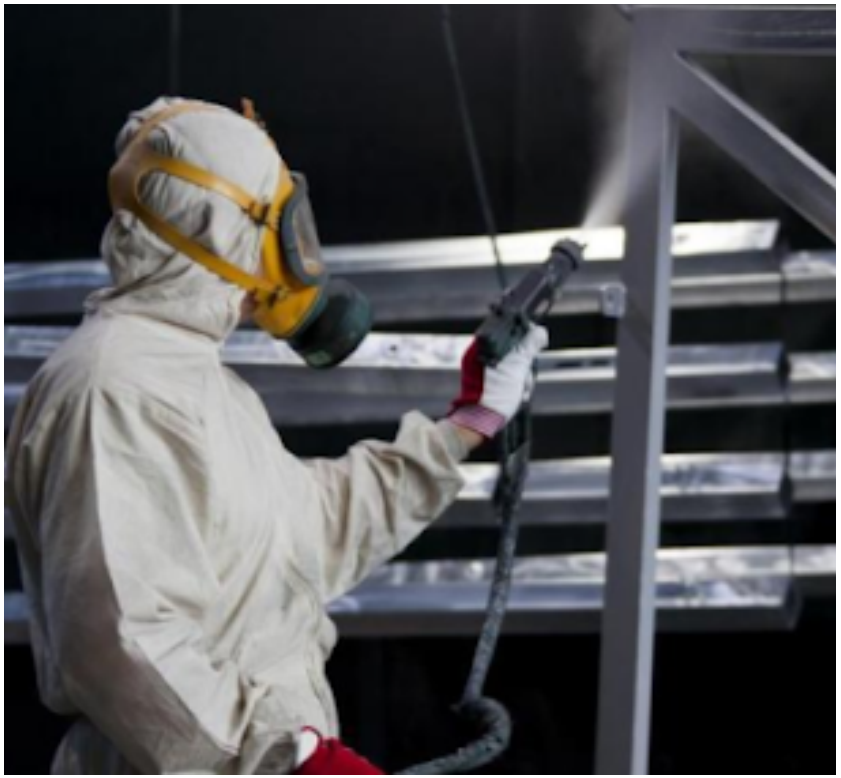
10/11/2020

PAINTS
as Building Materials cont. 2

Cebu Technological University - Pinamungajan Campus
BTVTED-CCT 3114 Painting Construction
Professor: HANNAH PAÑARES - ABASA

Types of Paints

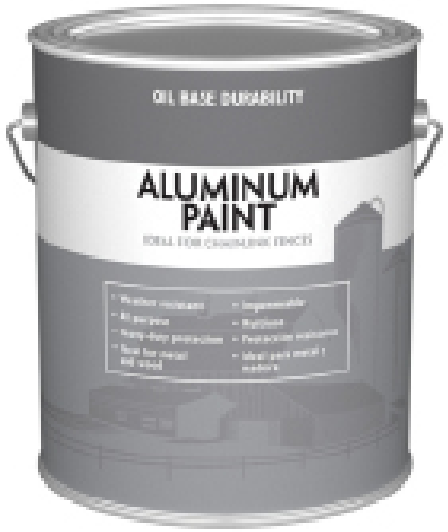


Aluminum Paint The paint is prepared by holding very finely ground aluminum in suspension either in quick drying spirit varnish or slow drying oil varnish as per the requirements of the surface to be painted. The suspension liquid i.e. spirit or oil, evaporates and a thin metallic film of aluminum is left on the surface. This paint is used for painting wood work and metal surfaces. It is widely used for painting hot water pipes, gas tanks, marine piers, oil storage tanks, etc.

