



Paints

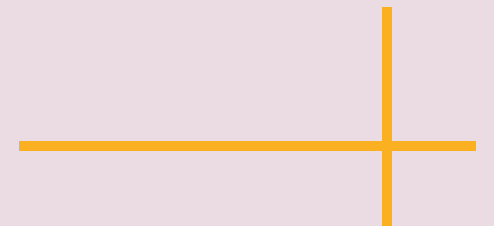
Haval Sami Ali, MSc. In Architecture
Ishik University, Faculty of Engineering, Interior Design Department
haval.sami@ishik.edu.iq



Paints

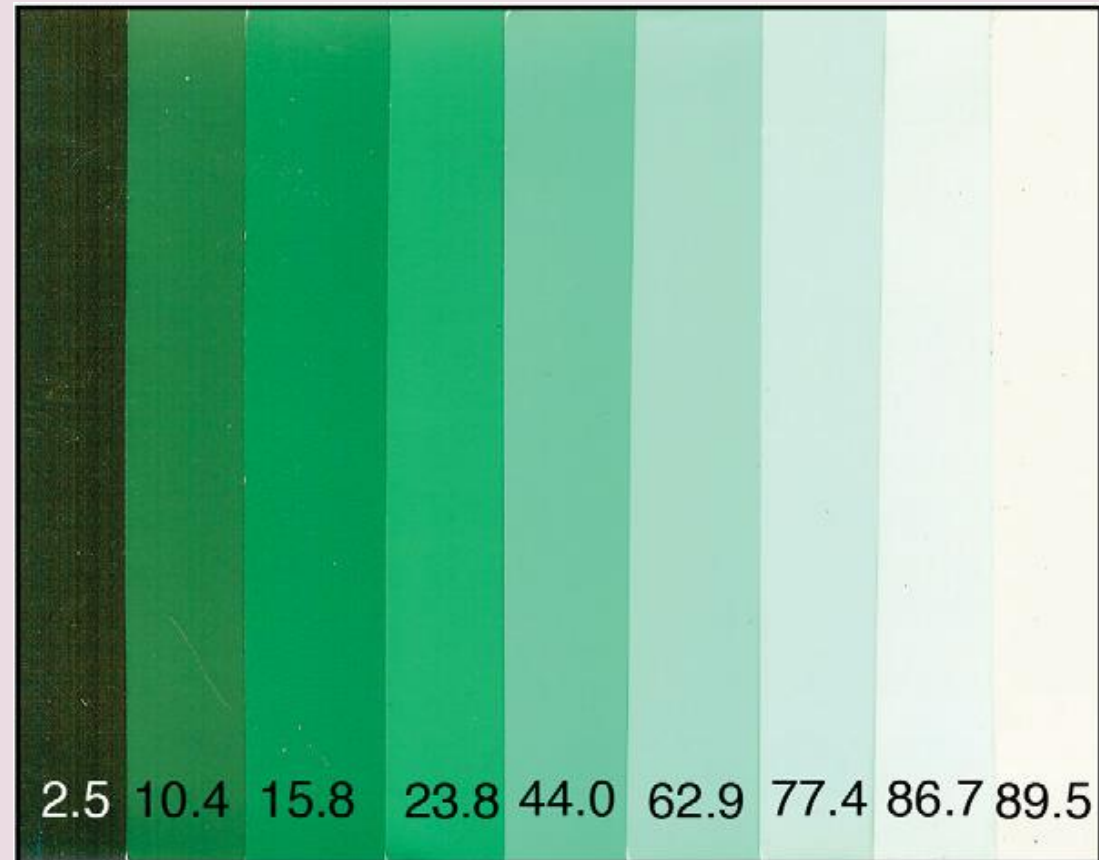
Outline:

- **Paint**
- **Painting systems**
- **Types of paints**



PAINTS

Paint is a mixture of a solid **pigment** suspended in a liquid **vehicle** .
It is applied as a thin, usually opaque coating to a surface for protection and decoration.



