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PAINTS
as Building Materials

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BTVTED-CCT 3114 Painting Construction
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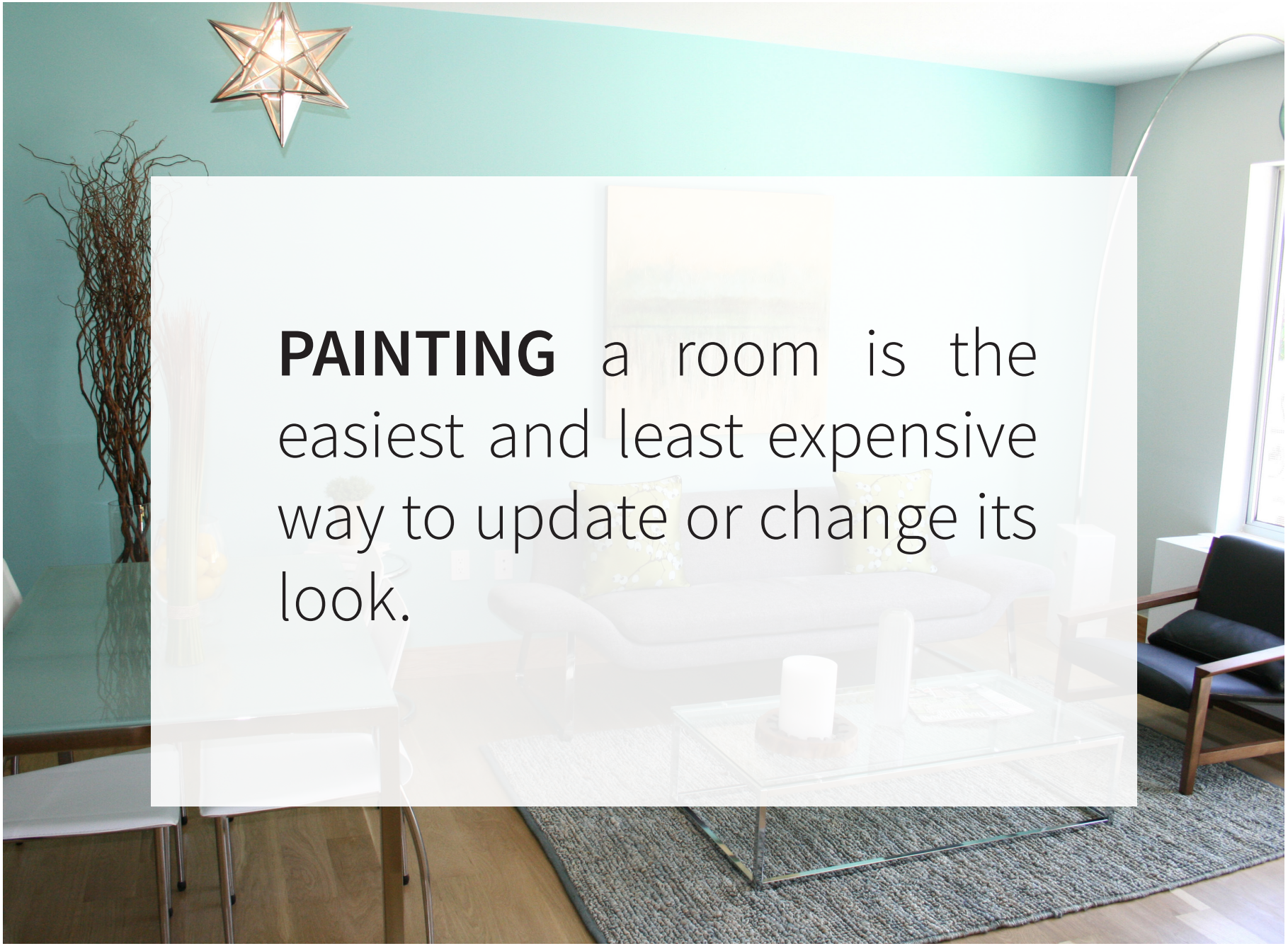


PAINTING a room is the easiest and least expensive way to update or change its look.

