



High Performance Paint Specification



PS-E005

TYPICAL AVOIDABLE EPOTEC PROBLEMS

INTRODUCTION:

The PS-E005 series is a collection of the most common questions asked, which usually relate to simple mistakes made during the use of EPOTEC.

TOTAL OR RANDOM STICKY PATCHES

PROBLEM:

Sticky patches in the coating. EPOTEC is a two component epoxy coating system. The epoxy resin component requires the correct amount of hardener to achieve the final cured proportion. Too little or too much hardener will cause a problem.

The hardener must be well mixed with the resin (mixing the sides and bottom is extremely important). Leave for approximately 10 minutes to allow the reaction to proceed. If not mixed completely the resin proportions will remain sticky and in extreme cases this will NEVER cure.

CORRECTION:

All sticky areas need to be completely removed, which is a very messy, difficult task.

The procedure is:

- 1 Use a broad knife or similar to scrape out the uncured/sticky areas.
- 2 Using fresh rags soaked in EPOTEC thinners, wash the areas to ensure all sticky patches are free from colour. (Use rubber gloves which do not dissolve in solvent).
- 3 Allow to dry for 2-3 days to ensure ALL solvent has evaporated from the substrate (concrete especially takes time). Usually if you can smell solvent, it has not evaporated.
- 4 Use a grinder or sandpaper to roughen the areas surrounding that have cured hard.
- 5 Remove all dust from the area.
- 6 Apply two coats of EPOTEC.

NOTE:

- * EPOTEC thinners is flammable so avoid contact with naked flames, sparks or electrical ignition sources.
- * Always wear protective apparatus such as gloves, dust mask etc.

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SURFACE IS CURED BUT THE FILM IS SOFT UNDERNEATH (EPOTEC HB)

PROBLEM:

There may be areas that have cured normally, but in some thick areas the surface is cured but the middle of the film is soft. Running a finger over the surface will show the surface deforming.

REASONING:

The curing mechanism of the EPOXY is such that if the film is applied very thick, the rate of cure in the centre of the film is reduced dramatically. EPOTEC High Build Epoxy is NOT a satisfactory GAP filler. Always apply two coats if the film build needs to be greater than 250 microns.

CORRECTION:

Unless the ambient temperatures are very cold (less than 10°C), the soft film will harden. This may take 1 – 2 weeks which is more than the time recommended to allow before filling.

WHITE BLUSHING ON THE SURFACE (EPOTEC HB)

PROBLEM:

White powdery blushing/blooming is seen on surface, soon after product has been applied and before it is fully cured.

REASONING:

This is the result of unattached hardener reacting with carbon dioxide and moisture from the air. It usually occurs during very humid conditions or after rain falls onto partially cured Epotec High Build Epoxy. The dew point also plays an important consideration. If ambient temperature is 13°C, relative humidity is 60% then the dew point is 4°C. At ambient temp of 21°C, the dew point rises to 13°C. Consequently if Epotec High Build Epoxy is applied to a surface at either 4°C or the ambient temperature is below 13°C, in the above situation, dew may form causing blushing on the partially cured material.

MINIMISATION:

When applying Epotec High Build Epoxy in shady areas, or areas that are often cold, great care is needed to ensure the dew point is not approached or reached. Mixing the Epotec High Build Epoxy, THOROUGHLY, will reduce the chances of un-reacted hardener being available to react with moisture. Allow mixed material to STAND for 10 minutes, ensures better reaction with the resin. For inside applications, GOOD ventilation to remove humid air will help. Prevent RAIN, from landing on the curing surface for min of 6 - 8 hours.

CORRECTION:

The blooming does not detrimentally affect the ability of the coating to do its job, it just does not look nice. The white powdery substance is not soluble in water so needs to be scrubbed off the surface by using a Scotch Brite pad. An automotive cutting compound is also a possible solution. If a substantial area of the pool has been affected then a complete sanding and recoating may be necessary.

