

MOST COMMONLY ASKED QUESTIONS:

What types of pigment are there?

Basically, two major categories

1. Hiding; white (titanium dioxide), Red, Yellow, Black, Brown, Blue several in Organic and Oxide colors.
2. Non-hiding pigments include talc, clay and calcium carbonate to name a few

What types of “binders” or “vehicles are there in paint?

There are many forms of binders used in paint, that are designed to hold everything together when the paint dries, but the most commonly used in architectural paints are;

1. Linseed Oil
2. Alkyd or synthetic
3. Polyurethane
4. Acrylic latex
5. PVA (Poly vinyl acetate)

Why use so many different binders in paint?

Each binder is unique in providing different benefits and can be used alone or blended with other binders to complement each other's performance characteristics.

1. Linseed oil is usually used in exterior applications and is an oil film that aids in adhesion to, and preservation of weathered wood.
2. Alkyd is used in both interior and exterior paint. Alkyd resin is very durable and forms a hard film commonly used for heavy duty applications like trim or baseboards and on metal surfaces.
3. Polyurethane used in an architectural application is most commonly in floor coatings. It is more tolerant to the alkali in concrete, and will adhere better than alkyd finishes.
4. Acrylic latex resin, in architectural paint, is usually used almost exclusively for exterior paint coatings. Acrylic latex is a very flexible, weather resistant resin and is strongly recommended when considering exterior paint coatings. There are automotive acrylics, but those are solvent based systems and should not be confused with acrylic house paints.
5. PVA latex resin is short for Poly Vinyl Acetate. This is a waterborne resin used mainly for interior paints or blended with Acrylic for a more cost-effective exterior coating. PVA resins are normally cheaper than Acrylics and are not as weather resistant if used in exterior applications.

What kind of thinner or reducer is most commonly used in paint?

1. Mineral Spirits is used in most architectural oil base finishes.
2. VM&P Naphtha is a much faster dry solvent that can be used in place of Mineral Spirits as a faster dry solvent that can aid in faster "tack dry".
3. Water is used for latex or waterborne formulations.
4. Lacquer Thinner for lacquer wood finishes and other lacquer coatings.
5. Xylene, Toluene and Acetone are a few other thinners used primarily in industrial applications.

What makes a flat, eggshell, satin, semi-gloss or gloss finish?

1. Flat finishes usually have a heavier pigment load that reduces the gloss. Usually a flat finish will have a 70% pigment, to 30% Binder ratio.
2. Gloss finishes will usually have a 20% pigment to an 80% binder ratio, allowing the resin to reflect more light.
3. Eggshell, satin and semi-gloss will fall between those ratios.

Why do those flat finishes have a higher pigment to binder ratio?

The higher the pigment "load" is the more the pigment occupies, or fills the binder. This saturation of binder allows the pigment to be exposed at the surface. The amount of the pigment breaking the surface of the paint film scatters light resulting in lowered gloss. So, carefully controlling the pigment to binder ratio can result in your various glosses noted previously.

Does gloss have an effect on how durable a product is?

Yes, a flat finish, as a general rule, use more filler pigments termed as "extenders". Extenders are used to control gloss and are normally softer pigments. So, normally the lower the gloss the less durable your finish will be. Gloss, or semi-gloss finishes typically will be much more abrasion resistant than flat finishes.

How does paint dry?

1. Evaporation of solvent- Lacquer Paints.
2. Oxidation and polymerization- Linseed oil (needs air movement and warmth).
3. Evaporation of water and fusion of latex molecules- Latex paints.
4. Chemically cured, with driers or catalysts, include some oils, epoxies and urethanes.

Can lacquer thinner or another type of solvent be used to speed up dry times of a paint film?

In most cases not, if thinning is necessary, use the reducer recommended on the label. If a strong solvent, Japan drier or other additive, not recommended, is used to try and speed up dry of the product the chances for problems increase. Un-even gloss, wrinkling, loss of gloss retention or surface skinning are just a few of the issues that can result from the use of non-recommended additives.

What effect will cold temperatures have on paint?

1. Oil base products will have difficulty curing through if temperatures get below the ideal temperature range. Dry to touch and cure times are tested at 72°F and for every 10°F below that temperature, as a rule of thumb, the dry to touch and cure time doubles. So, at 62°F a product that dries in 6 to 8 hours can take 12 to 16 hours to dry. Double that again if your temperature approaches 50°F.
2. Latex paint can have the film formation interrupted or stop before the film has fully formed. Cold temperatures increase the risk of dew, or a freeze compromising the film formation.