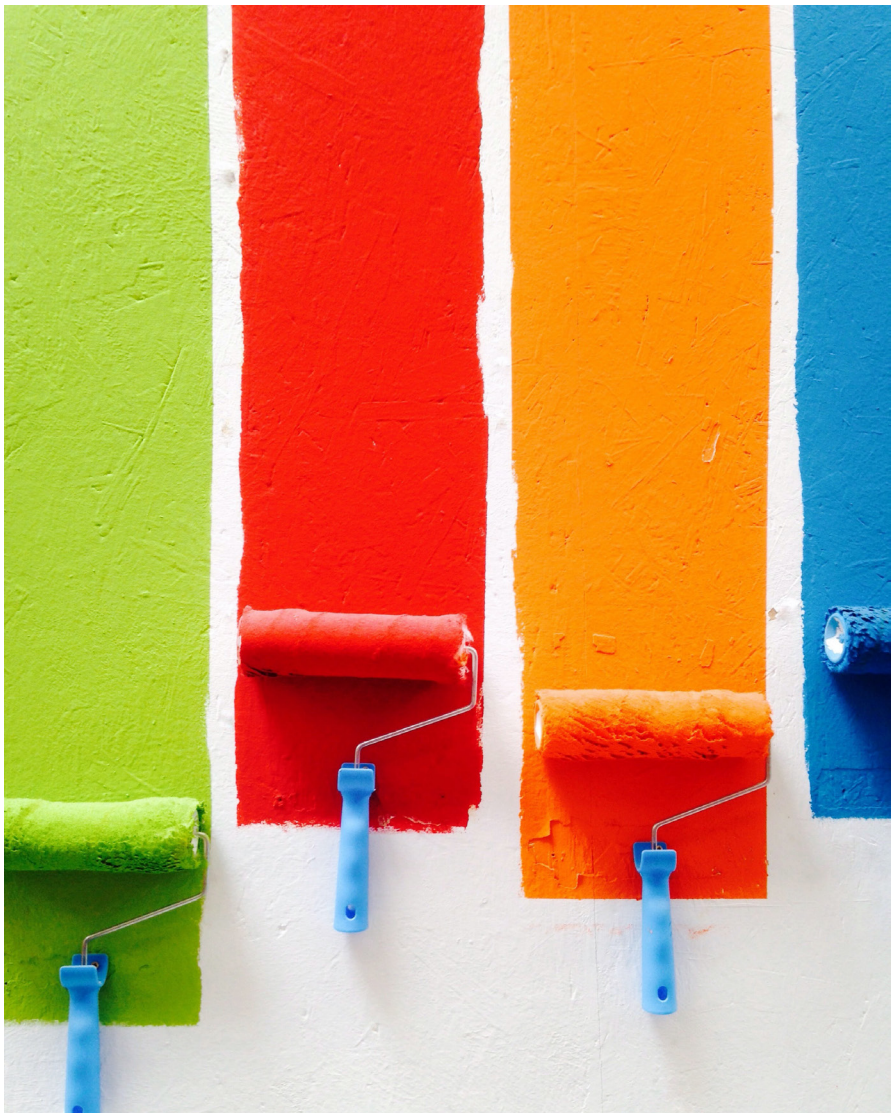
Paint Introduction

Paint is a coating of fluid material applied over timber and metal surface as protective coating which on drying forms a thin film on surface

Paint is a mixture of liquid or medium and a coloring or pigment to impart color and provide protective coating to the surface

Oil Base Paints are polymers or pre-polymer solutions which form a film upon evaporation of the solvent

Paint is a dispersion of pigments in a drying oil, with addition of driers and thinners



Definitions

Varnish is a transparent or nearly transparent solution of resinous material and oil, alcohol or turpentine to form a clear, tough, glossy film on woodwork

Enamel Bases like zinc oxide ground in varnish. Dry quickly to furnish hard glossy finish.

