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Q2

(A)

Types of Flooring

(1)

Flooring Fabrication Shop.

Concrete and Natural Stone Flooring  
use in Fabrication Shop.

Engineered Stone

⇒ Is typically used as flooring material  
for large commercial projects such as  
~~fab~~ Fabricate shops, hotels, shopping  
centers, business lobbies, where it combines.

Concrete flooring - Rounded aggregate can be

slippery when concrete wears. Exterior surface is  
sealed to prevent dusting and absorption of  
liquids but this can be increase slipperiness.

(Factory, Pathways & Ware house floor).

(It is suitable for any type of construction).

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(2)

Flooring For Kitchen

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Marble Flooring => is a type of Metamorphic

rock and is used widely for Floorings in Commercial building, Kitchens, Bathrooms etc. they are stain proof and easily cleanable.

=> Hence, they are used where Extra cleanliness is required Especially in Bathrooms. & Kitchen.

They are also available in different colors and design.

=> Concrete floor also use for Kitchens.

=> Tiles, slate and Parquetry there are directly use on the surface.

=> Timber floor is also commonly used in the Kitchen.

} These many floorings are used for Kitchen  
① Travertine, Granite, Mosaic Tile  
Quarry Tile etc.



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For Platforms

Cork Flooring & Fibreglass grating

Cork flooring: Cork is obtained from the cork oak tree. It is used as flooring material in the form of carpets. These carpets are noiseless and are required mainly in libraries, theaters, platforms etc.

⇒ Cork tiles are also available.

Fibreglass grating:

This product can have grit particles moulded into the upper surface to provide every good slip resistance. Fluids are very quickly drained away.

⇒ Factory areas where fluids are unavoidable,

⇒ Use on overhead platforms and walkways also appropriate.

Note

Rubber flooring also use for platforms.

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Vehicle parking

=> car parking in a garage usually

subjected to high pressure due to vehicle movements and chemical spills.

Some of the best available garage floors that you can use for car parking areas are:-

- ① Concrete Floor Paint
- ② Epoxy Paint
- ③ Concrete Sealers
- ④ Interlocking Tiles
- ⑤ Rollout Mats.

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The reason of Selection

These flooring are:-

- ① INITIAL COST ,
- ② APPEARANCE ,
- ③ CLEANLINESS ,
- ④ DURABILITY ,
- ⑤ ~~FIRE~~ DAMP RESISTANCE ,
- ⑥ SOUND INSULATION ,
- ⑦ SMOOTHNESS .
- ⑧ THERMAL INSULATION .
- ⑨ FIRE RESISTANCE
- ⑩ HARDNESS
- ⑪ Maintenance .



Q2B

### Fields Tests Performed on Bricks for its Suitability.

=> Following tests are conducted on bricks to determine its suitability for construction work.

① Absorption: A good should not absorb not more than 20% of weight of dry brick.

② Compressive Strength: crushing or compressive strength of brick is found out by placing it in compression testing machine. it is pressed till it breaks.

Minimum crushing strength of brick is bricks  $35 \text{ kg/cm}^2$  and for superior bricks. it may vary from 70 to  $140 \text{ kg/cm}^2$ .

③ Hardness: No Impression is left on the surface the brick is treated to be sufficiently hard.



④ Presence of Soluble Salts =

The bricks should not show any grey or white deposits after immersed in water for 24 hrs.

⑤ Shape and Size: It should be standard size and shape with sharp edges.

⑥ Soundness: The brick should give clear ringing sound struck each other.

⑦ Structure: The structure should be homogeneous compact and free from any defects.



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Grade of Concrete

=> Grade of Concrete is defined as the Minimum strength the concrete must possess after 28 days of construction with proper Quality Control. Grade of concrete is denoted by prefixing M to the desired strength in MPa. For Ex- For M20 concrete mix proportion will be 1:1.5:3 for cement, sand, coarse aggregates.

Every one of us wishes to have a well-built, strong and beautiful home.

=> So I wish, I used a good grade of concrete for my home town.

=> So my home town in Peshawar, there are different types of grade of concrete

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are use for construction. most of all using grade of concrete in Peshawar are:

$$M15 = 1:2:4$$

$$M10 = 1:4:8$$

$$= 1:3:6$$

=> These are ordinary concrete of grades are use in Peshwar.

=> If you may spend a lot of money to bring an aesthetic appearance to our home

So we use the grade of concrete, M15,  $\frac{1:2:4}{6:5:2}$  and we just save our money and make a simply home, so we used 1:4:8 or 1:3:6 grade of concrete use in Peshawar.

=> They are contractors in Peshawar, who's are cheating the owners of the house who spend a lot of money to make his/their homes strong and looking beautiful.

but contractors are use poor quality of grade of concrete use it.



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- ⇒ We know that the concrete is Essential building material used for structural elements like Pillars, Slabs and Footing of a home.
- ⇒ Concrete is a mixture of Cement, Sand and aggregates. It is an excellent construction material having Easy Mouldability, Long durability, and high compressive strength.

## Quality of Concrete

⇒ The stress applied on the concrete footings, Pillars and Slabs affects the strength of the building. Therefore you should not compromise on the quality of concrete or materials used for these key elements. The quality of concrete depends on the quality of cement, sand, aggregates and water used in <sup>the</sup> mixture.

⇒ Good quality cement is greenish gray in color without any lumps or dust. You should feel a cool finish when a pinch of cement is rubbed b/w your fingers.