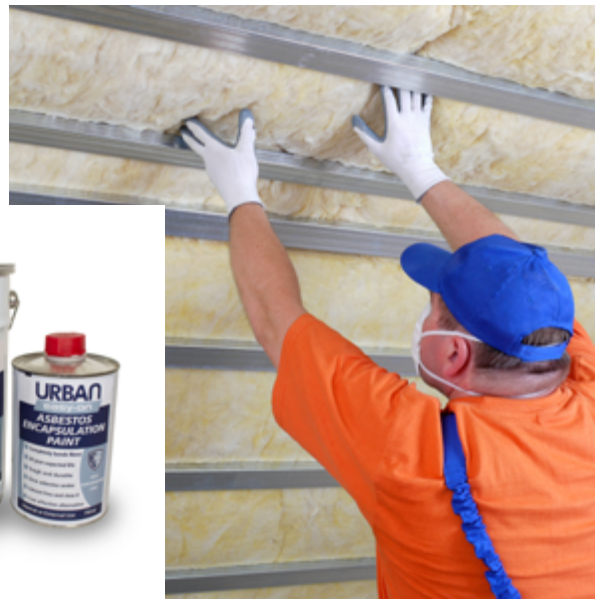
Advantages:

- ✔ It has very good weather-resisting and water-proofing properties.
- ✔ It is Visible in darkness also because of its silver shinning colour.
- ✔ It has high electrical resistance.

- It protects the surfaces of iron and steel against corrossion, better than any other paint.
- It possesses a very large capacity. For instance one litre of this pain may cover an area of about 200 m2.
- It is highly heat reflective
- It can withstand the effect of atmosphere contaminated with acidic fumes, and also effects of sea water.When applied, the paint should form a thin uniform film on painted surface.



Asbestos paint. This paint is used for stopping leakage of metal roofs and painting gutters, spouts, flashings etc. to prevent their rusting. This paint is also used as damp-proof coat to cover the outer face of the basement walls. This paint can withstand the effects of acidic gases and steam.

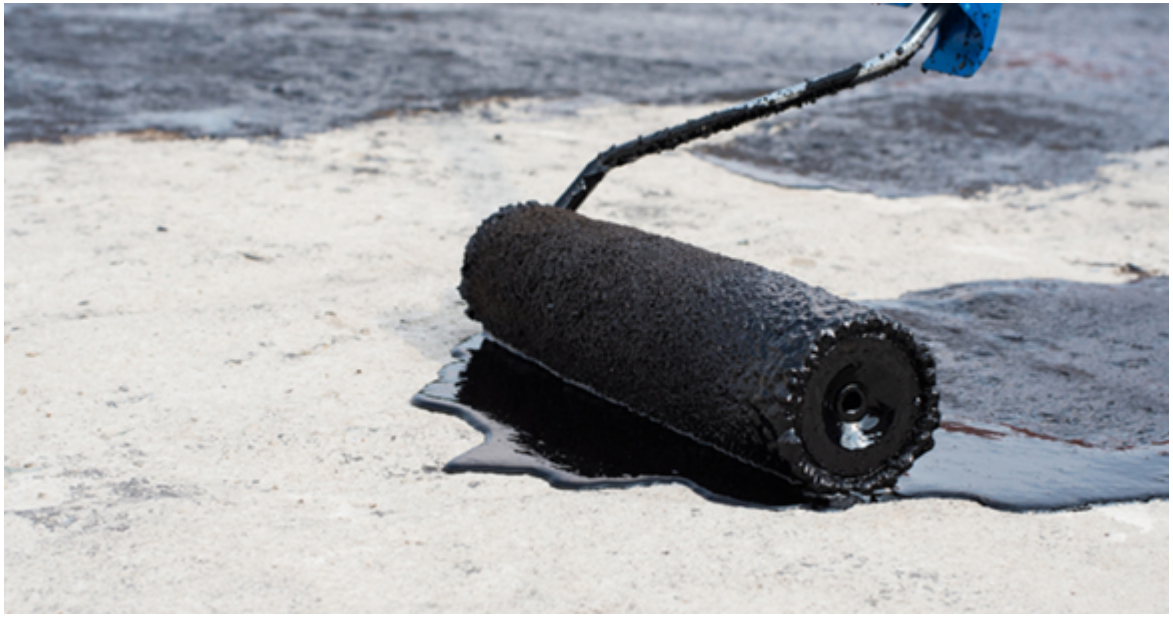


Anti-corrosive paints. As their name suggests, these paints are used mainly to protect the surface of metallic structural steel work, against the negative effects of acids, corrosive chemicals fumes, etc. There are several paints which exhibit these properties. These paints essentially consist of the linseed oil as vehicle and red lead, zinc oxide, iron oxide, zinc dust, zinc chromate etc, as their base.