Distemper is also known as cement paint. This is called so because such kind of paint can be applied directly on cement walls without any other coating on them. Distempers are used for both interior and exterior walls. The usually need two coatings. Comparatively cheap decorative paint for walls and ceilings applied on brickwork, or plastered surface

Water wash and Color Wash Fresh lime slacked with water, mixed thoroughly, screened and added with glue and may be a pigment

French Polish Type of spirit varnish prepared by dissolving resin in methylated spirit at room temperature for use on hardwood substances to hide grain defects.

Wax Polish Bees wax dissolved in turpentine used for highlighting the grain over wooden surfaces.

Paints Functions

- To protect the surface from weathering effects of the atmosphere and actions by other liquids, fumes and gases
- To provide pleasing, colorful and decorative appearance to the surfaces
- To prevent decay of wooden members
- To prevent corrosion of metallic surfaces
- To provide a smooth surface for easy cleaning

Characteristics *of an Ideal Paint*

- The paint should be cheap.
- It should have good covering power. In other words it should be able to cover maximum area of the surface with minimum quantities of the paint.
- It should be easy and harmless to the user.
- The painted surface should dry neither too slowly nor too rapidly.
- Atmospheric agencies should not be able to affect the painted surface.
- The paint should form a hard and durable coat on the painted surface.

- ✔ The painted surface should posses attractive and decorative pleasing appearance.
- ✔ The painted surface should not show any cracks.
- ✔ It should be good fire and moisture resistant.
- ✔ It should retain its original color for along time.
- ✔ When applied, the paint should form a thin uniform film on painted surface.

Various types of for **Bases** *Paints*

White Lead It is largely used for all ordinary building painting works and available in the market perhaps very cheap. It is available in market in both in powder & stiff-paste form. Stiff-paste is made by mixing it with linseed oil. It can be easily applied, possesses good bulk, and has a greater covering power. It is dense, waterproof, permanent and has good body to obscure the surface.

It is not suitable for metal work, however, most suitable on wood surfaces. White lead possesses the poisonous substances. It gets discoloured on exposure to the air; therefore, it should always be kept covered. Consequently, white lead often gets used an as an undercoat.

Red Lead is an oxide of lead usually bright red in colour. It is available in market in either powder or paste form made by grinding with linseed oil. It is considered as most suitable for painting iron surfaces and also as a priming coat on wooden surfaces. It solidifies very quickly when mixed with linseed oil; therefore it can also be used as a drier.

Lead paint is paint that contains lead. Lead is used for quick drying, increasing durability, a maintaining a fresh appearance and resisting moisture that causes corrosion.Lead paint is poisonous and should not be used fresh. Precautions should be taken while scrapping old dry painted surfaces or while painting with spray machines.

Zinc white or zinc oxide. It is an oxide of zinc and forms the base for almost all the zinc paints. It is a fine white zinc powder which is available in both in dry as well as paste form by mixing with linseed oil. It is smooth, transparent, unaffected by weathering, not affected by sulphur compounds, and not poisonous. However, it is costly, less workable and less durable than paints containing white led. When it gets hard, it forms the paint film very brittle and develops tendency of surface cracks.

Iron oxide It is an oxide of iron and forms the base of all iron paints. It is a pigment produced from haematite ore. The pigment is obtained by grinding & levitating the red or brown haematite. It is effective in preventing rusting of iron surface when mixed with vehicle oil. It is cheap & durable paint, which is exclusively used for the priming coat on iron surface i.e. structural steel or iron.

