

WATER BASE PRIMERS AND TOP COATS.

There is an increasing trend worldwide towards *industrial* waterborne coatings. This trend has come about for a number of reasons:

- 1) Environmental. There are significant concerns internationally and in South Africa regarding the damage that the manufacture and use of solvents is causing to the ozone layer.
- 2) Health and Safety. Worldwide the legislation regarding health and safety is becoming stricter and more closely monitored. South Africa already has very strict Health and Safety legislation and although it is poorly monitored, that is changing. In the event of health related illness years into the future, employers can and will be held liable. Unions and workers are also becoming increasingly educated regarding the work related dangers that chemicals and solvents pose.
- 3) Fire and Storage. Current legislation makes the handling and storage of solvents very expensive. Again this legislation is poorly implemented, until such time there is a fire and somebody is injured or there is an insurance claim. Insurers, understandably will not pay out claims where solvents are not being correctly stored. It takes very little solvent to start a fire and cause millions of rand worth of damage.
- 4) Performance. In the past there have been a number of significant problems that has prevented industry moving towards waterborne coatings. These were:
 - a) Poor gloss
 - b) Drying times.
 - c) Corrosion and chemical resistance
 - d) Cost.

These issues of performance have been overcome. One of the most difficult and taxing applications for a coating is the painting of vehicles (exposure to UV sunlight, dust, rain, sea air, high temperatures, freezing weather, acid rain, the fast drying times required for production, ultra high gloss levels etc).

The top automotive producers in the world are now painting all their upmarket vehicles with water borne coatings.

On the issue of cost, waterborne coatings may at first glance appear to be more expensive on a rand per litre basis but the afore mentioned issues need to be taken into account. Furthermore all the solvent used in a coating evaporates off when it is being applied (otherwise it would not dry). All the solvent used to thin down the paint also evaporates off. Thinners (solvent) purchased separately is also wasted in large quantities by washing spray guns, vehicle parts, lighting the Friday braai.

Disposal of waste/dirty solvent is becoming more problematic and expensive. The habit of throwing dirty solvent down drains is also extremely dangerous and illegal. This practice is far more common than Management realise, as is the practice of spray painters and other employees washing their hands and clothing in solvent.

The price of solvent is base on the dollar/oil price and has increased over 200% in the past few years. This trend is going to continue into the future. Waterborne coatings on the other hand are becoming more cost effective the volume of waterborne coatings increases –giving the producers economy of scale.

Direct to Metal (DTM) waterborne coatings are available in both high performance PRIMERS and high gloss TOPCOATS. They can be applied to prepared steel, galvanised steel and aluminium. The PRIMERS's offer excellent adhesion and corrosion protection. The TOPCOATS exhibit excellent gloss, chemical and protective properties.

Advantages.

There is no need for solvent to be on the premises from a Fire, Health and Safety perspective.

The substantial cost and inconvenience of correctly storing solvents and solvent based coatings in a solvent store is avoided.

There are minimal handling or transport requirements.

Spray painting equipment can be washed with water.

Employees can wash up with ordinary soap and water.

Companies are increasing being evaluated on the effect they are having on the environment-the so called triple bottom line.

Who should be looking at changing to water borne coatings.

Companies that operate in hazardous environments. Mines, chemical plants, refineries.

Companies that have a number of employees exposed to solvent based coatings and carry out a significant amount of industrial painting.

Companies that want to reduce their fire hazard exposure for insurance premium purposes

Companies that have Environmental protection policies in place and wish to improve on their current situation.

Companies that wish to avoid capital expenditure on expensive and inconvenient solvent stores.