DUPOXY™

DUPOXY SL 400

Heavy duty, flow applied 4 mm thick epoxy resin floor topping

Description

Dubond's Dupoxy SL 400 is a four component, pre-weighed self leveling top coating, consists of graded aggregates bound in a pigmented epoxy resin. It provides a Hygenic, seamless, monolithic, non porous, smooth,and light-reflective surface with chemically resistant properties. It is available in a range of standard (RAL) colours

Uses

Dupoxy SL 400 is designed for use in a wide range of light to medium industrial environments where a lasting solution to floor maintenance problems is required. It provides a dense, impervious, coloured and chemically resistant floor surface which is hygienic and easy to clean. Typical applications include :

- Dry Food Process plants.
- Traffic aisles in factories or warehouses.
- Dairies.
- Soft drinks production facilities.
- AGV tracks.
- Manufacturing Plants / Laboratories
- Pharmaceutical manufacturing areas.
- Light industrial plants.

Advantages

- Heavy Duty - Provides good protection in industrial environments.
- Fast Application - Minimises downtime.
- Hygienic - Provides a dense, impervious seamless floor surface which is easily cleaned.
- Chemically Resistant - Good resistance to a wide range of industrial chemicals.
- Attractive - Available in a wide range of colours to enhance the working environment

Specification

Heavy Duty Epoxy floor topping

The designated floor area shall be surfaced with Dupoxy SL 400 , a 5 mm thick flow-applied epoxy resin floor topping. The topping shall achieve a compressive strength of 60 N/ mm^2 and a flexural strength of 30 N/mm^2 at 7 days when tested to BS 6319. At 20°C, it shall be capable of accepting foot traffic at 24 hours and vehicular traffic at 48 hours.

Chemical Properties

Dupoxy SL 400 has excellent resistance at ambient temperatures to a wide range of industrial chemicals. Specific data is available on request.

Note that it is especially important that spillage is cleaned up quickly and not allowed to dry since much higher concentrations of chemicals may occur on evaporation.

Properties

The values given below are average figures achieved in laboratory tests. Actual values obtained on site may show minor variations from those quoted.

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POT LIFE	@ 25°C	@ 35°C
Dupoxy SL 400	1 hour	20 mins.
Dupoxy Prime SFW & SFD	3 - 4 hours	1 - 1.5 hours

PHYSICAL PROPERTIES	@ 20°C	@ 35°C
Compressive strength @ 7 days (BS 6319)	60 N / mm^2	60 N / mm^2
Flexural strength @ 7 days (BS 6319)	30 N / mm^2	30 N / mm^2

CURE TIME	@ 20°C	@ 35°C
Foot Traffic	24 hours	16 hours
Vehicular Traffic	48 hours	36 hours
Chemical Resistance	7 days	4 days.

Specific Gravity **2.017 g / cc**

Design Criteria

Dupoxy SL 400 is designed for application at a nominal thickness of 4 mm.

Substrates should be dry and not suffer, or be likely to suffer, from rising damp . If necessary, suitable damp- proof membranes should be installed during construction to prevent this. Substrates should not have a relative humidity greater than 75% at the time of installation.

Instruction for use

Dupoxy SL 400 should be applied by specialist contractors who must follow the procedures laid down in the Product Method Statement. Dubond works with a network of such applicators who have been trained in the correct installation procedures. The following steps are involved in the application which would normally take place over a 2 to 3 day period

Surface Preparation

It is essential that Dupoxy SL 400 is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product or its primer.

New Concrete Floors

New concrete, or cementitious substrates, should be at least 28 days old and have a moisture content not exceeding 5%. Laitance deposits on new concrete are best removed by light grit blasting, mechanical scrabbling or grinding.

Old Concrete Floors

Existing concrete floors which require refurbishment must be prepared to ensure a strong adhesive bond between the flooring system and the existing floor. Mechanical cleaning methods are strongly recommended particularly where heavy contamination by oil and grease has occurred or existing coatings are present. To ensure adhesion, all contamination should be removed. Alternatively, blasting techniques can be used to provide the required substrate.

Steel Surfaces

Steel surfaces should be degreased and grit blasted to SA2½ immediately prior to application. The prepared surface should then be primed with one coat of Dupoxy Prime SFW & SFD

Priming

All surfaces treated with Dupoxy SL 400 should be primed with Dupoxy Prime SFW & SFD, a solvent based epoxy resin primer designed for maximum absorption and adhesion to concrete substrates.

Add the entire contents of the hardener tin to the base tin and mix the two primer components thoroughly for at least 2 minutes - under no circumstances should part mixing be considered.

Once mixed, the primer should be applied immediately to the prepared substrate using stiff brushes and/or rollers. The primer should be well 'scrubbed' into the substrate to ensure full coverage, but care should be taken to avoid over unsightly application or 'ponding'.

Allow the primer to dry (see table below) before proceeding to the next stage. Do not proceed whilst the primer is 'tacky' as this will lead to unsightly marks in the finished surface.

Porous substrates may require a second primer coat - when the first coat is directly absorbed into the substrate - but minimum overcoating times must still be observed (see table below).