CHALKING WHERE EXPOSED TO UV LIGHT

PROBLEM:

Areas exposed to UV light and weather have lost the gloss and chalked (the surface goes powdery). The chalked appearance is usually white in colour.

REASONING:

This is not a fault of application, it is a characteristic of EPOXY RESIN SYSTEMS. Swimming pool paints are designed as a functional coating to withstand total emersion and chemicals used to treat the water. Although chalking occurs when exposed to weather and sunlight, the coating still maintains its function as a protective and decorative coating.

CORRECTION:

If the colour of the weathered coating is aesthetically unacceptable a light rubbing with a "Scotch Brite" pad, wet with water will remove some of the chalking and revive the original colour.

For further information contact Coating Technologies Limited's technical department.

THE SURFACE DEVELOPS “BROWN” STAINS SOON AFTER APPLICATION (EPOTEC HB)

PROBLEM:

There may be areas that have cured normally, but in some places a ‘brown’ stain develops. This may be randomly over the cured surface or show brush, roller marks. They cannot be removed by rubbing, washing etc.

REASONING:

This staining is purely aesthetic and does not interfere with the performance of the Epotec coating. The stain is formed when a hardener rich area is left because of poor mixing and this results in a alternative chemical reaction and this gives the brown colour. Insufficient standing time or a flushing out of the hardener in the mix by excessive solvent can also lead to the same brown colour problem (a practice used when spraying).

CORRECTION:

Unless there is good aesthetic reasons, simply ignore the result and fill the pool. Usually it disappears over time. If the aesthetics require remedial action, apply a further coat over the total area, making sure that it’s completely mixed, stands for 10 mins and is brush/roller applied. If more than 72 hours has elapsed between coats, lightly mechanically abrade the surface and wash, to provide a mechanical key.

HARD WHITE DEPOSIT FORMS ON WALLS AND FLOOR OR DARK BROWN OR ORANGE STAINING ON THE SURFACE

CAUSE:

The hard white deposit is lime formed from the dissolved Calcium salts (hardness) in the water. Mostly, water from above ground supply (rivers and dams) is relatively low in hardness but water from underground aquifer and bores can be very high. The only way to remove this is to empty the pool and dissolve it off with Hydrochloric acid or abrade the surface back.

Many other stains can be caused by minerals in the water and the other most common ones are dark orange/purple, caused by Manganese and dark brown or rusty colour cause by Iron. Both of these stains can be removed by acid washing.

WHITE STREAKS RUNNING OFF TILE GROUP LINES

PROBLEM:

A newly built pool, which has a water line of tiles that have a white/coloured cement grout, can form a stain that runs down over the EPOTEC coating. The effect is a series of vertical lines and the length and intensity is proportional to the depth of the grout lines.

REASON:

The grout contains lime, which when fresh is easily dissolved by rain water. The water run off precipitates calcium salts (Limestone), which is the white trail.

CORRECTION:

A wash with dilute acids will remove the lime build up. Suitable acids are diluted Hydrochloric Acid, vinegar or Sulphamic Acid. The effect happens on any surface, E.g. Glass, paint etc.

CLOUDY WATER AND SOFT DEPOSIT ON THE WALLS AND FLOORS OF A SWIMMING POOL

PROBLEM:

The water is cloudy, and when the sides are brushed a cloud of fine material comes away in the water.

REASON:

Many people jump to the conclusion that the paint is breaking down and this is the reason for the cloudy water. The usual reason is an imbalance in the water chemistry which is an area where there is a division of opinion. Some "pool experts" are not well informed and say the water is good because e.g. the chlorine and pH are OK, therefore they conclude that the problem is with the paint. An informed water chemist understands much more and would understand e.g. the "Langelier Saturation Index". The subject is obviously complex and it's not appropriate to go into detail here.

CORRECTION:

Discuss with Coating Technologies Technical department. Find a competent water chemical/pool maintenance person. When dosing a pool with chemicals, don't make an adjustment for more than one variable and allow the pool to stabilize before making the next move. The time period often suggested is overnight between adjustments.

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