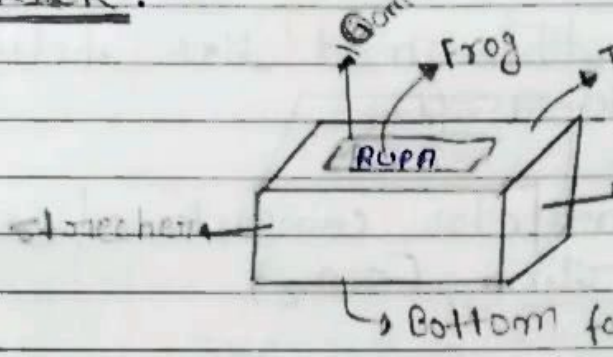
20/05/2024

UNIT 02 CH- (ARTIFICIAL CONSTRUCTION MATERIAL)

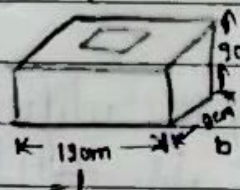
(1) BRICK :-



↳ Weight of a brick is 3 kg.
↳ Modulus of elasticity of a brick = $(5 \times 10^3$ to $30 \times 10^3)$ N/mm^2

(2) SIZE OF BRICK :-

- Conventional size or traditional size (use for field) now
  - Actual size: 22.9 cm × 11.2 cm × 7 cm
  - Nominal size: 22.9 cm × 11.4 cm × 7.6 cm
- Standard or modular size (calculation purpose)
  - Actual / Nominal size: 19 cm × 9 cm × 9 cm
  - Nominal / Actual size: 20 cm × 10 cm × 10 cm



↳ Normal Size means considering the thickness of mortar

NOTE :- Size of field brick = 9" × 4½" × 3"
or 23 cm × 11.4 cm × 7.6 cm

↳ Actual size means without considering the thickness of mortar.

H.W.

(H) Define convential brick and standard brick.

7/05/2024

(H) CONVENTIONAL OR TRADITIONAL BRICK :→

↳ This of brick are generally used in the field.

↳ It's dimension is not standardized.

↳ In this dypes of brick, width is not equal to height.

↳ It is a practical dypes of brick.

↳ This dype of brick is not used for the calculation for $1m^3$ brick work (contains hard many bricks

(H) STANDARD OR MODULAR BRICK :→

↳ This dypes of brick are generally not used in the field.

↳ It's dimension is standarized by BIS ie Bureau of Indian standard.

↳ In this dype of brick, width is equal to height.

↳ It is a theoredical dypes of brick.

↳ This types of brick is used for the calculation for $1m^3$ brick work contains how many number of brick.

Ques Write down the some important properties of brick.

V.V.I

(11) CONSTITUENTS OR INGREDIENTS OR COMPOSITION OF A BRICK :→

INGREDIENTS	PERCENTAGE	FUNCTION
(i) SILICA	→ (50 to 60%)	→ It is responsible for the strength in a brick.
(ii) ALUMINA	→ (20 to 30)%	→ It causes absorption of water and imparts the plastic qualities so that the brick can be mould.
(iii) Lime	→ > 5%	→ It causes silica to fuse during the burning process and bind the brick particles together.
(iv) IRON OXIDE OR FERRIC OXIDE	→ (5 to 6)%	→ Providing the strength and hardness to the brick.
(v) MAGNESIA	→ < 1%	→ Imparts yellow tint to the brick and decrease shrinkage.

NOTE ÷>

Besides the above ingredients, brick also contains the following composition that are listed below :

(i) Alkalis (यदि water में [illegible])

(ii) Carbon dioxide, sulphur trioxide, water — very small %

Q. Imp Explain the composition of brick (imp)

20/05/2024

(4) CHARACTERISTICS OR PROPERTIES OF A BRICK ÷>

(1) A good brick have uniform size, rectangular shape and have straight parallel edge.

(2) A good brick have deep red or cherry colour.

(3) A good brick is compact and having uniform texture.

(4) A good brick have crushing strength should not be less than 10N/mm².

(5) A good brick ~~does not~~ does not show any type of impression when ~~scra~~ scratch ([illegible]) through the finger nail.

(6) When two brick struck (टकराना) together, them a metallic sound should be produced.

(7) A good brick bricak does not break when fall from 1m height.

(8) A good brick absorb water between (15 to 20) % when immersed in water for 24 hours.

