Australian Made NORGLASS Specialty Finishes Australian Owned

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INFORMATION GUIDE

THROUGH THICK AND THIN WITH PAINT SOLVENTS

Introduction:

As paint manufacturers it never ceases to astound us that the painting public (and even professional painters) are so casual about the use of thinners. Every day of the week we have queries about substituting some other brand of solvent for use with NORGLASS PAINTS. Perhaps this is a spin off by users applying various brands of water base paints and knowing that the solvent is water. Likewise when using "oil based" paints the recognition that turps does the job probably suggests that all solvents are the same. **In fact nothing can be further from the truth.** (same comments apply to surface cleaning solvents). Most just **dilute** the contaminant, **not** disperse it! **Evaporation** is the word here.

Paint construction:

Manufacturers (like Norglass) build all of their products around the most appropriate combination of solvents that offer the most **compatible** blending of the resins and other ingredients that match their paints.

The finished consistency is designed to produce a "straight from the can" usage by brush or roller. The **only** reason to add **additional** solvent is for spraying through a gun, or reducing the solvent evaporation in hot weather. In some cases it may be recommended to reduce the coating to get further penetration into wood for example, but that in our opinion is a doubtful benefit. Where paint is marketed as a **"spray only"** product, the manufacturer will obviously reduce the viscosity of the coating **before** it leaves the factory. This is more economical and profitable for the supplier.

It has to be understood that **whatever** the solvent used it is only there as a temporary measure to make the coating flow. **All solvents evaporate**. If a domestic paint has 30% solvent in it, the only remaining ingredients will be the pigment and the resins. In other words 70% of the original volume. That translates into **shrinkage** of the dried film. Paints are often referred to as having specific Dry film build and wet film build thicknesses. This is the difference between the migration of all the solvent out of the film, or still being there at the time of application.

Evaporation rates:

Apart from resin compatibility the next most important factor is to get the solvents **out** of the coating at the prescribed time.

For example a brushing thinner is designed as a slow evaporating product so that the migration is sluggish. This helps the coating remain "open" giving more working time. However, it can **also** be counterproductive because it makes the coating **thinner** on the surface and as a result will want to set it more quickly. These "oily" solvents are slower evaporating as shown further on. In concept they do much the same thing as putting some detergent into a wet concrete mix. The oily nature of the detergent mixed with the water **retards** the evaporation making the concrete more "open" and longer setting time is achieved.

To illustrate this, putting a small cup of water in the sun and another of equal volume with added detergent and waiting for the volume to disappear will graphically prove the point. Of the more commonly known solvents the degree of "dryness" is best described as follows.

In hydrocarbons, Kerosene will evaporate more slowly than Mineral Turps (more oily). Then, Mineral Turps will take longer than White Spirits, and lastly this solvent will still be hanging around a long while after Methylated Spirits has gone.

Try this exercise. Put some Kerosene on a cloth and wipe it over a mirror. Now using another dry cloth try to remove all traces. It's extremely difficult. Now repeat the same exercise with Meth's, and the difference is obvious.

Now as a concept, think about cleaning down a surface prior to painting using these 2 solvents. The obvious selection of the drier solvent (Meths) means no residue remains on the job. Conversely Kerosene will be more inclined to **dilute** any surface contaminant and spread it around into a thinner film, rather than disperse it. To complete this example, NORGLASS NORCLEAN-PLUS takes the surface preparation to another level of cleanness.

Solvent blending:

To maximise compatibility with resins, a variety of solvents are commonly used in paints to produce the desired result. This is critical when formulating a spraying thinner. The ratio of various solvents used will be dictated by how much atomisation is required as the paint mix passes through the spray guns orifice. A too slow ratio of atomisation will mean the paint will run and sag.

This formulation is built around the manufacturers own special blend of paint ingredients and ratios. Trial and error testing gets the mix "just right" like the 3 bears story of too hard, too soft and just right. When a user asks "I have a can of XYZ thinners in the shed will that do?" the answer is obvious. Manufacturers **do not** test their products for compatibility with **other** brand thinners. Why would they? Considering that the solvent is by **far** the least expensive part of the painting project why would **anyone** contemplate taking the risk of failure by substituting the tried and proven product… and yet it happens, every day of the week.

Just like the saying "oils ain't oils", thinners ain't thinners. This list is a smattering of solvents used in this industry and each is unique to itself. Xylene – Toluol – Mineral Turps – Paraffin – Kerosene – Methanol – Acetone – White Spirit – Methyl Ethel Ketone – Methyl iso butyl Ketone – n butanol – Methylated Spirits – Propylene Glycol – iso butyl Alcohol – Ethyl Acetate…. and so on. While mineral turps will have no effect on plastics, M.E.K. (Methyl Ethyl Ketone) will dissolve them, so the selection of solvents is as critical to the substrate (base) as it is to the paint.

As Norglass uses most of the above solvents in production, why would we bother if they were all doing the same job? And some are 3 times the cost of others.

Next time you buy or sell a product that requires a solvent to clean up with or for spraying think about the above comments, it could save a lot of **money and wasted effort**.