



Barnstaple Magistrates Court

Built in the 1960s, Barnstaple Magistrates Court is a 2 storey building of reinforced concrete construction, with a vaulted roof over the main court area.

The 460m² flat roof was made up of:

- Chippings
- 20mm Asphalt
- 12mm fibre board on a bitumen/aluminium lined VCL
- Screed to falls
- Concrete deck

The use of solar reflective chippings can itself present many problems. They add dead weight to the building structure; they tend to retain dirt and water making them an ideal environment for organic growth; they make the tracing of leaks almost impossible whilst they are in place, and so on. The option of laying them loose is just as problematic as they tend to be moved or blown around the roof, exposing areas of the deck and blocking up outlets and gutters. When this happens, exposed and unprotected areas exist, resulting in thermal shock which quickly leads to the asphalt cracking and water ingress.

Cracks and stress lines could be seen in the existing asphalt, suggesting excessive movement or thermal shock was being experienced.

Due to existing plant and rooflights on the roof, a liquid system was put forward for the refurbishment, namely, liquid plastics.

Liquid plastics offer a warranted refurbishment with the following benefits:-

- Cold applied – eliminating the risk of fire in an occupied building during installation
- BBA certification – for up to 20 years
- EXT. F.AA and BROOF(t4) fire rating – unrestricted under part B of the building regulations
- Single point guarantee – available via a liquid plastics QA contractor
- Fully bonded
- Highly elastomeric
- Totally seamless
- Maintenance free
- Minimal disruption
- Re-coatable with warranty reissue at end of concession period
- British manufacturer – certified to ISO1400

It was agreed with the client to go ahead with the Decothane Gamma 20 system, which carries a 20 year warranty. This is a built up system and was applied after initially de-chipping, power washing and treatment of the substrate with Liquid Plastic's Bio Wash.



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The existing asphalt was made good and used as a vapour barrier. Decotherm flat board insulation was installed using Decostik cold fusion adhesive. This was followed by Liquid Plastics carrier membrane, again using Decostik.

The Decothane Gamma 20 system was then applied. This consists of a Decothane base coat, reinforced with Reemat Premium glass fibre matting followed by Decothane top coat.

Walkways were then installed using a contrasting colour Decothane top coat and a skid inhibiting agent.

Four weeks were allowed for the works and it was completed within three weeks, on budget, with no disruption to court services whatsoever.