Remember :-

Dry wt of brick = 3kg
wet wt of brick = 4kg
(गीला)

water absorb by brick = (4-3)kg = 1kg

$= \frac{1}{3} \times 100$

$= 33.3\ \%$

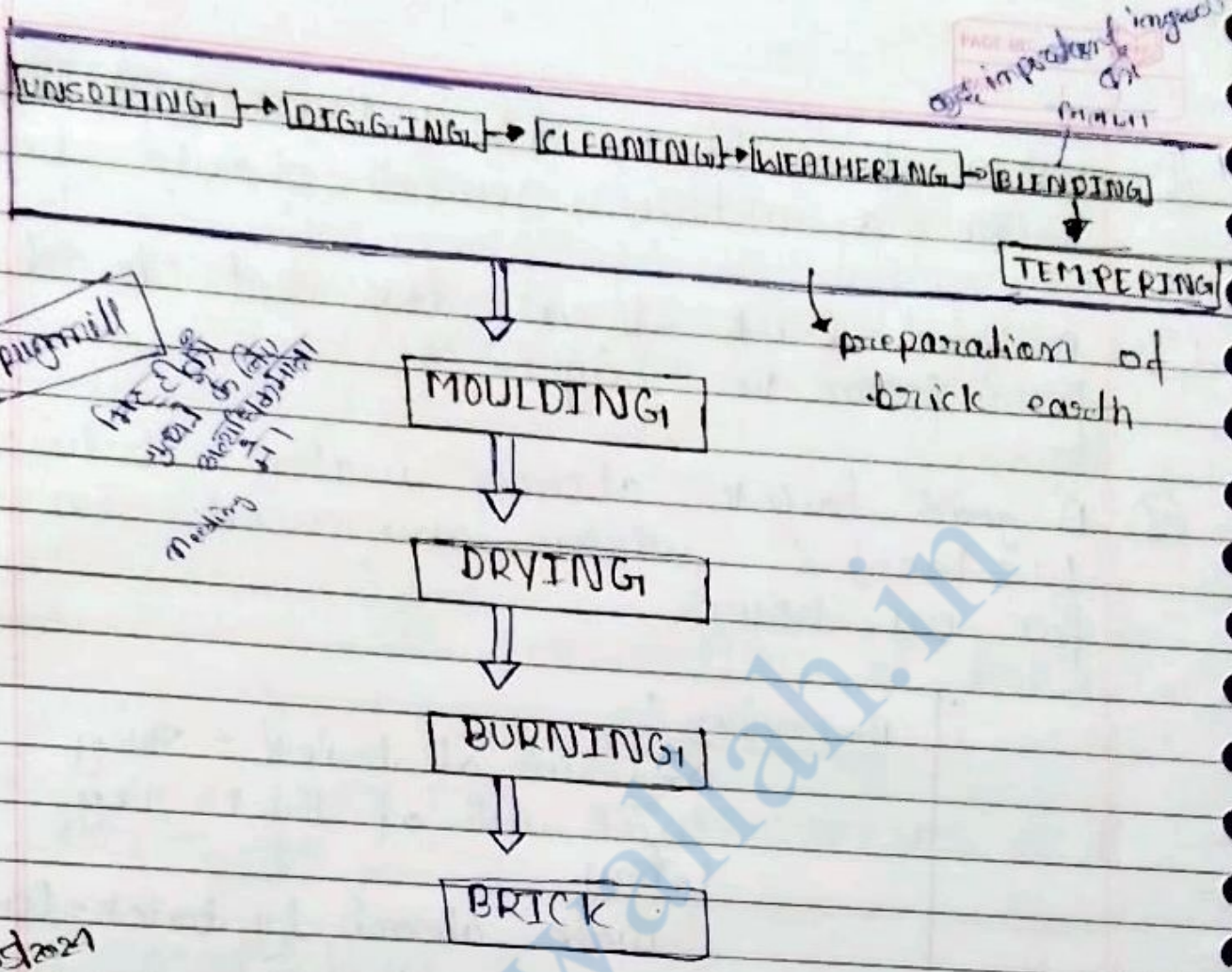
(9) A good brick is well burnt and free from cracks.

(10) A good brick have low thermal conductivity and they should be sound proof.

MANUFACTURING PROCESS OF BRICK :-

UNSOILING → DIGGING → CLEANING → WEATHERING → TEMPERING ← BLENDING

Preparation of brick earth (मिट्टी)



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(11) Manufacturing process of a brick :→

The top layer of soil having depth first of all ; we have to prepare the brick earth :→

① UNSOILING :→

The top prepare the brick layer of soil having depth 20cm is taken out and rejected for the preparation of brick earth because this 20cm depth is consist of full of impurities.

