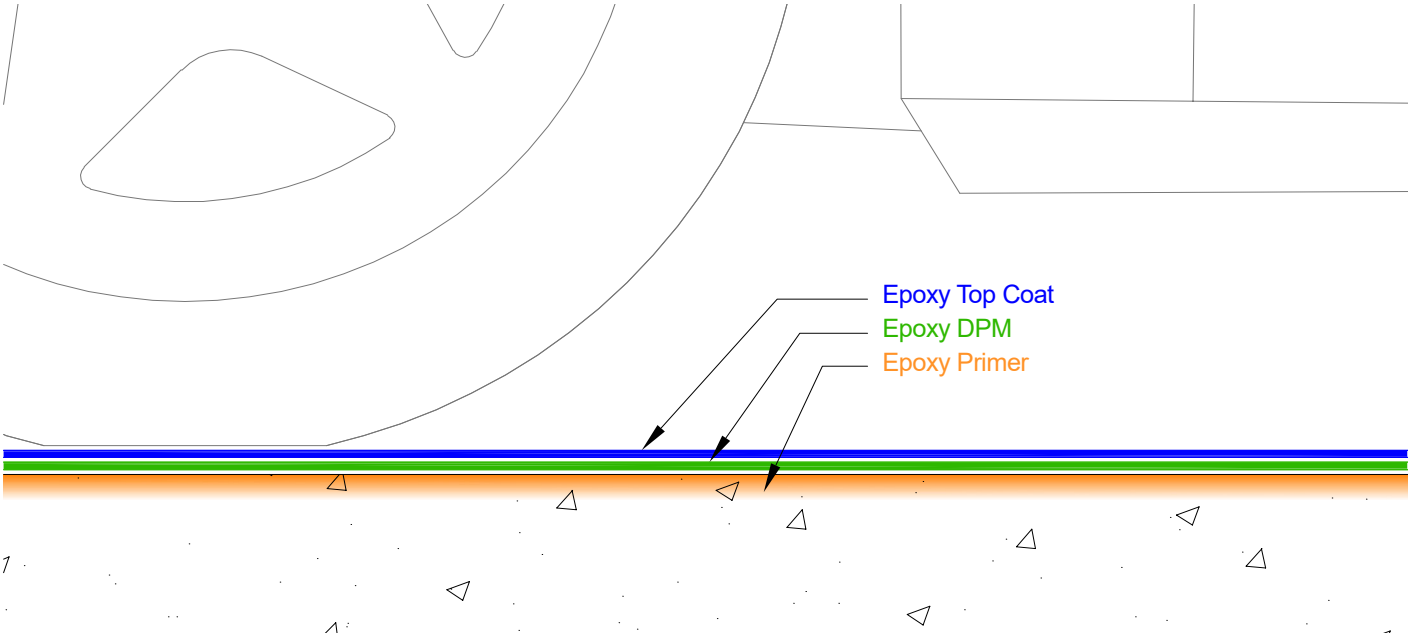
TYPICAL DETAIL

The drawing below shows a typical Newton NewCoat Flooring System for an internal car park or garage. Further coats of Epoxy Top Coat can be applied to areas where higher chemical or mechanical wearing agents are expected.



NEWTON NEWCOAT SYSTEM

Epoxy Top Coat is a primary component of the Newton NewCoat System for the coating and protection of concrete and screed surfaces subject to chemical and mechanical wear. In nearly all cases, Epoxy Top Coat will be applied above priming coats of Epoxy Primer and Epoxy DPM as shown in the detail above.

Further coats of Epoxy Top Coat in alternating colours can be applied to further enhance protection against wearing agents.

ANCILLARY PRODUCTS

- Epoxy Primer - Pre-primer
- Epoxy DPM - Primer

LIFE EXPECTANCY

Epoxy Top Coat is very resistant to mechanical and chemical wear. However, it is impossible to accurately determine the life expectancy as this is dependent on the type, frequency and aggressiveness of the wearing agents. If the wear expectations are high and the coating is not protected, we suggest the O&M manual requests inspection at appropriate intervals. Please speak with the installing contractor or our Technical Team for advice.