The minimum overcoating times will vary slightly according to the porosity of the substrate. However, they should be in accordance with the following ambient application temperatures.

20°C	30°C	40°C
8 - 12 hours	6 - 8 hours	4 - 6 hours

Mixing

Dupoxy SL 400 flooring is supplied in four pre-weighed packs (base, hardener, aggregate and colour pack) which are ready for immediate on-site use. Part mixing of these components is not ac c eptable and will affec t both performanc e and appearance of the finished floor.

Mixing should be carried out using either a forced action mixer; or a heavy duty, slow-speed drill with proprietary mixing paddle attachment. All such equipment should be of a type and capacity approved by Dubond. The components should be mixed in a suitably sized mixing vessel.

The colour pack should be added to the base container and mixed for 15-30 seconds, until homogeneous. Then add the hardener and mix for further 30 seconds, until an even colour and texture is obtained.

Thereafter, the contents of the graded aggregate pack should be slowly added and mixing carried out for a further 3 minutes until a completely homogenous material is obtained.

Application

The applicator should ensure th at there are sufficient supplies of plant, labour and materials to make the mixing and subsequent application process acontinuous one for any given, independent floor area.

Once mixed, the material must be used within its specified pot life.

The material should be poured onto the prepared and primed substrate as soon as mixing is complete. It should be spread to the required thickness preferably using a serrated trowel; with care taken not to overwork the resin, spreading evenly and slowly.

Immediately after laying, the material should be rolled, using a spiked nylon roller, to remove slight trowel marks, and to assist air release. The rolling should be carried out using a ‘back and forth’ technique along the same path. An overlap of 50% with adjacent paths is recommended.

Further light rolling may be required to remove surface in perfections, or for subsequent release of trapped air, but should be prior to setting of the product.

Floor Joints

All existing expansion or movement joints should be followed through the new floor surface.

Joint sealant & joint geometry should be compatible with the floor type used., intended exposure conditions and likely movement characteristics of the substrate - consult the local Dubond office for more details.

Cleaning

Dupoxy Prime SFW & SFD and Dupoxy SL 400 should be removed from tools and equipment with Dupoxy Thinner immediately after use. Hardened material can only be removed mechanically.

Maintenance

The service life of a floor can be considerably extended by good housekeeping. Regular cleaning may be carried out using a rotary scrubbing machine with a water miscible cleaning agent at temperatures up to 50°C.

Technical Support

Dubond offers a comprehensive range of high performance, high quality, flooring, jointing and repair products for both new and existing floor surfaces. In addition, the company offers a comprehensive technical support service to specifiers, end users and contractors.

Limitations

- Dupoxy SL 400 should not be applied on to surfaces known to, or likely to suffer from, rising dampness, potential osmosis problems or have a relative humidity greater than 75% as measured in accordance with BS 8203 Appendix A, or by Protimeter.
- In areas where significant thermal shock is likely to occur, please consult the local Dubond office.
- Dupoxy SL 400 should not be applied to asphalt, weak or friable concrete, unmodified sand/cement screeds, PVC tiles or sheet.
- For information on other substrates, consult the local Dubond office.
- Dupoxy SL 400 should not be installed at temperatures below 10°C or above 45°C.
- In common with all epoxy materials some light shade changes may be experienced over the long term when placed in adverse conditions. Any such change in shade is not regarded as being detrimental to performance.

Packaging

Particulars	Pack Size
Dupoxy SL 400	15 litre (Including Colour Pack)
Dupoxy Prime SFW & SFD	1 & 5 litre
Dupoxy Thinner	5 & 20 litre

Coverage

Dupoxy SL 400	3.75 m^2 / pack @ 4mm thickness
Dupoxy Prime SFW & SFD	5.2 - 6.2 & 6 - 8 m^2 /ltr.

Note : The coverage figures given are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures will be reduced. Typically, an additional 10% should be allowed for surface irregularities and wastage although this will vary with site conditions.

Shelf Life

Dupoxy SL 300 has a shelf life of 12 months if kept in warehouse conditions at 30°C in the original, unopened pack.

Storage

Store in dry conditions between 5°C and 30°C, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures the shelf life will be reduced.

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Health & Safety

Dupoxy SL 400, Dupoxy prime SFW & SFD, Dupoxy Prime FS and Dupoxy thinner should not come in contact with the skin and eyes, or be swallowed.

Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins, hardeners and solvents. W ear suitable protective clothing, gloves and eye protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do not induce vomiting.

Fire

Dupoxy Prime SFW & SFD and Dupoxy Thinner are flammable. Keep away from sources of ignition. No smoking. In the event of fire extinguish with Co_2 or foam. Do not use a water jet.

Dupoxy SL400 is non-flammable.

Flash Points

Dupoxy Prime SFW & SFD	:	25°C
Dupoxy Thinner	:	33°C

Disposal

Spillages of component products should be absorbed on to earth, sand or other inert material and transferred to a suitable vessel. Disposal of such spillages or empty packaging should be in accordance with local waste disposal regulations.

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