(ii) DIGGING :→

After 20cm depth; we have to dug out the clay from the ground and put these clay over the levelled ground.

(iii) CLEANING :→ The excavated clay should be cleaned from stones, kankar pebbles, vegetable matter (सड़ी गली) etc.

(iv) Weathering :

After the cleaning of excavated clay; it is exposed to the atmosphere for the softening.

(v) Blending :—

In this process the exposure clay is mixed with important ingredients so as to improve or enhance the properties of clay.

(vi) Tempering :

The process of kneading of clay in the Pugmill or manually for the purpose of fit for moulding.

After the preparation of brick earth; we have to convert the brick into several moulds.

⑤ TEMPERING :→

The process of kneading of clay in the pug mill or manually for the purpose of fit for moulding.

After the preparation of brick earth ; we have to convert the brick into several moulds.

✳ MOULDING :→

The process of providing the certain shape to the brick mould; is known as "MOULDING"

After the operation of moulding ; we should have to dry the brick in the sunlight.

✳ Drying :→

The process of removing the moisture from the moulded brick under the influence of sunlight ; is known as Drying ;

Kiln

After the operation of drying : we should have to burn the dried the brick into the kiln

✳ Burning : In the operation the brick is burn in the kiln for achieving the proper hardness and strength.

After the burning operation ; the brick so obtains can be utilized as a construction material for making the masonry wall.

⑪ FIELDS TEST ON BRICK :→

(i) Water absorption test
(ii) Crushing strength test
(iii) Hardness

105-110°

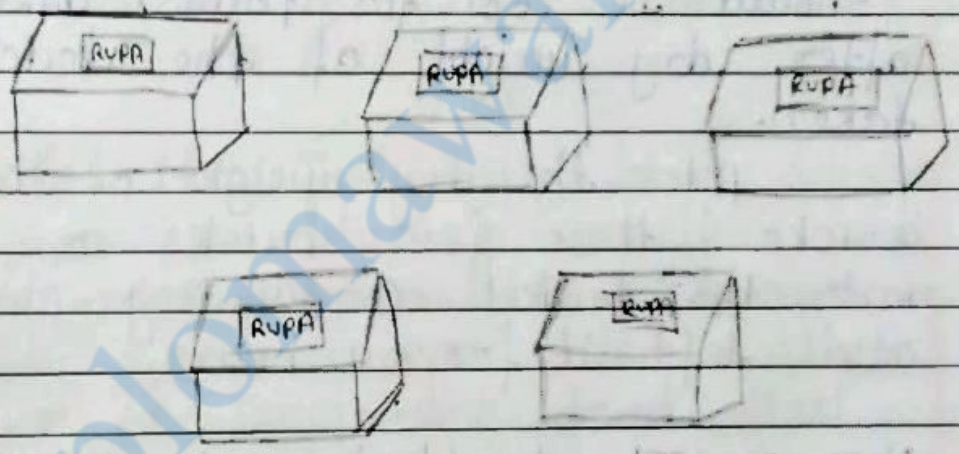
(iv) Presence of soluble salts
(v) Shape and size
(vi) Soundness
(vii) Structure

18/oct/2021

WATER ABSORPTION TEST FOR THE BRICK :→

SPECIMEN :→

The substance or the material on which the test is perform ; is known as "SPECIMEN".



HOT AIR OVEN :→

Put these five specimen of bricks into the "HOT AIR OVEN" maintain the temperature between (105 to 110)°c for the time duration of (20 to 30) minutes.

After (20 to 30) mins. remove these bricks from the oven and measure its weight one by one on the electronic balance.

OBSERVATION TABLE :-

Serial Nos	oven dried sample (w_1) in gram	After water absorption (w_2) in gram	water absorption in % $= \frac{w_2 - w_1}{w_1} \times 100$	average %
	2975	3195	$\frac{3436 - 2975}{2975} \times 100$	
	3125	3570		
	2970	3405		
	3005	3465		
	3110	3620		

NOTE :- five sample of bricks should should be cool for fours/hours and there after dry weight of the bricks are taken.

After the dry weight of the five bricks, these five bricks are put into the bucket containing water and left it for 24 hours.

NOTE :- It should be noticed that these five bricks are completely immersed into the bucket water.

