

## Wall Finishes

Wall coverings may be decorative as well as functional. The primary consideration for wall covering, though, should be their functional quality. Decorative wall coverings should complement the theme. Decorative wall coverings are chosen when ability to bring colour, texture, light or shade to the room is of great importance. Functional qualities of wall coverings are durability, ease of maintenance. Functional wall coverings provide a hygienic surface.

### Practical considerations

The following should be kept in mind before applying a wall covering.

Moisture and condensation – A slight dampness may be countered by the usage of an anti-condensation paints or by fixing boarding to battens treated with a preservative.

Noise – sound carried through ceiling or walls may be reduced by insulation boards fixed in the same way as for countering condensation. The denser the material is, the less the sound that gets through. Though loud sounds with vibration are difficult to deal with.

## Types of walls:

The selection of wall covering has a great deal to do with the type of wall being covered.

Brick – Make sure that there is no dampness on the wall if brick walls have been left unpainted, they can be covered with a clear sealant to prevent them from crumbling or becoming dust traps.

Old plaster – Plaster is suitable for most wall coverings and paints. However damp plastering will need stripping and renewing after the moisture problem has been treated at source. If the plaster is uneven or cracked, use wall paper or other covering materials (rather than a finish) or line the wall lining or ingrain paper before painting or finishing.

New Plaster – It must be absolutely dry before decorating can begin if it is to be painted before it is absolutely dry (for decorating effects), emulsion paint is better as it is least likely to blister and allows the wall breathe. Wall paper is not to be used until the surface is bone dry.

## Types of wall coverings:

- Paints
    1. Water based paints
    2. Solvent based paints
  - Wallpaper
  - Fabric
  - Plastic
  - Wood
  - Cork
  - Glass
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- Tiles
- Leather
- Inorganic wall coverings
- Metallic wall coverings
- Fibreglass/Spun glass
- Acrylic (Corian)

## Paints

Paints are mixture of four important ingredients: pigments, additives, binders and solvents.

- Pigments render colour and opacity.
- Additives give special properties such as resistance to rust and fungus.
- Binders hold the paints together and bind it to the surface for durability.
- Solvents enable brushing and rolling across a surface.

Paints offer a wide choice of colour, effects and degree of gloss.

Paints used on walls are usually for decoration rather than protection.

Paints can be easily applied and cleaned too. Depending on the binders or vehicles used, paints can be broadly classified into two classes: water-based paints and solvents-based points.

Water based paints: In these types, the contents are mixed with clean water only. The various types are:

Lime wash: – These are colour washes based on lime (that is, calcium hydroxide,  $\text{Ca}(\text{OH})_2$ ), inorganic alkalis, fast pigments, and few other additives. White wash is a lime wash without pigments. The ingredients of a lime wash are suspended in water prior to application.

Distemper: – This is superior to lime wash and is available in a wide range of colours. It may be defined as water-based paint consisting of whiting (white chalk), some colouring pigment (in case of coloured distemper), and glue mixed in water. It is available in the form of dry powder or a paste.

Emulsion paint: – This type of paint is used as a decorative finish.

There are three major types of emulsion paints•:

1. Polyvinyl acetate
2. Styrene and
3. Acrylic resin

Acrylic emulsions have good adhesive properties, are washable, and are easy to maintain.

Premium emulsions are based on pure acrylic latex and latex and high-opacity pigments. Emulsion paints are thinned with water, easy to apply, and dries rapidly (within 2 hours). It is durable and washable. Two coats of emulsion paints are necessary for longevity.

Silicate paint: – this consists of a thin suspension of alkali-resistant inorganic pigments and extenders. It is not damaged by the alkali in cement. It is also porous, hence allowing moisture to escape. It may be directly applied on brick, plaster and concrete surfaces after wetting; no primer coat is necessary.

Cement paints: – This type of paint consists of white cement, alkali-fast pigments, accelerators and other additives. It is available as a dry powder and can be found in several shades. This is most widely used as an external paint for building exteriors.

Solvent-based paints: These are made up of six main constituents:

Base, filler or extender, colouring pigments, vehicles or binders, solvent or thinner, dryer.