Further wearing coats should be considered. If coloured wearing coats are applied and reapplied when necessary, as described in the section below, Epoxy Top Coat has a service life that can be equal to the design life of the substrate it is applied to.

PROTECTION OF THE COATING

Although Epoxy Top Coat is a durable and resistant coating, if high levels of wear are expected due to the surface being subjected to very aggressive mechanical or chemical wearing agents, it is recommended that further protective coats of Epoxy Top Coat are applied, in alternate colours, to show wear in the protective coats and so as not to damage the main coating.

SLIP & ENHANCED WEAR RESISTANCE

To provide slip resistance and even greater durability against wear, dry-kiln sand, coloured sands or grit can be 100% broadcasted into the primer coat of Epoxy DPM whilst still tacky, and will provide an-abrasion resistant protective finish with very high levels of slip resistance to the finished coat of Epoxy Top Coat.

Alternatively, if further coats of Epoxy Top Coat are to be applied for greater wear resistance, broadcast sand into the penultimate coat. Brush off excess sand prior to application. Lightly casting fine aggregates to a still tacky final coat will increase slip resistance without changing the look of the final finish as the aggregate will be taken into the epoxy coating.

Because there are so many options to provide varying levels of slip resistance, the exact method used should be discussed with the Newton trained contractor who is undertaking the work, or discussed with a member of our Technical Team.

For areas where very high levels of mechanical wear are expected, bauxite sand should be used.

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SPECIFICATION

Newton Waterproofing Systems work in partnership with RIBA NBS who publish our products on NBS Source. The platform integrates seamlessly into project workflows, providing all product data from Newton's NBS BIM Objects, NBS Plus Clauses and RIBA Product Selector into one single source of product information.

NBS Source also hosts a large selection of Newton case studies, as well as product literature and certifications.

A wide range of drawings are available on our website.

SPECIALIST TOOLS REQUIRED

- A professional short-piled roller will give better results than a standard DIY roller
- Professional resin floor squeegee

TRAINING AND COMPETENCY OF THE USER

Epoxy Top Coat should only be used by those with an understanding and experience in the use of two-part resins applied to floors.

PACKAGING

The product consists of two parts, A and B, both of which are measured and ready to be mixed:

- Part A (Tin of resin) 4.17 kg
- Part B (Tin of hardener) 0.83 kg

APPLICATION RATE

To a minimum thickness of 0.15 mm (150 microns), which requires an application rate of 0.25 kg/m^2

CONSTRUCTION & PREPARATION

Please consult the Epoxy Primer and Epoxy DPM technical data sheets.

MIXING

Newton Waterproofing supply the full range of Collomix Mixing Equipment that includes Hand Mixers, Stirrers, Mixing Stands, Buckets, Transport Carts and the Mixer Clean mixing bucket.

Epoxy Top Coat can be mixed with the LX 90 stirrers, matched to the Xo 1 Hand Mixers. A Low-speed drill can also be used.

- Place the hardener (Part B) into the resin (Part A).
- Scrape the bottom and sides so that all of the hardener is mixed into the resin
- Mix for two minutes using the LX 90 stirrer, ensuring that all of the Part B hardener is fully mixed with all of the Part A resin

APPLICATION

Application must take place within the inter-coat adhesion window of the Epoxy DPM that the Epoxy Top Coat is applied over. Please refer to the technical data table on page 2 of the Epoxy DPM data sheet.

If it is not possible to apply the Epoxy Top Coat within that window, a mechanical key is required. This can be achieved by lightly abrading the surface of the finished Epoxy DPM, or, if it is known that the application will be outside the window, by 100% broadcasting dry kiln sand into the still tacky surface of the Epoxy DPM. Please bear this in mind when planning the project.