Advantages:

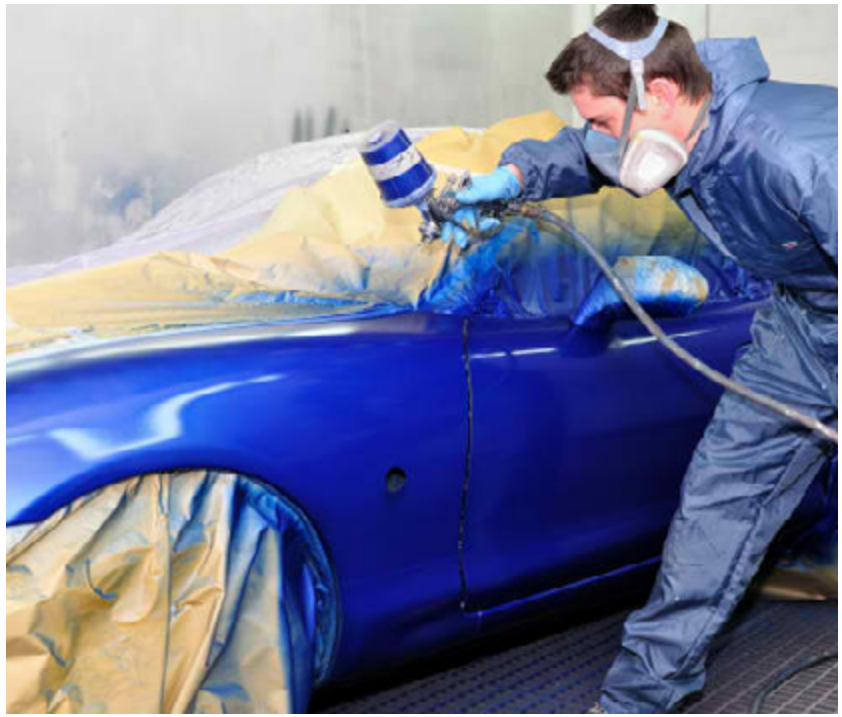
- ✔ It is cheap.
- ✔ It lasts for a long duration.
- ✔ The appearance of the paint is black.

Bituminous paint. This paint consists of asphalt, bitumen or pitches, dissolves in any type of oil or petroleum. The paint is always black in colour but its colour, can be modified by mixing certain pigment like red oxide etc. in it. This paint is used mostly for painting iron-works under water.



Bronze paints. These paints are prepared by disbursing aluminum bronze or copper bronze in nitro-celrulose lacquer as vehicle. They produce a very reflective type of surface and hence very useful for being applied on radiators. These paints are equally effective for painting interior or exterior metallic surfaces.

Cellulose paint. This type of paint is prepared from cellulose sheets, nitro-cotton and photographic films. This paint dries very quickly and provides a flexible, hard, and smooth surface. The paint does not harden by oxidation but by evaporation of thinning agent. The surface of this paint can be easily washed and cleaned. It remains unaffected by hot water, smoky or acidic atmosphere. This paint is used for painting cars aero planes.



Casein paint. Casein is a product extracted from milk curd. This when mixed with base like whiting, titanium, lithopone, etc. forms the paint which is usually available in powder or paste form. This paint has high capacity and can be applied on new plaster work. It is usually used on walls, ceilings wall-boards, cement block construction etc. to increase the appearance of the surface.

