COATING SWIMMING POOLS

HMG TECHNICAL INFORMATION

INTRODUCTION

Coating swimming pools has more than its fair share of problems in comparison with other industries such as vehicle refinish, rail, marine and general industrial applications.

Every year manufacturers of pool paints can count on hearing about disasters that have occurred when end users have paint peeling, blistering or failing to dry, amongst other problems. Failure of a pool coating may be caused by the paint itself being of poor quality or unsuitable for the application, inadequate application or pool filling issues. The resulting awkwardness of sorting out the reasons and rectification for these problems can be very time consuming and expensive. Ultimately, it would be very helpful to both the pool paint manufacturer and pool painters if problems were preventable.

POOL PAINT MANUFACTURE AND USE

HMG Pool paints are generally manufactured in batches of 500 Litres. This quantity allows for reduced raw material and labour costs that can in turn be passed onto the customer. All HMG paints including pool coatings are quality controlled to ISO 9002 standards and are then packed off into easily handleable tins for use.

The average requirement for the coating of a pool is 20 Litres. This means that if a problem were caused by a particular batch of paint being faulty then this problem would be expected to be replicated on the surface of 24 other pools. This has never happened.

In order to fully understand and rectify a problem it is absolutely necessary to know exactly which product and batch have been used. The product name and batch number can be found on every tin of paint that leaves HMG and this information should be noted before the product is used. In addition to this information, we would need to ascertain the substrate that had been coated, the environment and the equipment used for the application.

The use of a paint product in a very harsh environment, such as a swimming pool, can often be compromised or unknowingly be abused resulting in a partial or total failure that in many cases may not be obvious for some time after coating. Often the coating will fail quite dramatically some time after the coating has dried and the pool has been filled and used.

Inadequate preparation of the pool substrate and poor application is the most likely causes of failure. Any preparation or application short comings will always be exaggerated by the fact that the pool coating is ultimately going to be submerged in a slightly acidic solution for a considerable length of time.

The ultimate goal when coating a pool is two fold – Good adhesion and complete film formation. If both of these factors can be ensured then a durable coating can be expected.

Adhesion to a pool surface is obtained by two means, cleaning of the surface and use of the most suitable surface coating.

The substrate must always be clean and free of any contamination, such as salt residue in new concrete, dust, grease, oil, mould growth, unsound existing paint, residual chemicals or pool cleaners.

TYPES OF POOL PAINT

The choice of surface coating is also very important. The surface of the pool can be as clean and free of contamination as possible, but if the incorrect coating is applied then sufficient adhesion will not be obtained.

There are three types of paint that HMG specify and supply for application onto swimming pools.

- Chlorinated Rubber – This particular type of paint is used due to its very low transmission of water compared to many other types of paint. It adheres very well to a suitably prepared concrete surface. HMG Concrete and G.P. Sealer should be used to seal the pores of the concrete before over-coating with any pool paint. If there is any possibility of a high water table surrounding the pool a back pressure can be formed and Chlorinated Rubber products should be avoided, as blistering or peeling can be caused.

- HMG Epilife 2 Pack Epoxy – This product has excellent water-resistant properties similar to Chlorinated Rubber, but also shows improved durability and chemical resistance. Epoxy resin systems are however prone to slight Ultra Violet degradation that is visible as a chalking on the surface, this however does not reduce the film integrity, does not lessen the chemical resistance and does not occur in an internal scenario as Ultra Violet contamination is greatly reduced.
  Epilife 2 Pack Epoxy should always be used on Marblite pool surfaces.

- HMG Water Borne Pool Paint – Based on Acrylic Co-Polymers, this product has become more popular due to its low organic solvent content and high porosity. Back pressure problems caused by a high water table surrounding the pool are lessened due to reduced water barrier properties. The trade off to this is that meticulous substrate preparation must be carried out.

Application

Brush, roller or spray applications can be adopted when coating a swimming pool, but unless the end user is trained in the use of spray equipment, the most efficient and easiest method would be by a short pile roller. A second person following closely behind to lay off removing excessive foaming and working the coating well into the substrate will improve the finish.

Sufficient paint should be purchased for the job, from one batch as colour discrepancies can occur as in wallpaper.

Outdoor Pools – Once the surface has been satisfactorily coated, it must then be shielded from contamination and rain until it is thoroughly dry. The most efficient way would be to cover with waterproof sheeting, ensuring that this does not prevent solvent evaporation.

Indoor Pools – Application of a suitable coating is as with outdoor pools, however, the main problem is not with contamination, but air movement and removal of evaporated solvent. Lack of air movement can cause high levels of solvent in the atmosphere, which can be dangerous. External windows and doors should be left open when possible and air moving fans should be employed. Ensure that any electrical equipment has a power supply shielded from the solvent in the atmosphere.

Pool Filling

The final problem, once the pool is coated, is that of how long to leave it before filling with water. Full cure, dependent on product used, ambient temperature and film thickness can take up to two weeks and this length of time should always be a target before water is introduced to the pool. If there is any question of whether the coating is fully cured, then further advice can be obtained from HMG Technical Support.

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