Updated 16th August, 2012

A&I Coatings FAQ Sheet No. 1

Envirothane 2100 & 2200

1. **What is the best way to prepare a concrete floor for painting?**
   The important thing about a floor is that it is clean, dry, and etched. In the last 15 years, diamond grinding has become much more cost effective and therefore popular. We see this as the ideal way to prepare a floor, although grinding marks need to be minimal or they are likely to show in the finish coat. Some contractors still like to acid etch, and we are happy with a floor prepared this way so long as it is obviously etched and thoroughly rinsed. If a floor has a release agent of some sort on it, acid washing is unlikely to be adequate.

2. **Is a hot, high pressure water blast suitable for the preparation of older uncoated concrete?**
   We see grinding as first choice then acid etching as second choice and water blasting only as a last resort. If water blasting is the only option we recommend the water droplet test to be done once the concrete has dried from water blasting. This test is where a few drops of water are placed on the concrete and if the water soaks into the concrete then the concrete should be fine for coating but if the water droplets bead on the surface of the concrete then the concrete needs to be treated further.

3. **What is the main difference between E2100 and E2200?**

   E2100 finish is Satin and E2200 is Gloss.

4. **Can E2200 be applied direct to the concrete?**
   Yes, but mostly the better system will have E2100 being applied as a primer coat. E2100 is lower solids, achieves better concrete penetration, is more economical and is very easy to use.

5. **How important are the mixing ratios of base (pack A) to hardener (pack B) in E2100 & E2200.**
   The mixing rations are very important. They are very simple:
   a. E2100 is 1:1 which means 1 litre of pack A is mixed with 1 litre of pack B
   b. E2200 is 2:1 which means 2 litres of pack A is mixed with 1 litre of pack B
   The quantities can be modified, but the ratios must remain constant. So for example, if I need 6 litres of E2100, I can mix 3 litres of pack A with 3 litres of pack B.

6. **Are the hardeners (pack B's) of E2100 and E2200 interchangeable?**
   No, you must use E2100A with E2100B and E2200A with E2200B

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7. **How critical is pot life?**
   Very – if it isn't observed, colour and gloss variation will be seen, and ultimately, the mixed product will become unusable. **However with a water based epoxy, time is the most important measure of pot life as it doesn't actually become hard for a long time.**

8. **How should the two packs be mixed?**
   The best way to mix the two components is by a power stirrer. Normally, these are operated by a battery drill. Mix for about 1 minute so that the combined product is consistent and thoroughly blended**. Only after mixing Pack A and Pack B together should water be added if it is needed for thinning.**

9. **Is this system suitable for potable water?**
   No, it isn't. The system we recommend for potable water is E2100 and then E4110 Solvent Free Epoxy.

10. **Should the first coat be thinned out?**
    It is essential that the first coat achieves penetration into the top layer of the concrete slab. If the slab is a tight, hard, steel troweled finish, it will definitely benefit from a thinned out first coat. E2100 can be thinned up to 25% with water if necessary to help it achieve penetration. **Thinning E2100 with water for the first coat will also help to bind porous concrete. Very low strength friable concrete should be primed with E4001 100% Solids Penetrating Primer.**

11. **What is the best method of application?**
    This depends on the circumstances. In large areas, spraying by airless may be the best option. Some helpful hints here are:
    a. Thin with water to spraying viscosity – try 10% first
    b. Use about a 20 thou spray tip
    c. Use a medium/course gun filter
    d. Pump pressure approximately 1750 psi
    e. Take care to adequately mask nearby sensitive and finished surfaces – epoxies can float wet for a long way
    f. Work fast to maintain a nice 'wet-edge'.

    Roller and brush is also fine, and in small areas, is probably the more suitable method. Spraying is faster and may provide a better finish, but it requires expensive machinery, and also overspray can be a problem.

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12. **If I spray, will the smell be a problem?**
    E2100 & E2200 are virtually odourless. However, spraying saturates the immediate air with atomized paint that obviously mustn't be breathed in, even if it is water based and non-toxic. Therefore, if spraying, make sure no people are in the near vicinity.

13. **Roller marks – how can they be avoided?**
    E2100 & E2200 have very good flow properties. Always roll in both directions – i.e. north/south, and then east/west. If roller marks can still be seen, add a small amount of water as thinner – try 10%. Make sure it is stirred in very thoroughly.

14. **With some floor coatings, bubbles appear in the surface. What are they and how are they avoided?**
    This issue is often called 'concrete out-gassing'. It occurs particularly when a floor grinder has exposed small pit holes that contain air. If the concrete is painted on a warming slab – i.e., mid-morning or mid-day, air entrained in these pit holes can expand, and if they have been sealed over, bubbles can form. E2100 and E2200 are not generally prone to having this issue, but if it is seen, some tips to overcome it are:
    a. Plan to finish a cooling floor rather than a heating floor
    b. Be careful to seal the floor thoroughly and evenly with the first coat
    c. In extreme cases, back rolling with a spiked roller can help
    d. Also in extreme cases, a 2nd coat of E2100 as a primer can help

15. **What is 'Theoretical Coverage' and how important is it?**
    This provides a guide to how much paint you are likely to use. It will vary depending on:
    a. The size, or area being coated – larger areas normally give a better 'coverage rate'.
    b. The condition of the substrate – for example, pitted floors will need a heavier coating than very smooth floors
    c. The expected wear to be imposed on the floor – in high traffic areas, a heavier coating is recommended
    d. The colour – some strong colours will require extra coats for full colour coverage

16. **How long must I wait between coats of E2100 and E2200?**
    The two coatings are completely compatible, but for the best finish, we recommend allowing the E2100 to dry overnight. If the E2200 is applied while the E2100 is still wet, the floor may appear patchy because of varied penetration into the concrete.

17. **How soon after I am finished can my customer use his floor?**

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This depends on the weather and the type of traffic that will be using the floor. If it is in Summer and the main traffic is foot or pedestrian, overnight dry may be adequate. If it is winter time and the floor needs to handle trucks, 3 days should be aimed for.

18. **I understand that dark coloured floors are prone to showing scratch marks more readily than light coloured ones. Is this the case and if so, is there anything that can be done to improve this?**
Yes, that is so – the pigment in dark colours mars more readily than in light colours. This can be greatly helped by overcoating with a thin layer of E8476 or E2000 clear which acts as a protective barrier. A spread rate of 8m2/litre is very achievable and will make a huge difference without adding prohibitive costs.