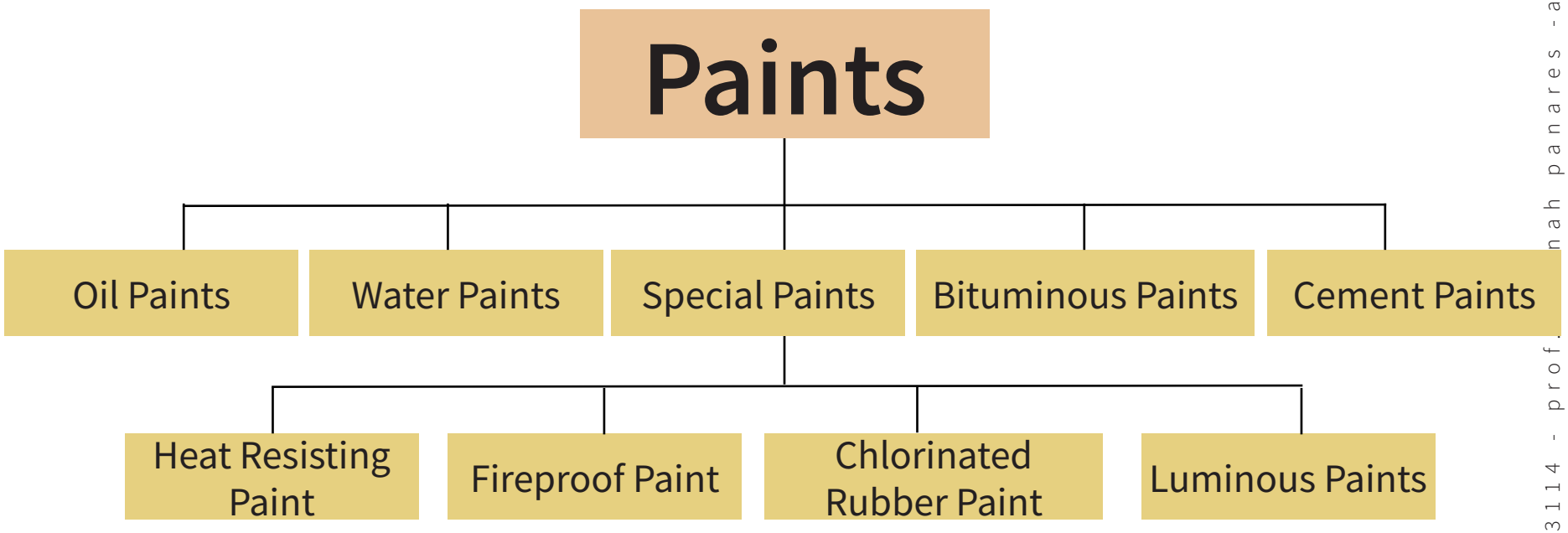
Titanium White This material possesses intense opacity. It is non-poisonous and provides a thin transparent film. This pigment is chemically inert and it is not affected by heat, light and acids and it also has very high covering power. Due to its high refractive index titanium white possesses excellent hiding power and hence it is generally used an undercoat in all sorts of exterior and interior organic coating.

Antimony White It is very nearly similar to titanium white but it differs from white shade. Antimony is a neutral white whereas Titanium White is bluish white. Another feature of antimony white is that it is not fast drying, but makes reasonably flexible films and has very low oil absorption, so it is condered to be a “lean” oil color.

Lithophone This pigment is obtained from the precipitate formed by mixing equal quantities of the solutions of barium sulphate and zinc sulphate under carefully controlled conditions. It is a dense white pigment, having a good covering power, and it tends to turn yellow when exposed to sunlight. The paint made with lithopone as its base is generally used as under coat. It is also used in cheap enamels. It should not be allowed to come in contact with water.

Aluminum Powder It is the base of all the aluminum paints. This paint is generally used for a priming coat of new wood work. It prevents working and cracking of wood. It is impervious and maintains same moisture content in the wood, if painted with it.

Classification of Paints



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