Cement paint. This paint is available in powder form. It consists of white or colored cement as its base and water acts as vehicle. No oil or varnish is added to it. This paint is available in variety of shades. It is durable and water-proof. This paint proves to be useful for surfaces which are damp at the time of painting and are also likely to remain damp after painting.

Following are the advantages of cement paints:

- ✔ It requires less skill and time for applying cement water paints and the applying implements can be cleaned with water only.
- ✔ The preparation of surfaces is easier in a cement paint system as it is not necessary to remove the previous coats of cement paints.
- ✔ They are suitable for painting fresh plasters having high alkalinity because cement paints are not likely to be attacked by the alkalinity of masonry surfaces.
- ✔ They become an integral part of the substrata and add to its strength.
- ✔ They can be applied over new and damp walls which cannot be painted over with oil paints until they are sufficiently dried.
- ✔ They prove to be economical as compared to the oil paints and they dry more rapidly than the oil paints.

Following precautions should be taken to avoid defects or complaints of the cement paints:

- The defect of cracking occurs when the film of paint has not adequate flexibility to move with thermal or moisture movements in the surface.

  The cement paints however become integral part of the surface, if they are suitably cured and hence they do not move independently of the surface.

- The preparation of surfaces is easier in a cement paint system as it is not necessary to remove the previous coats of cement paints.

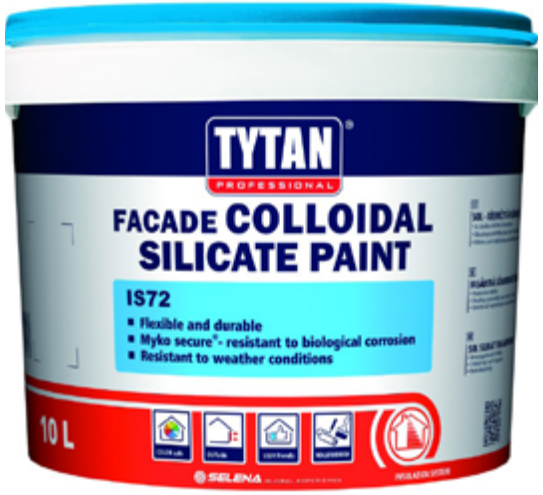
- They are suitable for painting fresh plasters having high alkalinity because cement paints are not likely to be attacked by the alkalinity of masonry surfaces.

- They become an integral part of the substrata and add to its strength.

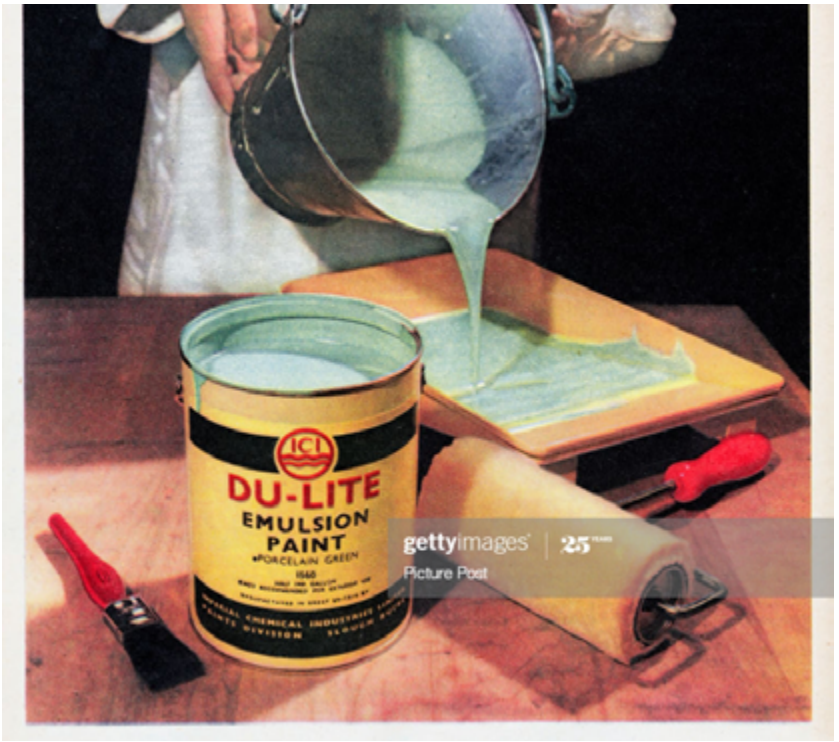
- They can be applied over new and damp walls which cannot be painted over with oil paints until they are sufficiently dried.