After 24 hours, these

PROCEDURE :-

step (1)
step (2)
step (3)
and soon
observation table

31/6/20

(11) Compressive or crushing strength of brick :→

step (1) Measurment of brick :→

Length = 220mm (say)
Breath = 110mm (say)

step (2) Fill the space of frog with cemment mortar so that ; when load is applied on the brick this load is evenly or uniformly distributed over surface area of brick.

step (3) Now put this brick on the compression testing machine and apply the compressive load over it Note down that value of compressive load that causes crushing of brick ; say that compressive load = 180 KN

step (4) Calculation :→

surface area = length x breat
= 220 X 110 mm²

Compressive load that causes crushing of brick = 180 KN

Compressive strength = Compressive load / Surface area

Compressive or Crushing strength of brick = $\frac{180 \times 10^3 \text{ N}}{22500 \text{ mm}^2}$ = 7.43 N/mm²

NOTE :- Class of brick — Compressive strength or crushing strength of brick.

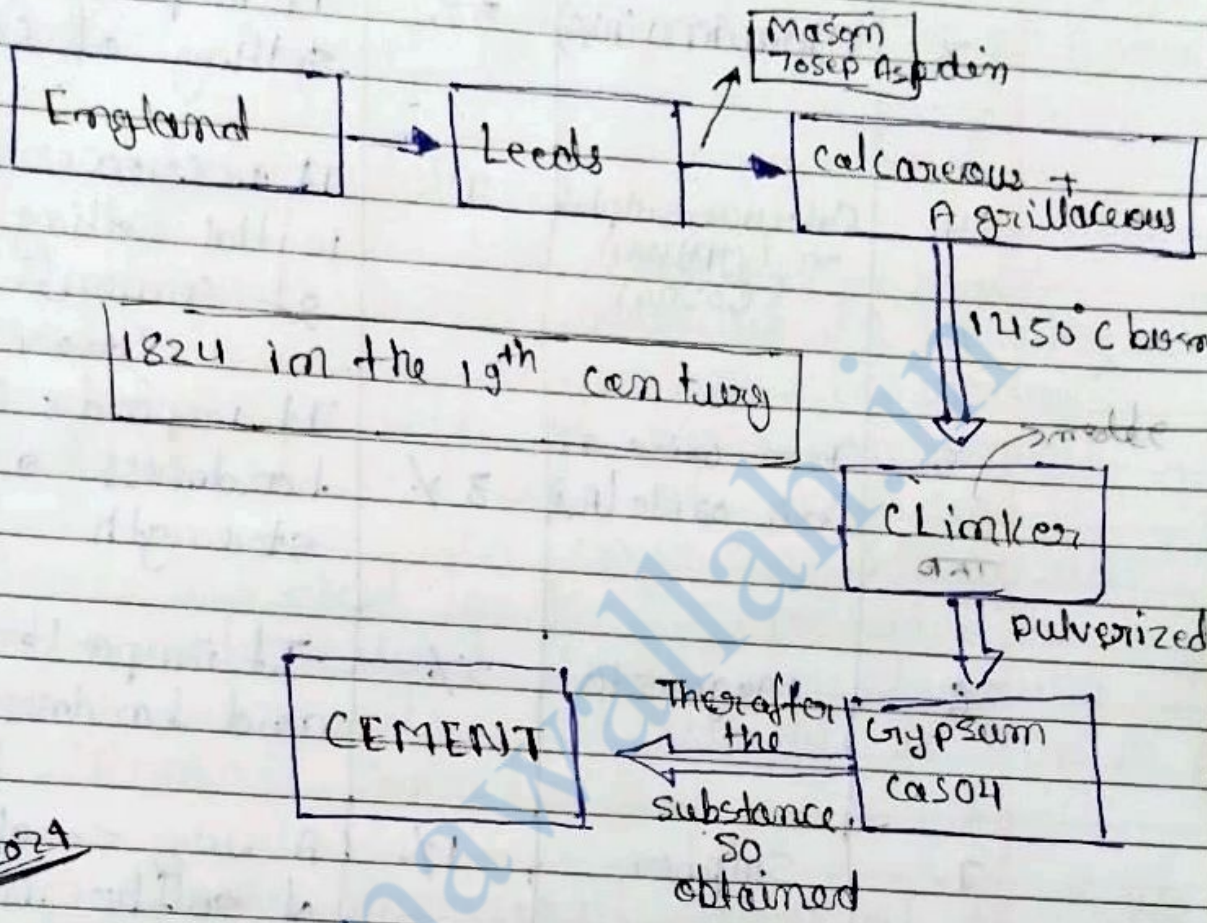
First class brick → 10.3 N/mm²
2nd class brick → 6.867 N/mm²
Common brick → 3.43 N/mm²

CEMENT

(1) Cement :- It may be defined as the binding material have both the properties i.e adhesive and cohesive by virtue of which it make the other ingredients of concrete together.