1. Base is a metallic oxide in powder form, serving essentially as a pigment and forming the chief ingredients of the paint. The most important purpose of adding this base to the paint is to make an opaque coating to hide the surface to be painted. White lead, red lead, zinc oxide, iron oxide are the bases commonly used.
2. Filler or extenders are cheap pigments added to the paints to reduce its cost. In addition, this substance modifies the weight of the paint and makes it more durable. Commonly used fillers are barium sulphate, lithopone, silica, silicate of magnesia or alumina, gypsum and charcoal.
3. Colouring pigments are mixed to the paints to get the desired colour.
4. Vehicles or binders are liquids that act as a binder for various pigments-bases, extenders and colouring pigments. Refined linseed oil is a commonly used vehicle in oil paints. Oils from soya bean, fish, sunflower seeds and tobacco are also being used as vehicles, in various combinations with or without linseed oil.
5. Solvent or thinner, a liquid that thins the consistency of the paint film in the container and evaporates after the paint after the paint film has been applied so that it may solidify. Turpentine, pure oils, petroleum and spirit are commonly used solvents.
6. Dryers are a group of materials containing metallic compounds that are used in small amounts for accelerating the drying of the paint film. Lead acetate, manganese dioxide and cobalt are commonly used dryers.

The different types of solvent based paints are:

- Alkyd paints: – These paints are based on synthetic resins combined with a vegetable oil such as linseed oil. These are generally easier to apply and have better durability and wearing properties than older types paint. They have good opacity and excellent fastness to light as well. They are available in a wide range of colours.
- Aluminium Paints: – These are used for painting wood and metal surfaces. Aluminium forms the base in this type of paint. This paint is well established for its good water proofing and weather-resisting qualities. It is not used for painting large areas of walls. It is commonly used for painting metal roofs, machinery, oil or gas storage tanks etc.
- Anti-corrosive paints: – these generally used as metal protection paints. Linseed oil is generally used as a vehicle. Sometimes dryers and inert fillers are added to modify the paint to the requirements.
- Asbestos paints: – this type of paint is especially suitable for patching up or stopping leakage in metal roof. Asbestos or fibrous coatings are sometimes used as moisture proof covering coats for the outer face of the basement walls as well.
- Bituminous paints: – These are alkali resistant and are chiefly used for painting exterior brickwork and plastered surfaces. They are also used for waterproofing and protecting iron and steel, and are commonly applied on structural steelwork that is underwater.
- Bronze paints: – this type of paint is often used for painting interior of exterior metallic surfaces. Aluminium bronze, copper bronze and copper powder are the pigments commonly used in this type of paint.

- Cellulose paints: – This type of paint is made from celluloid sheets and amyl acetate substitutes. For making a superior type of paint, nitro cotton is used. It dries very quickly and possesses the additional advantages of hardness, flexibility and smoothness.
- Enamel paints: – This type of paint is made by adding white lead or zinc white to a vehicle comprising a varnish. On drying, it forms a smooth, glossy, relatively hard and permanent film. It is commonly used for painting porches, decks, stairs, concrete surfaces and so on.
- Oil paints: – this type of paint can be used for almost all surfaces, from wood work to fabrics. Oil paints basically consists of two main components- a base and a vehicle. Oil paints are manufactured in different shades and grades and are very commonly used.

## Characteristics of a good paint

The characteristics of good paints are listed below -

- It should stick to the surface well and should be able to seal the pores.
- Its consistency should provide easy workability.
- The paint film should dry rapidly.
- The thickness of the paint film should be adequate for good protection and decoration of the surface.
- The dried paint film should be able to withstand the effect of adverse weather for long time.
- It should offer resistance to cracking and flaking.
- It should possess good moisture maintenance.
- Its colour should not fade with the passage of time.