- They prove to be economical as compared to the oil paints and they dry more rapidly than the oil paints.

Colloidal paint. This paint is prepared by adding base like white lead or zinc white to a vehicle which is a varnish. To obtain the desired colour, coloring pigments may also be added. This paint dries slowly and forms a hard, durable, smooth gloosy solid thin film. Different types of enamel paints are being manufactured in a variety of colours.

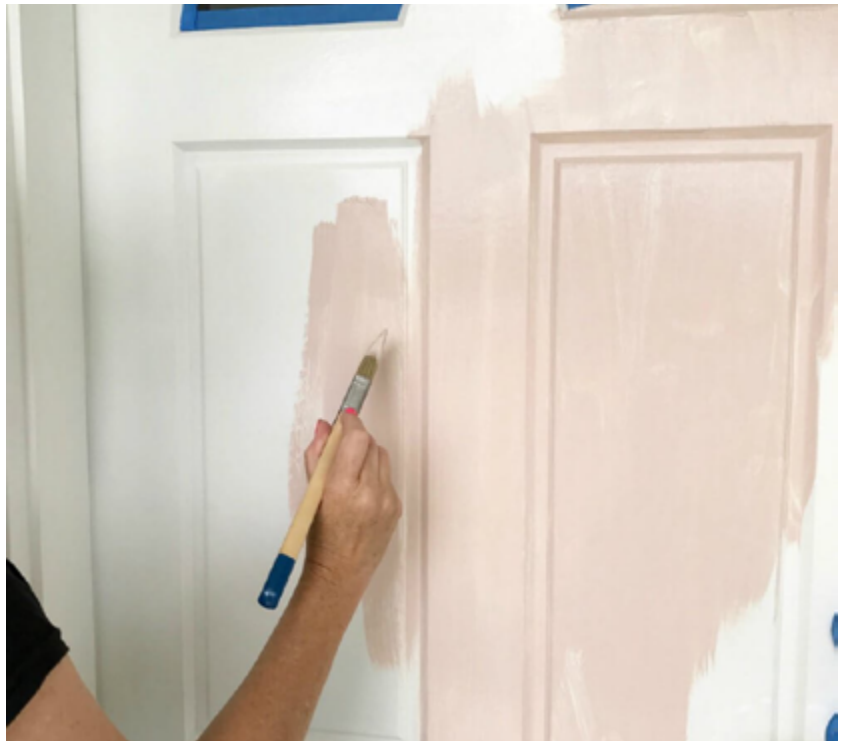


Emulsion paint. This paint consists of synthetic resin like poly vinyl acetate. It can be applied easily. It retains its colour for a very long time. The surface of the paint is tough and can be cleaned by washing with water. This paint has excellent resistance against action of alkali. It dries very quickly in about one to two hours