"or" in other word we can say that cement may be defined as the extremely fine particles which act as a discrete ingredients for the concrete.

(i) BRIEF HISTORY FOR THE MANUFACTURING OF ARTIFICIAL :



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(ii) INGREDIENTS OF CEMENT :→

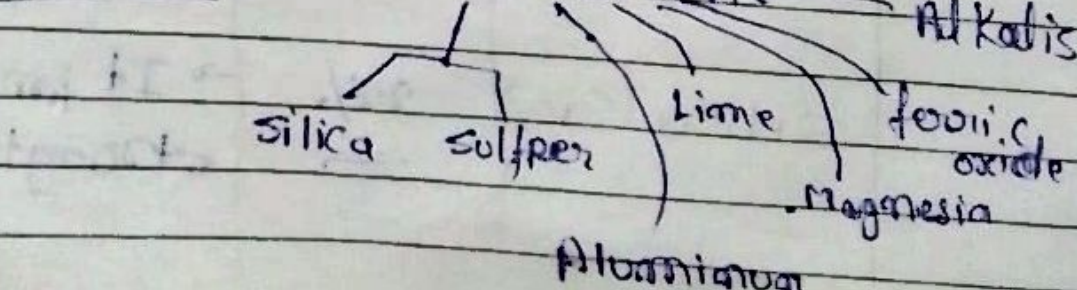
"OR"

Constituents of Cement :→

Serial No.	Ingredients	%	function
1	Lime चूना	62%	→ Excess of lime makes the expand more and get disintegrated.
2	Silica (SiO_2)	22%	→ It imparts the strength of cement

S.No	Ingredients	%	function
3	Alumina (Al_2O_3)	5%	It imparts quick setting of cement.
4,	Calcium sulphate or Gypsum ($CaSO_4$)	4%	It increases the initial setting time of cement.
5.	Iron oxide or ferric oxide (Fe_2O_3)	3%	It imparts (develop) colour, hardness and strength
6.	Magnesia	2%	It imparts colours and hardness.
7.	Sulpher	1%	A very small amount of sulpher is responsible to make the cement second
8.	Alkalis	1%	due to the presence of Alkalis; efflorescence takes place

TRICK :→ SALMEA



(11) Types of Cement :-

(1) Artificial Cement → Invented by Joseph Aspdin.
(2) Natural Cement

Natural Cement :-

1. The natural cement obtained by burning and crushing the stone containing clay, Carbonate of Lime and small amount of Carbonate of magnesia.
The clay content in such stone is about 20 to 40 percent. The Colour of natural cement is brown and its best variety is known as "Roman Cement".

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Some important types of cement :-

(i) Pozzolana cement
(ii) Ordinary portland cement
(iii) High alumina cement
(iv) Rapid hardening cement
(v) Quick setting cement
(vi) White cement
(vii) low heat cement
(viii) ~~Glass~~ Blast furnace cement or Blast furnace slag cement.
(ix) Sulphite resisting cement.

(4) Pozzolana Cement :→

↳ The pozzolana is a volcanic powder
↳ It is found in Italy near Vesuvius.
↳ following are the advantages of pozzolana cement :→

(i) It can resist action of sulfahates.
(ii) It is cheap
(iii) It is tensile posses higher densile strength.
(iv) It attains compressive strength with age.
(v) It imparts plasticity and workability to the mortar and concrete from it..

(2) Ordinary portland cement or ordinary setting cement :→

following are the important properties of ordinary portland cement or ordinary seeting cement are listed below :→

(i) Fineness :→ When OPC or OSC is sieved through IS sieve No. 9 than residue left on this sieve should not be more than 10%.

(ii) Initial and final setting time :→

The Initial Setting time of OPC should not be mor than 30 minute

and the final setting time of OPC should not be exceed 10 hours.

NOTE :→

The initial final setting time of OPC is performed by vicat apparatus. (expension sape)

(iii) Soundness of cement :→

Soundness of cement means it's expansion. The soundness of cement is carried out by "Le chatelier apparatus."