## Care and cleaning of paints

- Remove light dust with a duster, wall broom or vacuum cleaner attachments.
- Wash when necessary (washable paints), with warm water and suitable detergent to remove heavily ingrained or tenacious dust or dirt. This is important on low sheen surfaces as dry cleaning tend to force dust into the surface.
- When washing start from the bottom and work upward using a sponge or worn distemper brush. Change the solution frequently. Rinse from the top downwards, using frequent changes of water. Sponge dry.
- Low sheen finishes, especially emulsion paints, may tend to 'polish up' if isolated areas of bad soiling are rubbed vigorously with a damp cloth. Clean such areas by very light scrubbing with a damp nail brush.
- Never apply wax polishes or oil to gloss painted surfaces to revive them. The residue may cause subsequent paint coating to peel, or fail to dry.
- Do not use harsh abrasives, strong solvents or strong soda solutions to clean paintwork. The film may be damaged or softened.

## Wallpaper

This type of wall covering evolved as an inexpensive substitute for tapestries of the wealthy. The choice of wallpaper depends upon the dimensions and uses of the room. Wallpapers have a warmer appearance than paint. They can be stuck back even if they are torn. Smooth finishes do not catch dust, but easily show up marks.



The various kinds of wallpaper available are:

- Lining Paper: – A preliminary covering of plain paper that gives the wall an even porosity, which helps when painting. On surfaces such as painted walls, this can be essential. There are various grades. It is best to avoid thin papers and use a heavy grade to conceal uneven walls.
- Surface-printed papers: – The cheaper papers are called pulp. Higher quality papers, known as grounded papers, are given a coating of colour before the design is printed on these. Such wallpapers vary in weight and thickness. Thin papers are cheap, but tear easily when wet.
- Washable papers: – A transparent waterproof film stop moisture from damaging design. These are especially suitable for bathroom and kitchens. They can be easily cleaned with damp sponge.
- Embossed papers: – The design is pressed into paper to make it stand out in relief. This process produces wood-like grain, imitation leather and textile effects. Duplex-embossed papers have designs with more depth, since two layers of papers are bounded together before design is impressed.
- Metallic papers: – these are made from patterned foil glued to paper backing. Their reflective surface accentuates any unevenness in the walls, however, so they should be used only on a perfectly flat surface.
- Hand printed papers: - each roll is prepared separately and therefore costs more than machine printed paper. The designs are outlined more sharply.
- Other variations in wallpaper includes Anaglypta, supagypta, ingrained paper, lincrusta, flock, wood-chip papers, paper backed hessian, Japanese grass cloth, paper backed wools, woven grass, felts cork, silk and other textile materials.

## Care and cleaning of wallpapers

- Remove surface dust with a wall broom or vacuum cleaner attachments (low suction for flocking papers).
- Remove marks by rubbing with a soft rubber or a piece of soft bread. If the paper is sponge able, wipe with a damp cloth or sponge.
- Attempt to remove grease with a proprietary grease absorber.

## Fabric wall coverings

These days, wall fabrics fall into two main categories: fabric that actually surface a wall like a wall paper and those that are draped loosely across a wall.

Tapestry, canvas and silk fabrics are most commonly used. Almost any fabric can be used as a wall covering. It should be remembered that wool materials may be attacked by moth and if adequate precautions are not taken.

Wild silk and other beautiful fabrics are often padded for heat and sound insulation, and for effect they may be stretched taut, gathered or pleated into frame. Silk tapestries are expensive wall coverings and thus are more usually found in luxury establishments.

Care and cleaning of fabric wall coverings: –

- Remove surface dust by brushing or vacuum cleaner attachments.
- For the more beautiful hangings, when necessary, send to a firm of dry cleaners who is specialized in this type of work.

- Where canvas is stuck to the walls, scrub very lightly using warm water and synthetic detergent where necessary.

## Plastic

Many types of plastic wall coverings are available now and they are becoming increasingly popular; some are more decorative than other and some afford sound insulation, but all, owing their abrasion resistance, are more hardwearing and easily cleaned than other wall coverings. As they are non-porous, there is a greater tendency for the growth of moulds so the adhesives should contain fungicides. The main types are as follows: –

1. Polyvinyl chloride (PVC) or other synthetic materials bonded to either a paper or fabric backing, e.g. Baladore, Fablon etc.
2. Laminated plastic produced as surface boards or as a veneer which require sticking to plywood. Melamine is the resin frequently used during the manufacturing of these plastic laminated which often simulate wood panelling
3. Plastic wall tiles imitate ceramic tiles
4. Vinyl flocked papers are velvety piles of flock, mostly synthetic, stuck in patterns over the background vinyl wallpaper.