Painting Systems

A painting system for an interior comprises **basecoat**, **undercoats**, and **finish coat**.

The most common application is a three-coat system consisting of a **primer**, **undercoat**, and **topcoat**.

- Primers and sealers are used with paints or clear coatings for metal, wood, plaster, drywall, or masonry. Primer provides a good base for the undercoat by adhering well and protecting the substrate.
- Specialty primers, which retard moisture, inhibit rust, or limit the amount of paint that is absorbed by the substrate, are available for wood, metals, new plaster, concrete, brick, and masonry.

Paint Components

Component	Description
Binder	Binds pigment particles together for paint film. Alkyd, vinyl, or acrylic resins. Affects adhesion, durability
Thinner (solvent)	Water, organic solvents, or paint thinners. Carries pigment and resin, affects consistency and drying time
Base material	Usually white titanium oxide for opacity, hiding power
Extenders	Silica, calcium carbonate, or china clay; increase body
Driers	Reduce drying time by polymerization
Anti skinning agents	Prevent a skin from forming on the surface of paint in the can
Wetting agents	Help to distribute pigment particles evenly
Preservatives	Retard or eliminate mold or bacteria growth
Coloring materials	Usually a mix of organic and inorganic dyes and pigments; provide color, bulk, hiding power

Types of Interior Paints

Latex paint: is the most commonly used paint type for interior work; it is water-based. Latex paints have relatively low VOC levels. The surface film that forms on drying allows water vapor to pass.


Alkyd paints: are made from oil-modified polyesters and are solvent thinned. They are sometimes used in high-wear areas including trim, floors, or cabinets. They emit more VOCs than latex paints.



Primer is a preparatory coating put on materials before applying the paint itself. The primed surface ensures better **adhesion** of the paint, thereby increasing the durability of the paint and providing improved protection for the painted surface. Suitable primers also may block and seal stains, or hide a color that is to be painted over.

Emulsion paints are water-based paints in which the paint material is dispersed in a liquid that consists mainly of water. For suitable purposes this has advantages in fast drying, low toxicity, low cost, easier application, and easier cleaning of equipment, among other factors.

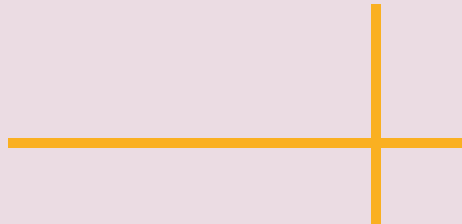





Flat Finish paint is generally used on ceilings or walls that are in bad shape. This finish is useful for hiding imperfections in walls and it is economical in effectively covering relatively great areas.

Matte Finish is generally similar to flat finish, but such paints commonly offer superior washability and coverage.


Eggshell Finish has some sheen, supposedly like that of the shell on an egg. This finish provides great washability, but is not very effective at hiding imperfections on walls and similar surfaces. Eggshell finish is valued for bathrooms because it is washable and water repellent, so that it tends not to peel in a wet environment.