The soundness of OPC should not exceed 10 min.

(iv) Compressive strength :→

The test is carried out by the "cube mould".

The compressive strength of OPC after 3 days should not be less than 11.5 N/mm^2 and after 7 days shoulds not be than 17.5 N/mm^2

(v) Tensile strength :→

The test is carried out by the Brig "Briquette mould."

The tensile strength of OPC after not be less than 2 N/mm^2 and after 7 days should not be less than 2.5 N/mm^2.

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High Alumina cement :→

↳ This cement is produced by grinding clinkers formed by Calcium and lime.

↳ This types of cement having the high percentage of aluminium oxide (i.e Al_2O_3).

↳ following are the important advantages of high alumina cement :→

→ It can stand high temperatures

→ It resist the action of acid in a better way.

↳ The initial setting time of this cement is more than $3\frac{1}{2}$ hours and the final setting time is about 5 hours.

↳ It sets quickly and attain higher ultimate strength in a short period.

(4) RAPID HARDING CEMENT :→

↳ This type of cement have tendency to become very in short duration of time by forming C_3S (i.e tricalcium

ium silicate) and C_2S (ie Dicalcium silicate).

↳ This type of cement is used in the construction of residential or public building.

↳ This type of cement play a vital role in rapid construction of work.

5. Quick setting cement :→

↳ This types of cement is produce by adding a small percentage of alumicnium sulphate and by finely granding the cement.

↳ This type of cement is used in under water concreting

⑥ White cement :→

↳ The first white cement factory was set up in Kottayam, Kerala by Travancore cement limited (TCL) in 1956 and the cement was solde under the brand name Vam

↳ This types of cement is basically used for providing the aesthetic look or pleasure appearance.

(7) Low Heat cement :→

↳ This type of cement produces less amount of heat.

↳ This types of cement is used in mass concreting work.

↳ This types of cement have lower percentage of C_3A (i.e tricalcium aluminate) and higher percentage of C_2S (ie Dicalcium silicate).

↳ This type of cement have comparatively less compressive strength.

↳ This type of cement have intial setting time of 1 hour and final setting time of 10 hours.

(8) Blast furnace slag cement :→

↳ Generally in the manufacturing of pig iron the unwanted substance or residue left in the furnace known as "slag"

This slag contains more or less ingredients of cements.

If the slag is used in the manufacturing of cement; then it is known as "Blast furnace

slag cement ??

NOTE :→ Blast furnace slag cement is quite economical.

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Sulphate resistant cement :→

↳ This type of cement is mainly used where the soil contain high percentage sulphate.

↳ Sulphate is quite dangerous for the construction of work.

↳ Therefore the remedy (उपचार) point of view, Sulphate resisting cement is used.

↳ This type of cement having the lowest lower % of C_3A (ie Tricalcium aluminate) and C_4AF (ie Tetra Calcium alumina ferrite).

(11) Precast hollow and solid concrete block :→

Concrete :→ It is mixture of binding material such as cement ; fine aggregate such as sand ; coarse aggregate such as stone chips along with suitable proportion of water.

15/4/2024

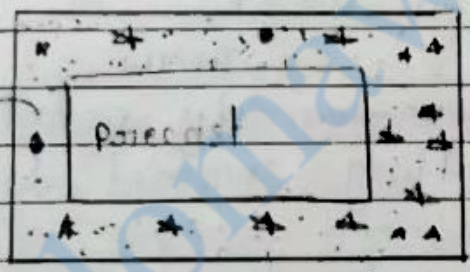
(11) Precast hollow and solid | concrete blocks and Pavement Blocks :→

↳ Precast hollow Concrete Block :→

Precast :→ If the structural member is cast at the different place and thereafter it is transported at the place, where this structural member is needed then this type of casting is known as Precast.

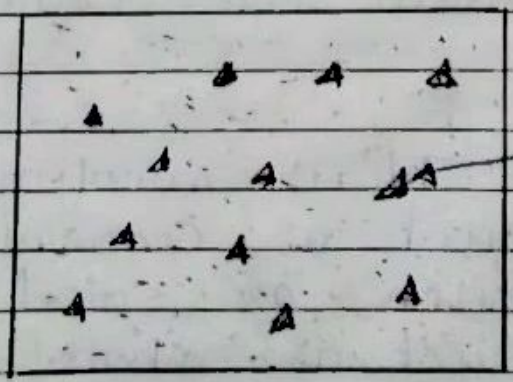
(Cont.) Cast-in-situ :→

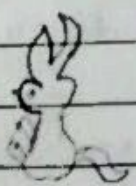
If the structural member is cast at the place of casting is known as cast-in-situ.



