

## Dixon-Ticonderoga/PRANG Tempera Paint vs Washable Paint Memo

In the interest of alleviating some of the confusion regarding tempera paint and washable paint – particularly in the light of ever increasing number of manufacturers/marketing efforts to pretend that they are all the same – only one stains and the other doesn't, here is the very most basics of the differences between them and why the market cannot tolerate the obliteration of one in the interest of sku reduction or similar purported economies.

Tempera Paints are thick (highly viscous) and water soluble – fairly quick drying and have a certain degree of non-re-wet-ability (allowing you to paint one color over the other without mixing on the surface being painted.) By nature they are opaque – allowing for one coat coverage over everything from newspaper to other colored surfaces. Tempera paint naturally “sticks” to almost every surface imaginable. They have a “dry” or matte surface when dry. The reason is to allow light to bounce from the surface reflecting to the eye bright bold color – without interference of shine. They mix cleanly – as in can be used for color study without creating “muddy” colors – an essential for education among other things. In addition they are air drying and an economical source of color – also important for the educational market.

The nature of the pigments used forms a large and very rough dimensional molecule – with naturally occurring hooks or barbs. This is what gives the highly colored nature and ability to adhere – the hooks or barbs close when the paint dries – which is also the adhesion – and the side effect is that the paint doesn't easily wash off after being applied. It is why temperas can “stain”.

There are 2 distinctly different varieties of contemporary tempera – regardless of brand name. The Classic or Premium varieties and the ready-to-use or thixotropic variety. Classic is much more opaque heavier – a pint (16 oz) weighing in at nearly 19 oz – and can, if applied too heavily crack if not modified. Classic tempera dries on average in 10 to 15 minutes. It can settle in the container – requiring shaking before use. Prang average retail price being \$0.17 per square foot – unmodified – with use of up to 3 parts of Media Mixer can be as low as \$0.113 per square foot for coverage comparable to a Ready to Use formula.

Ready-to-use temperas are by nature thinner with a somewhat fluffy quality. It is harder – requiring greater skill with a brush – to get an even laydown. This is very evident as they also are less opaque than the classic. Generally requiring 2 coats to get the same degree of coverage as a classic forms in an average of 20 minutes to a half an hour. Colors are still very bright and quite vibrant. However they are not as reliable for color mixing in a clean color sense. They are generally the price conscious choice and what is generally used educationally, today. Educators complain that they do not mix cleanly and are requiring a second coat for the opacity they wish for – and when it is understood that this is the trade off for the non settling and the price difference they frequently adjust. Straight from the container the average retail price is \$0.115 per square foot of coverage – which is \$0.23 per square foot, if double coating.

Washable Paint is another animal entirely. Its purpose is not to stick. The colorants used are generally a dye base (not like a fabric or hair dye). In comparison to a pigment molecule the dye molecule is more like a transparent plastic sandwich bag – and a lot smaller. It has no hooks or barbs – and further the paint is engineered with a surfactant – think of the oil between ball bearings to add slipperiness to further insure that the paint will not stick – therefore stain – surfaces.

What this means is that the paint is thinner even yet – lays down a translucent (see through) layer of color dependant on the whiteness of the paper beneath it for brightness. The colors do not mix cleanly – at all. The paint does not cover over newsprint ever – a problem for an educator using such materials as a strip papier mache needing to cover it completely. Washable paint is nearly impossible to use on a vertical surface – as it runs down. It dries in hours as compared to minutes with tempera paints. Its surface is a bit shinier than sating – which means the color reads differently and is never acceptable for anything that is to be photographed or used “on camera” (cannot be used for stage sets etc) In addition if a wet layer is painted over a dry layer it will instantly dissolve the layer beneath it mixing the colors into a muddy form.

Educationally – washable paint is only appropriate on the pre-K and most elementary levels where a liquid color is only required to make a yellow sun – green grass and a red flower. Even then – as the standards for art education – both state / regional and nationally are being mandated therefore enforced the age levels at which our children must be taught the greater depths and performances of color are lowering – making the washable paint less and less acceptable to the educator. Washable paints primary market is at mass market for parental purchase and use in non classroom situations where staining is more of an issue than the paints performance.

Most cases show paints labeled “washable” to simply be a less colorful form of paint – and there is no standard insuring the ability of a paint labeled “washable” to not stain. There is a movement to add surfactants to pigmented paint in the interest of creating a “washable tempera” – and what it makes is a temporarily less staining and less performance oriented paint. The shelf life of these hybrids is low – an issue for all of manufacturing and distribution.