A&I Coatings FAQ Sheet No. 4

Envirothane 8470, 8472, 8474, 8476

Water based Polyurethane

1. **Can a water based polyurethane be applied directly to concrete**.
   No, an epoxy such as E2000 or E2100 is normally specified first as epoxies handle the alkaline nature of concrete better. The epoxy would normally need a light sand unless overcoated within the specified window. Refer to FAQ Sheet No. 1 on E2100 & E2200 for answers on concrete preparation etc.

2. **What is the main difference between E8470 and E8472?**
   E8470 is a Satin finish and E8472 is a gloss finish. E8470 will give a much higher build before CO2 bubbles occur. Both of these gloss levels can now be achieved in E8474. E8476 (5:1 Ratio) was the predecessor of E8474 (4:1 Ratio).

3. **How important are the mixing ratios of base (pack A) to hardener (pack B) in E8470 and 8472.**
   The mixing rations are very important. They are very simple:
   a. E8470 is 8 parts E8470 Pack A to 1 E8470 part Pack B
   b. E8472 is 4 parts E8472 Pack A to 1 E8472 part Pack B
   c. E8474 is 4:1 Ratio

4. **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, and then allow the paint to sit for 5 minutes. In lower temperature, stir again briefly prior to use

5. **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.

6. **How critical or influential is the weather conditions to the curing and performance of this system?**
   Temperature needs to be at least 10°C, and relative humidity must be no greater than 75%.

7. **What is the best method of application?**
   This depends on the circumstances. In large areas, spraying by airless may be the best option. Spraying is faster and may provide a better finish (no roller 'lap marks' or stipple), but it requires expensive machinery, and also overspray can be a problem.

   Some helpful hints here are:

a. Thin E8474 with water to spraying viscosity – try 5% first (thin only after mixing Pack A and B together.)
b. Use a medium gun filter, and try a tip size of about 18 thou
c. Pump pressure approximately 1750 psi
d. Take care to adequately mask nearby sensitive and finished surfaces – epoxies can float wet for a long way
e. Work fast to maintain a nice 'wet-edge'.
f. Make sure you thoroughly purge the machine and line with water before introducing Envirothane Urethanes and after you have finished
   Roller and brush is also fine, and in small areas, is probably the more suitable method. Use a tight weave microfiber roller with a 6mm to 12mm nap length. For large floors, 460mm rollers may be useful.

8. **What particular pitfalls are there in application of these products?**
   Envirothane Urethanes especially E8472
   will exhibit carbon dioxide bubbles if applied too thick.

9. **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

10. **Practically, what usage rates can be expected?**
    The following is a guide from field experience, although this will obviously vary from project to project.
    Spray Application:
1. E8470 thinned 5% with water – 7m²/litre
2. E8474 thinned 5% with water – 8m²/litre

    Roller Application
1. E8470 Unthinned – 7m²/litre
2. E8474 Unthinned – 8m2/litre

11. **If I spray, will the smell be a problem?**
    Envirothane Urethanes are virtually odourless, but do release some Isocyanate when sprayed. Proper PPE must be used, and other trades working in the area should be avoided.

12. **Roller marks – how can they be avoided?**
    Envirothane Urethanes have good flow properties. Always roll in both directions – i.e. north/south, and then east/west. Unfortunately, it is often impossible to completely eliminate roller marks.

13. **How long must I wait between coats?**
    For the best finish, we recommend letting the E8474 dry overnight before applying a 2nd coat.

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

15. **Is this system OK for outside use?**
    Yes it is very good for external use – it has excellent UV resistance.