



Chem Coats (Pvt) Ltd.

ChemCoat 440

Polyurethane acrylic enamel coating

DESCRIPTION

ChemCoat 440 is a two-component, solvent-borne polyurethane acrylic enamel clear or pigmented coating.

USES

ChemCoat 440 is a protective and decorative coating for steel, concrete, timber, and certain other surfaces.

BENEFITS

- Can be applied to many surfaces.
- Offers excellent weather resistance.
- Offers good water resistance.
- Resists aliphatic solvents.
- Good resistance to dilute acids and alkalis.
- Non-toxic once cured.

SURFACE PREPARATION

ChemCoat 440 is normally applied over primed surfaces and therefore surface preparation is consistent with the primer being used.

At the time of applying ChemCoat 440 the surface must be clean, mechanically sound and dry.

TIMBER if timber is to be sealed with ChemCoat 440 (clear) it must be sanded, smooth and all debris of sanding must be completely removed. Oily timbers such as teak should be washed down with pure acetone (not oily acetone) and allowed to dry before coating with ChemCoat 440.

BONDING / PRIMING

Recommended primers under ChemCoat 440 are:

- Steel- ChemCoat 384
- Concrete and other porous surfaces
- ChemCoat 386

If a high quality finish is required on metallic surfaces, an undercoat of ChemCoat 386 should be applied over the ChemCoat 384

ChemCoat 386 is easy to rub down with emery or sand paper and to achieve the best finish, this should always be done. All resulting debris must be removed.

If wet sanding is used, the surface must always be allowed to dry completely as any trace of moisture under ChemCoat 440 will promote bubbling in the film. Where ChemCoat 440 clear is used on timber, no priming is required. Dilute the first coat material with 15% ChemCoat Thinners No. 3.

MIXING

Stir the contents of each container, particularly the base, very well. Add activator to base and stir together for at least five minutes using a flat paddle. It has been found that mechanical mixing gives better dispersion than manual mixing. A suitable mixing method would be by slow-speed electric drill (approximately 200r/min) fitted with a paddle.

The mixed material must be left to stand for 20 minutes prior to application.

If thinning is needed, use only ChemCoat Thinners No. 3. Incorrect choice of thinners may cause bubbling in the film.



PROPERTIES OF WET MATERIAL

Mixing ratio	8 base to 1 activator by volume
Flash point	17° C
Density (typical)	Clear 0.95 g/ml Pigmented 1.08 g/ml
Dilution	With ChemCoat Thinner No. 3
Colour	Clear or pigmented as per Chem Coats colour chart
Finish	High gloss

PROPERTIES DURING APPLICATION

Pot life	8 hrs / 5 l at 25° C
Induction period	Allow to stand for 20 minutes in shade after mixing
Volume solids (typical)	43% pigmented 35% clear
Recommended average dft per coat	35 - 40 µm pigmented 25 µm clear
Theoretical coverage for dft	12.5 m ² / l pigmented 16.5 m ² / l clear
Wet film thickness at above	80 µm pigmented 60 µm clear
Maximum recommended wft	100 µm pigmented 80 µm clear
Practical coverage for estimating purposes	10 m ² / l pigmented 13 m ² / l clear
Drying time @ 25° C	Touch dry - 15 min Hard dry - 1 hr Full cure - 7 days
Equipment clean-up	With ChemCoat Brush Cleaner

PROPERTIES OF DRY FILM

Maximum service Temperature	Dry — +80° C Immersion — +70° C
Hardness	2 000 gm (sheen scratch test)

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CHEMICAL PROPERTIES OF DRY FILM	
Weather resistance	Does not chalk, white does not yellow
Toxicity	Non-toxic when cured
Distilled water resistance	Good
Water resistance	Excellent
Solvent resistance	Resists aliphatic solvents
Chemical resistance	Good resistance to dilute acids and alkalis

APPLICATION

ChemCoat 440 should be applied to the pre-primed surface within the over coating time stipulated for the relevant primer.

Bubbling can result from using damp brushes or short-fiber rollers that are not completely dry before use and also from applying too thick a film of material. Never apply thicker films than recommended.

ChemCoat 440 should not be applied if the ambient temperature is below 8° C. The curing reaction will not proceed at low temperatures. If the surfaces are not at least 2° C above the dew point, a film of condensed moisture could be present. This again will cause bubbling as well as compromising adhesion.

CLEANING

ChemCoat Brush Cleaner before curing.

PROTECTION ON COMPLETION

Protect surface against traffic and spillage until cured.

PACKAGING

ChemCoat 440 is supplied in 5 liter containers.

HANDLING & STORAGE

All ChemCoat 440 related products have a shelf life of 12 months if kept in a dry, cool store in the original, unopened packs. If stored at high temperatures and/or high humidity conditions, the shelf life may be reduced.

HEALTH & SAFETY

Wet ChemCoat 440 is toxic and flammable. Ensure working area is well ventilated during application and drying. Avoid naked flames in the vicinity. Avoid inhalation of dust and contact with skin and eyes. Suitable protective clothing, gloves, eye protection and respiratory protective equipment should be worn. The use of barrier creams provides additional skin protection. If contact with skin occurs, wash with water and soap. Splashes into eyes should be washed immediately with plenty of clean water and medical advice sought.

Cured ChemCoat 440 is inert and harmless.

IMPORTANT NOTE

The information given in this data sheet is based on current development work and many years of field experience. Whilst every effort is made to ensure that the information is reliable, we cannot accept responsibility for any work carried out with our materials as we have no controls over methods of applications, site conditions etc. In view of the continuing research and development being undertaken in our laboratories we advise customers in their own interest to ensure that this data sheet has not been superseded by a more up-to-date publication. All products are sold subject to our standard conditions of sale which are available on request. Field services, where provided, does not constitute supervisory responsibility. For additional information, please contact your local Chem Coat's representative.

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