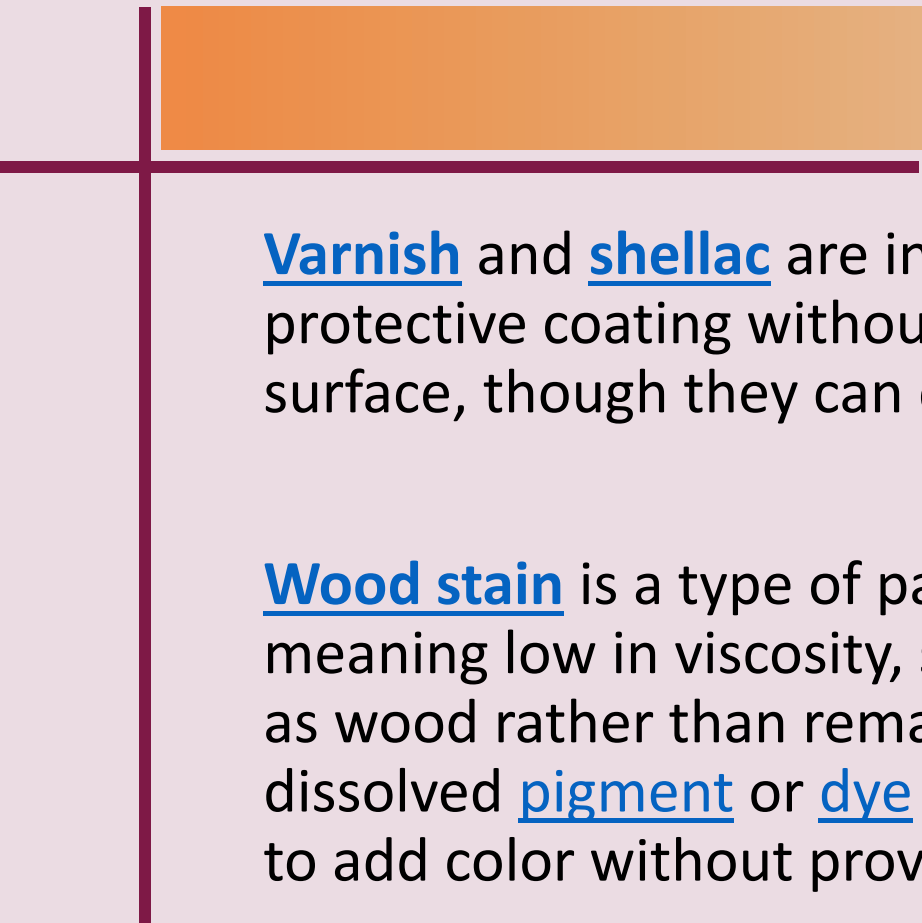




Pearl (Satin) Finish is very durable in terms of washability and resistance to moisture, even in comparison to eggshell finish. It protects walls from dirt, moisture and stains. Accordingly, it is exceptionally valuable for bathrooms, furniture, and kitchens, but it is shinier than eggshell, so it is even more prone to show imperfections.

Semi-Gloss Finish typically is used on trim to emphasise detail and elegance, and to show off woodwork, such as on doors and furniture. It provides a shiny surface and provides good protection from moisture and stains on walls. Its gloss does however emphasise imperfections on the walls and similar surfaces. It is popular in schools and factories where washability and durability are the main considerations.







Varnish and shellac are in effect paints without pigment; they provide a protective coating without substantially changing the color of the surface, though they can emphasise the colour of the material.

Wood stain is a type of paint that is formulated to be very "thin", meaning low in viscosity, so that the pigment soaks into a material such as wood rather than remaining in a film on the surface. Stain is mainly dissolved pigment or dye plus binder material in solvent. It is designed to add color without providing a surface coating.

Lacquer is a solvent-based paint or varnish that produces an especially hard, durable finish. Usually it is a rapidly drying formulation.







Enamel paint is formulated to give an especially hard, usually glossy, finish. Some enamel paints contain fine glass powder or metal flake instead of the color pigments in standard oil-based paints. Enamel paint sometimes is mixed with varnish or urethane to improve its shine and hardness.

A **glaze** is an additive used with paint to slow drying time and increase translucency, as in **faux painting** and for some artistic effects.

A **roof coating** is a fluid that sets as an elastic membrane that can stretch without harm. It provides UV protection to polyurethane foam and is widely used in roof restoration.





Anti-climb paint is a non-drying paint that appears normal but is extremely slippery. It is useful on drainpipes and ledges to deter burglars and vandals from climbing them, and is found in many public places.

Insulative paint or **insulating paint**, reduces the rate of thermal transfer through a surface it's applied to.

Anti-slip paint contains chemicals or grit to increase the friction of a surface so as to decrease the risk of slipping, particularly in wet conditions.

Road marking paint is specially used to marking and painting road traffic signs and lines, to form a durable coating film on the road surface. It must be fast drying, provide a thick coating, and resist wear and slipping, especially in wet conditions.