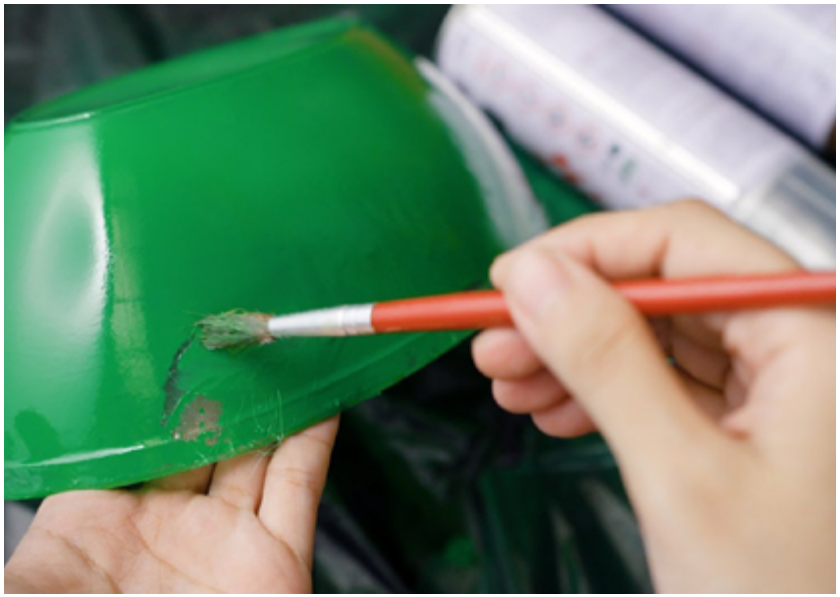
Enamel paint. Enamel paint is paint that air-dries to a hard, usually glossy, finish, used for coating surfaces that are outdoors or otherwise subject to hard wear or variations in temperature; it should not be confused with decorated objects in “painted enamel”, where vitreous enamel is applied with brushes and fired in a kiln. The name is something of a misnomer, as in reality, most commercially available enamel paints are significantly softer than either vitreous enamel or stoved synthetic resins, and are totally different in composition; vitreous enamel is applied as a powder or paste and then fired at high temperature. There is no generally accepted definition or standard for use of the term enamel paint, and not all enamel-type paints may use it.

Typically the term “enamel paint” is used to describe oil-based covering products, usually with a significant amount of gloss in them, however recently many latex or water-based paints have adopted the term as well. The term today means “hard surfaced paint” and usually is in reference to paint brands of higher quality, floor coatings of a high gloss finish, or spray paints. Most enamel paints are alkyd resin based.



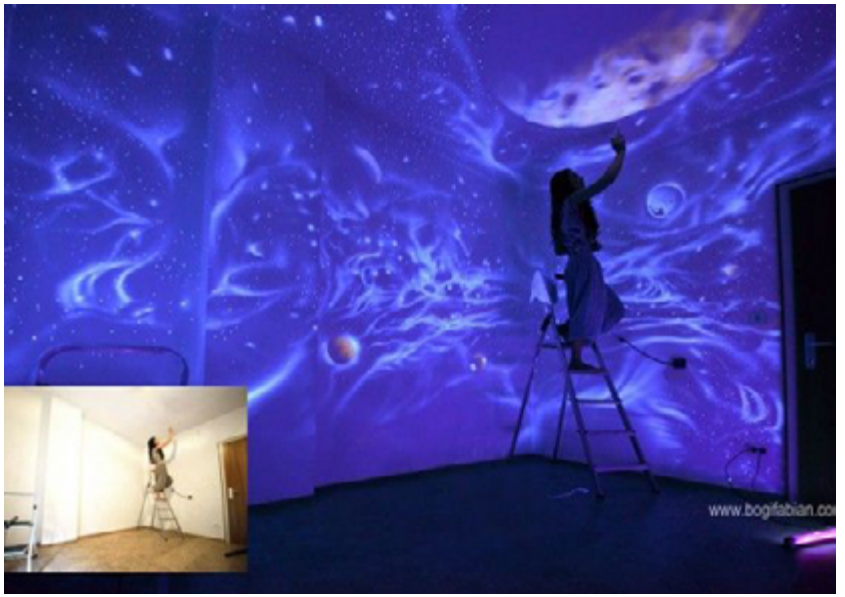
Graphite paint. It is black in colour. It is used over the surface which come in contact with ammonia, chlorine, sulphur gases, etc. It is very much used in under ground railways.

Plastic paints. This paint contains a variety of plastics in suspension and is available in the market under different trade names. This paint is available in very attractive and pleasing shades. It is mostly used in show rooms, display rooms, and auditorium etc. It can be applied by spray or by brush.