What happens if paint is exposed to cold temperatures, dew or rain?

Many different things can happen, even if there is no visible sign of a problem. In most cases there will be some kind of long-term effect that will reduce the life of the paint coating, or effect the appearance of the finish.

WHAT MAKES AN INTERIOR PAINT WASHABLE?

1. The higher gloss a finish has, the less likely dirt will adhere to it and the easier dirt will be to remove from the finish, making it easier to wash.
2. Dirt will adhere more to low-gloss finishes and need a good quality resin or “binder to be Washable. Lower quality resins are much less easily washed and won’t “Scrub” well

What makes paint cover better?

1. Hiding pigment concentration is the most important feature.
2. How well the product flows out at the time of application aids in the coverage
3. The quality of application tools is very important as well, a quality brush, roller cover or spray equipment will apply the paint more evenly and result in better coverage. It's always recommended to use quality tools, it not only saves time but can eliminate the need for additional coats.
4. Proper surface preparation is also an important variable in helping a coating hide well. If a surface is rough, paint will settle into the "valleys of the surface profile leaving the "peaks" with insufficient amount of paint, causing a lack of coverage

What factors control the price of a paint coating?

1. The amount of hiding pigment used in the paint adds cost, but also will cut down on the number of coats that need to be applied.
2. The Quality of the Resin used contributes to the cost, but also helps with lengthening the service life of a paint film.
3. The over-all quality of the components used to make the paint impacts the cost. The old adage of "You get what you pay for" holds true to paint as well.

What is the best paint to use latex or oil?

With today's advancements in latex technology, there should be a latex paint formulation for almost any application. That being said, there are many situations that may require an oil base, or specialty paint. For example, a weathered wood barn may have very little paint left on its likely gray and the exposed surface has deteriorated. Proper surface prep is the best answer, but in some cases getting the surface prepared properly isn't practical. In a situation like this, an oil primer may be the best bet to get the best penetration and long-term adhesion. Oil base product will also tolerate small amounts of dirt and residue better than most latex products.

How important is surface preparation?

Surface preparation is the single most important variable in determining the service life of any coating. Proper surface preparation insures maximum adhesion to any surface. Even the best paint available today will not adhere to an excessively dirty or contaminated surface. Proper surface preparation will decrease the chance of discoloration, adhesion problems, inconsistent gloss or improper film formation of the finish coat.

Will a fresh coat of paint hold down an old peeling finish?

No, one common belief in the consumer market is that paint is glue and if applied over peeling paint it will hold down an old finish. If painting over an old peeling finish, the new coat can't penetrate through the old film and hold it down. The new coat can put stress on the old peeling paint and could actually cause it to peel faster. Removal of the old peeling paint is the only answer; proper surface preparation is a must!

Will one thick coat of paint do as good of a job as several thinner coats, like is recommended on most paint labels?

No, one thick coat can cause a variety of issues. If paint is applied too thick, or multiple coats too quickly mud cracking, wrinkling, drips or sags and surface skinning can occur, just to name a few. Most coatings are designed to be applied at three to five mills per coat and applying too thin or too heavy isn't recommended.

Does paint have a shelf life?

Yes, each paint has some type of shelf life, any paint can get old! Heavily pigmented paints like primers or flat coatings can settle and will need proper stirring, but that doesn't determine the shelf-life. Spray cans normally have a shelf-life of 1-2 years. Latex and oil paints are fairly stable and will have an estimated shelf life of around 2-5 years. That being said, I've seen paints 10-15 years old that perform just fine, but the older the paint, the more likely you can encounter problems.

Can oil or latex paint freeze?

Latex paint can't tolerate a hard freeze without some negative consequence. In some cases, it may not be noticeable in the can or during application, however, freezing can cause shortened service life of the paint film. If latex paint freezes hard, it's most likely to separate out and look like cottage cheese. The pigment and liquids can separate and not be able to be blended together again.

Oil paint, in most cases, can take almost any cold temperature, however, there are some formulations that can "shock" if exposed to extreme cold. An oil paint that has been "shocked" will have separation of the different ingredients and will be difficult, if not impossible, to re-mix into a usable product. As a general rule, try to keep all paints in a freeze protected area.

For additional references refer to our "Painting inside & our booklet for more painting information and solutions.