If a hollow concrete block is cast at the different place and thereafter it is transported at the place where this structural member is needed then this type of concrete block is known as

↳ Precast Solid Concrete Block :→





↳ If a solid concrete block is cast at the place of construction then this type of solide concrete block is known as "precast" solid concrete block.

Industrial Timber :-

↳ The timber which is prepared scientifically in a factory is termed as "industrial timber and such timber possess desired shape, appearance, strength etc. following are the varieties of industrial timber :-

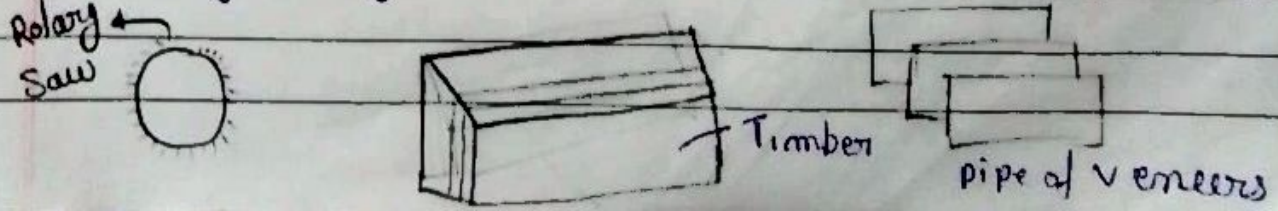
(i) Veneers
(ii) Plywood
(iii) Particles Board or chip board.

(i) Veneers :-

↳ These are thin sheets or slices of wood of superior quality.

↳ The thickness of veneers varies from 0.40 mm to 6mm or more.

↳ They are obtained by rotating a log of wood against a sharp knife of rotary cutter or saw as shown in figure given below :-



② Plywood :-

↳ The meaning of term ply is a thin layer.

↳ The plywood are the boards which are prepared from thin layer of wood or veneers.

↳ The three or more veneers in odd numbers are placed one above the other with the direction of grains of succesive layers at right angles to each other.

↳ They are held in position by application of suitable adhesives.

↳ The placing of veneers normal to each other increases the longitudinal and transverse strength of plywood.

↳ The plywood are used for various purpose such as ceiling, doors furnitures, partitions, formwork for concrete, railway coaches.

Chapter :- Paint and Varnishes

(i) **Painting** The process of applying paint on metal or timber ; is known as "painting".

(ii) **Paint :-** The paints are coating of fluid material and they are applied over the surface of timber and metals.

(iii) **objective or purposes of painting :-**

(i) It provides smooth surface for easy cleaning.

(ii) It prevent decay of wood and corrosion in metal.

(iii) It protect the surface from weathering effect of the atmosphere and action by other liquids, fumes and gases.

(iv) It is used to give good apperance to the surface.

(v) The decorative effects may be created by painting become hygenically good. clean, cl coloured and attractive.

(II) Characteristics of an ideal paint :-

(i) The paint should be fairly cheap and economical.

(ii) The paint should be such that it can be easily and freely applied on the surface.

(iii) The paint should be such that its colour is maintained for a long time.

(iv) The paint should be such that it dories in reasonable time, and not to rapaidly.

(v) It should posses a good spreading power i.e maximum area of the surface should be covered by minimum quantity of paint.

(vi) The paint should form and durable surface.

(vii) The paint should not affect health of workers during its applicadion.

(viii) The paint should posses attractive and pleasing apperamace.

(ix) The paint should not affected by weathering action of the atmosphere.

(x) The surface coated with paint should not show cracks when the paint dries.

(xi) When applied on the surface, the paint should form a thin film of uniform nature.

(xii) Ingredients of oil bourne paint or simply paint :-

"Or"

Constituents of oil bourne paint or simply paint :-

(i) Base
(ii) Vehicles or Courier
(iii) Drier
(iv) Colouring pigment
(v) Thinner or solvent

(i) Base :-

↳ A base is a solid substance in a fine state of devision and it forms the bulk of a paint.

↳ It determines the character of the paint and imparts durability to the surface which is painted.

↳ It reduces shrinkage cracks on drying and it also forms an opaque layer to the surface of material to be painted.