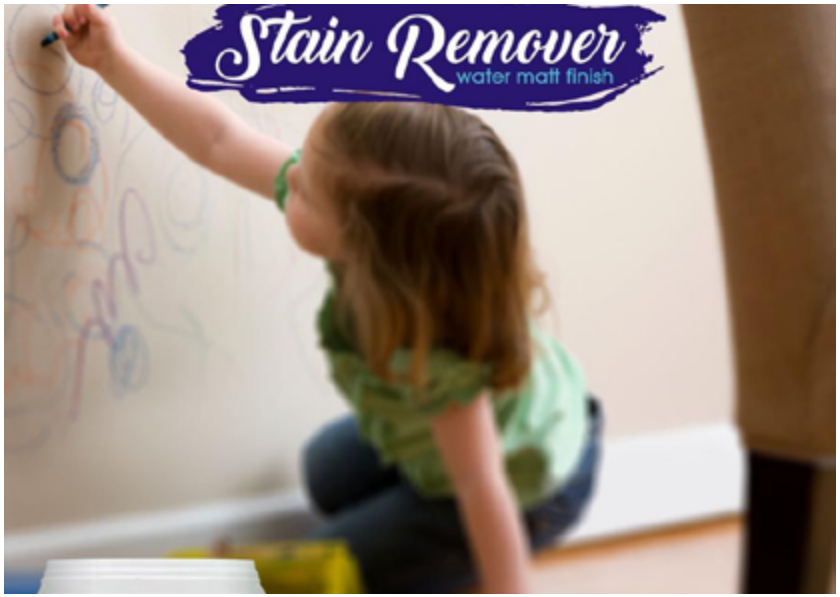


Silicate paint. It is prepared by mixing calcium and finely ground silica with resinous materials. It forms a very hard and durable film on painted surface. It can be directly applied on brick, concrete or plastered surface, but only after wetting them.

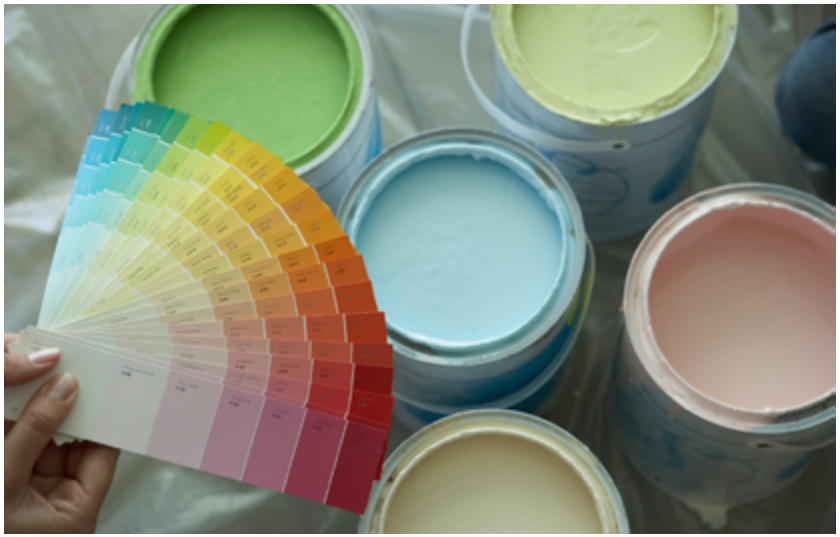
Luminous paint. This paint is prepared by mixing calcium sulphide with Varnish. This paint shines in darkness like radium dials of watches. This paint should be applied on surface which have been rendered free from corrosion or lead paints in particular.