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②

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=> Coming to Sand, it should be free of grass, leaves and other foreign organic matter. Too much sand and silt content of the sand also affect its quality.

=> Good Quality aggregates are dense, ~~met~~ inert, hard and durable. Here are some features of Quality aggregates that you should check.

- ① They should be angular but not flat.
- ② Mud and other impurities should not be there.
- ③ They also must not contain marks of layers of any other color.

Concrete are mixed by water, it is necessary to even use good quality water for mixing. It should be clean and fresh.



Q2A

Durability:

=> The long term strength and durability of concrete are important characteristics of concrete. The concrete structures must provide the designed service life. The timely maintenance of structures is essential to obtain the desired service life.

=> In spite of good quality cement being manufactured these days, the service life of concrete structures is not increasing. In India construction industry should rise above certain level and produce concrete structures,

=> which will have long service life.

Q2

B

①

Glass to be used for Making partition walls

=> Satin Glass (Privacy Glass)

=> Satin glass has satin finish as the name suggests. It is chemically treated to give the desired finish on the surface. It is a good material for decorative purposes. It can be used as a partition wall in retail spaces or hotels where one requires privacy as it blurs the view. Due to this property, it can be utilized in fabricating a door in association with another material such as wood. Stain glass is a low maintenance product as it prevents the dust from sticking on to its surface.



② Glass For Laboratory

Glassware: It can be used a Laboratory Apparatus offers a wide range of Containment and transport Functions for Solutions and other liquids used in Laboratories. Most Laboratory glassware is Manufactured with borosilicate glass, A particularly durable glass that can safely be used to hold chemicals being heated over a flame and to contain Acidic or Corrosive chemicals. All Laboratory glassware should be cleaned immediately following use to prevent chemical residue from Congealing or hardening.



= ③ Glass For Skylights roof.

= Wired Glass:

= ⇒ Wired glass will have wires that run through it in order to keep it from shattering during an impact. This is often recommended for skylights roof and areas where it may be a hazard to have falling glass.

If glass pane should break, the pieces will be ~~held~~ held together by the internal wires, making it safer for occupants.

Adv:

⇒ Increase Fire Safety



(4) Glass For Jewelry Shops

Security Glass: ⇒ Security Glass can either be laminated or toughened. Laminated glass is an engineered glass, which holds its pieces together in an event of disaster. It is ideal for a coffee table top. If your counter top breaks the shattered pieces of glass will stick together.

⇒ It can also be used in sensitive areas such as jewelry shops. It is so strong that it is even capable of withstanding a bullet's attack.

⇒ It can also be designing a staircase to take its strength.

⇒ Toughened glass is also a popular choice for table tops since it prevents cuts and injuries due to broken glass.



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Q3

Varnish:

- => Varnish has little or no color, it is transparent and has no add pigment.
- => Varnishes are also applied over wood stains as a final step to achieve a film for gloss and protection.
- => Varnish is hard, protective, removable coat applied over the painting surface.
- => Polymer varnish is not made to be painted over, paint that is applied over Varnish may not bond sufficiently, which may cause a lack of adhesion over time. Further, any paint applied over the Varnish will be lost if the Varnish is removed.



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## Suggestions.

- => When varnishing a painting, I make sure. I'm working in bright light, usually from a window. As I varnish, I angle the painting towards the light every now and then so I can clearly see where I've applied the varnish or not - when it's wet it shines in the light and whether I've missed any bits.
- => I'm using, I definitely use the varnish brush, a good quality brush as it makes applying the varnish smoothly much easier.
- => I usually dilute the varnish slightly with water, following the instructions on the bottle that's marked working "varnish" so I can distinguish it from undiluted varnish.

⇒ So I always apply at least two coats of varnish, Acrylic varnish dries rapidly, but I leave the 1st coat dry overnight before applying the 2nd coat. This is put on at right angles to the 1st to ensure a more even varnish.

### Paint Starts Peeling

= = =

⇒ If paint doesn't adhere properly to the surface underneath, it starts peeling off.  
⇒ This can occur B/c the wall wasn't cleaned and primed correctly. The surface should also be treated with paint primer, which forms a binding layer that's more suited for long term adhesion to the paint than the surface beneath it.



Paints Make

Blisters or Bubble

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- => Paint bubbles can form long after the paint on your walls and ceiling has dried.
- => Take steps to avoid problem. Before it occurs.
- => Paint blisters or Bubbles occur when the paint film lifts from the underlying surface. The loss of Adhesion Blw the Paint Film and surface is usually caused by heat, Moisture or a combination of both. This condition eventually leads to peeling. It can be corrected, but the underlying cause of the problem must be addressed or it will recur.

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## Why Does Paint Bubble or Blister

- ⇒ Paint a damp, dirty, or hot surface.
- ⇒ Applying Oil-Based or alkyd paint over latex paint.
- ⇒ Improper surface moisture preparation.
- ⇒ Excessive moisture.
- ⇒ Exposing latex paint to moisture shortly after paint has dried.

## How to Fix Paint Bubbles

- ⇒ If the blisters do not go all the way down to the substrate, remove them by scraping and sanding. once the problem area has a smooth finish, coat with primer before applying a quality acrylic latex interior paint.
- ⇒ If the blisters go down to the substrate you will need to removed the source of moisture. If possible. ⇒ Repair loose caulking & consider installing vents or exhaust fans to lower the humidity in the house.