Apply Epoxy Top Coat with a roller or brush to a consistent thickness to give an even and smooth finish, and always apply to a wet edge.

For best results, pour the mixed product onto the substrate in small quantities and quickly roller it out.

Alternatively, a squeegee can be used to place the product.

- Pour mixed material evenly within marked bays
- Use a squeegee to evenly distribute the product material over the specified area
- Check thickness with a wet film gauge
- Use a roller to ensure an even finish
- Monitor the product in the tin to ensure it is not overheating
- Do not leave the tin upside down on the substrate

Wet film gauges are available on request.

POT LIFE & WORKING TIME

Epoxy Top Coat has a working time of 30 minutes but a pot life of only 15-20 minutes. If the product is not used within 20 minutes, decant it into smaller tins.

WARNING: Mixing of the hardener with the resin results in an exothermic chemical reaction. Leaving too much product in the tin for too long will result in the product and the tin becoming very hot.

NOTE: Although the exothermic reaction is the main determinant of pot life, the ambient temperature will also have an effect, with the the pot life reducing further in warmer and hotter conditions.

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DRYING TIMES

For curing/drying times please see the Technical Data Table on page 2.

OVER-COATING

Application of further coats of Epoxy Top Coat should be at 90º to the first coat and must be carried out within the inter-coat adhesion window confirmed on page 2.

If it is not possible to apply further coats of Epoxy Top Coat within that window, a mechanical key is required. This can be achieved by lightly abrading the surface of the finished product, or, if it is known that the application of the further coating will be outside the window, by 100% broadcasting dry kiln sand into the still tacky surface of the first coat. Please bear this in mind when planning the project.

CLEANING

Wipe excess product from tools and equipment with a rag and then clean with xylene.

Hardened product can only be removed mechanically.

LIMITATIONS

- Concrete and screed surfaces must be pre-primed with Epoxy Primer and primed with Epoxy DPM
- Minimum substrate temperature must be +8ºC and rising
- Do not apply at temperatures higher than +30°C

COLOUR & PURCHASE CODES

- Graphite Grey (RAL 7015) - 701-HB
- Carmine Red (RAL 3013)* - 701-HB-R

Other colours are available on request. Lead times will vary so please provide as much notice as possible.

Variable minimum order quantities will also apply, so please check with the Newton Sales Team.

Colours are based on the RAL colour pigment used, not the finished product. The exact colour is slightly lighter. *The Carmine Red variant is is not a stock item.

STORAGE

Store in dry conditions at temperatures between +10°C and +30°C with containers fully sealed. Do not expose to freezing conditions.

If these conditions are maintained and the product packaging is unopened, then a shelf life of up to 12 months can be expected.

HEALTH & SAFETY

Product should only be used as directed. The Safety Data Sheet (SDS) should be carefully read prior to application of the material.

The SDS is available upon request from Newton Waterproofing or online via our website. Please see contact details below.

Use appropriate PPE for the environment the system is installed within. Use products only as stated within this Technical Data Sheet and the SDS.

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CE 17	JN NEWTON WATERPROOFING	Newton Waterproofing Systems Newton House 17-19 Sovereign Way Tonbridge Kent TN9 1RH	701-HB EN 13813:2002 Two-componant epoxy resin based floor coating. **According to EN 13813: SR-B2.0-AR0.5-IR10. For internal uses only and not subject to fire regulations**

Essential characteristics	Declared performance	Test standard	Harmonised Technical Standard
Release of corrosive substances	SR	(EN 13813, 5.3.5)	EN 13813:2002
Water permiability	NPD		
Wear resistance	AR0.5	EN 13892-4	
Bond strength	>B2.0	EN 13892-8	
Impact resistance	>IR10	EN ISO 6272	
Reaction to fire	NPD		
Sound absorption	NPD		
Thermal resistance	NPD		
Chemical resistance	NPD		

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