Some other types of plastic wall coverings are paper or fabric backed vinyl, expanded polystyrene, clear acrylic-plastic sheeting etc.

Care and cleaning of plastic wall covering: –

- Remove surface dust with duster, wall broom or vacuum cleaner attachments,
- Wash, when necessary, with warm water and synthetic detergents.

## Wood

Wood used for panelling are usually hard, well-seasoned and of a decorative appearance, and they may cover the wall completely or from a dado. Wood panelling may be solid or veneered: it last for years providing precautions are taken in respect of dry rot and wood worm but the initial cost is rather high.

Care and cleaning of wood: –

- Dust and occasionally polish.
- Remove old polish periodically using white using white spirit or vinegar and water and then polish.

## Cork

This offers dramatic and luxurious effects and is easily installed. Its chief virtue is sound control. Its main disadvantage is its perishability.

Care and cleaning of cork: –

- Brush or vacuum
- Sponge away any marks gently with lukewarm water and mild detergent.
- Do not over wet.

## Glass wall covering

Glass can be used in the form of decorative tiles in the same way as ceramic tiles and these should not be confused with glass bricks which allows the passage and form the wall itself.

Glass as a wall covering is frequently used in the form of mirrors which are plate glass backed with a coating of coloured metallic paint, usually silver, and this reflects the light. Mirrors may be above the dado or may cover the whole wall.

Care and cleaning of glass: –

- Dust or wipe with a damp duster or scrim while proprietary cleansers or methylated spirits can be used.
- When cleaning mirrors, care should be taken to prevent the backs from becoming damp.

## Fibre glass/spun glass

These wall coverings can be almost indistinguishable from old woodwork or weathered plaster if properly painted. This material can be poured into moulds to duplicate just about any shape or surface.

Care and cleaning of fiberglass: –

Fiberglass is easy to clean. It requires only dusting or a bit wiping with a damp cloth.

## Metallic wall coverings

Metals may be used on walls for their decorative and hygienic qualities. Metal such as copper and anodized Aluminium are decorative and may be used for effect in such areas as bars, where the metal – in combination with rows of bottles and interesting lighting – is most impressive. Other metals, usually stainless steel in the form of tiles, may be used in kitchens, where they present a durable, easily cleaned hygienic surface area. Metal skirting boards provide covered edges between walls and floor surfaces. The metal foils are durable and washable.

Care and cleaning of metallic wall coverings: –

- Soft brush is required to clean the indented portions.
- Daily dusting is required.
- Wipe with sponge wrung out in mild detergent, dry with a duster.

## Tiles

Long related to outdoor area or limited to kitchen and bathroom walls, tiles have finally come into their own again, with ceramic and mosaic patterns that brightens and create a cool, airy feeling in the room being most popular. Generally easy to clean, the main drawback of tiles is that the grouting may become discoloured or chipped till tiles loosen.

Care and cleaning of tiles: –

- Clean grouting with a soft brush dipped in bleach solution and rinse.
- Wipe down with a sponge wrung out in mild detergent solution and rinse well.
- Dry with a duster

## Leather

Animal hides are extremely expensive and very decorative. They may be padded and studded with brass studs, and they do not usually cover a complete wall surface. They may be found in luxury establishments in parts of restaurants or bars, but are too expensive to be found in most places. They are also prone to attack by mildew. Nowadays, the effects of leather may be simulated by plastic where required.

Care and cleaning of leather: –

- Daily dusting or suction cleaning is required.
- If soiled, wipe the leather with a soft cloth wrung out of warm water and mild detergents. Then damp dust with clean water.
- Dry thoroughly.
- Occasionally leather may be polished with a good furniture polish cream to keep it supple.