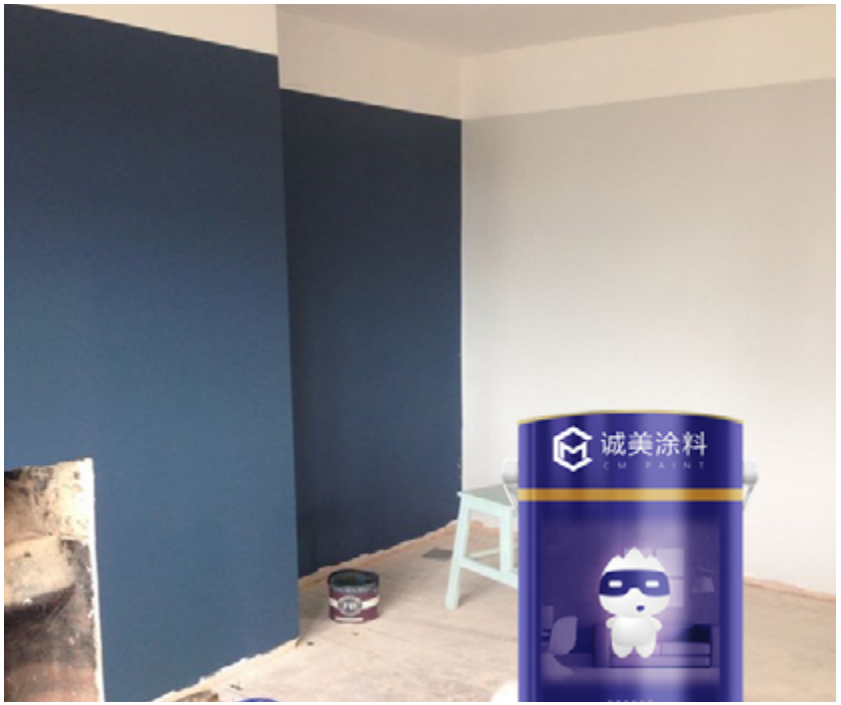
Inodorous paint. This paint consists of white lead or zinc white mixed with methylated spirit. No turpentine is used in this paint. White lead or zinc white is ground in oil. Shellac with some quantity of linseed oil and castor oil, is dissolved in methylated spirit and this mixture is mixed with lead or zinc white paste prepared in linseed oil.



Rubber base or Latex paint. Latex paints are named “latex” because they previously had a rubber base, which is no longer used. Latex paints are now made with a water soluble base and are built on vinyl and acrylics. As a result, they clean up very easily with water and mild soap. Latex paints are best for exterior painting jobs, since they are very durable..



This paint is prepared by treating rubber with chlorine gas (chlorinated rubber) and then dissolving it in suitable solvent. This paint can be used on new concrete and lime plastered surfaces. This paint dries quickly. It is little affected by weather and sunlight. It is resistant against chemical actions, water, etc. It can be applied on fresh concrete surface i.e., surfaces which are not completely dry



3 Types of Latex Paint

There are three kinds of latex paints available: vinyl-acrylic, 100% acrylic and alkyd-modified latex. Vinyl-acrylic is best for interior walls and is the least expensive. 100% acrylic paints are the highest performance paints, retain color and are great with adhesion. Alkyd-modified latex paints are good for the exterior, especially for siding that may have flaked, peeled or chalked.

Be careful not to use latex-based paints on bare steel or raw wood. The latex paint will cause the steel to rust and will raise the grain on the wood.

Latex Paint Advantages

- ✔ Comes in a variety of paint finishes
- ✔ Is suitable for DIY or professional house painters
- ✔ Applies smoothly
- ✔ Dries fast
- ✔ Is non-flammable
- ✔ Cleans up easily with soap and water
- ✔ Can be thinned with water
- ✔ Gives off smaller amount of odor (compared to oil paint)
- ✔ Is less toxic: contains fewer VOCs
- ✔ Fades less on the house exterior
- ✔ Does not yellow on interior paint jobs
- ✔ Resists mildew

Latex Paint Disadvantages

- 👎 Does not adhere well to glossy walls or other surfaces
- 👎 Needs to “cure” for 30 days before you can wash it
- 👎 Requires above-freezing storage temperature
- 👎 Chips more readily than oil-based paint