↳ Some common solid substance used for the bases are white lead Red lead, zinc white etc.

(ii) Vehicle or Carrier :-

The vehicles are the liquid substance which hold the ig ingredients, mainly for two reasons :-
of a paint in liquid suspension they are requ

(a) To make it possible to spread the paint evenly and uniformly on the surface in the form of a layer.

(b) To provide a binder for the ingredient of a paint so that they may stick or adhere to the surface.

(c) Some example of vehicles or carrier are linseed oil, nut oil, etc. poppy oil etc.

(iii) Drier :-

These substance accelerate the process of drying.

The litharge, red lead sulphate of manganese can

used as a dorier

(iv) Colouring pigments :→

When it is desired to have a different colour then the base of a paint is added with colouring pigments.

The pigments are available in the form of fine powders in various colour and quantities.

Tint of paint	Pigments
Black	Graphite
Blue	Indigo
Red	Red lead
Green	chrome green
yellow	chrome yellow

(v) Thinner or solvent :→

The functions of Thinner or solvent is to make the paint thin so that it can be easily applied on the surface.

It also helps the paint in penetrating through the porous surface. The most commonly used solvent is the spirit of turpentine.

paint को thin करने के लिए

(II) Method of application (ie painting) :→

(i) Brushing :→

Surface may be painted using a brush. Brush may be made according to the type of paint applied.

(ii) Spraying :→

Paint is sprayed on the surface by using a spray gun. It can be applied quickly and easily. It is a modern method.

(iii) Dipping :→

It may be applied on uniform shape article by sink it into the container of paint.

(iv) Roller Coating :→ It is applied on flat sheet articles.

(III) Types of Paint :

① Heat resistant paint :→

Heat resistant paint is a special paint that is designed to withstand high temperature. These paint can resist heat, flames, grease, rust and smoke which make them ideal for specific application.

Application of heat resistant paint are listed below :-

(a) Boilers
(b) Steam pipe
(c) Grills
(d) fan

(2) Cellulose paint :-

Methyl or ethyl cellulose is dissolved in petrol and the plasticizers is mixed into it. Thus, cellulose paint is prepared.

Some important properties of cellulose are listed below :-

(i) It absorb low heat and temperature.
(ii) It Creates hardness on the surface.
(iii) It is costly.

Some important application of Cellulose paint are listed below.

(i) Painting of car bodies.
(ii) Painting of aeroplane bodies

NOTE :- Cellulose paint is also known as "spray paint".

(3) chemical resistant paint :- These paints are prepared from resins.

Properties of chemical resistant paint are listed below :→

(i) Excellent chemical resistant property.
(ii) They offer good resistance to water.
(iii) Not affected by heavy rain.
(iv) Quickly dry.
(v) Not affected by weather and sunlight
(vi) Easy to apply.

(4) Emulsion paint :→ Emulsion paint are those paint in which water is used in the place of organic solvent or thinner

Advantages of emulsion paint listed below :→

(i) Easy to apply brush or roller.
(ii) Quick drying.
(iii) More durable

(5) Metal paint :→ A types of paint mainly used for the painting of metallic surface, known as "metal paint".

Application of metal paint are listed below :→

(i) It is used in the painting of automobile
(ii) It is used in the painting of motorcycle

NOTE :- Spraying is the best method of applying metallic paint.

(6) Distember or water paint :- These are the water paint made with base as "white chalk" and thinner as water.

Characteristics of water paint or distember are listed below :-

(i) The coating are thick and more brittle compare to paints.

(ii) Easy to apply but less durable.
(iii) Most suitable for plastered surface.

(7) Cement paint :- This paint consist of white cement, pigments, accelerator and other additives.

(ii) properties of cement paint :-

(i) It is available in dry powder form.
(ii) Excellent decorative appearance.
(iii) It is water proof and durable.

Advantages of Cement paint :-

(i) It requires less skill and time.
(ii) Process of application of cement paint is easy.

(1) Varnish :→ The term varnish is used to indicate the solution of resins or resinous substances prepared either in alcohol, oil or turpentine.

(2) Objective or purposes of varnish :→

following are the main objective or purpose of varnish are listed below :→

(i) It brightens the appearance of the grain in the wood.

(ii) It protect the painted surface from the atmospheric action.

(iii) It protect the wooden surface of doors, windows etc from the action of atmospheric agencies.

(iv) It renders the brilliancy to the painted surface.

(3) Characteristics of an ideal varnish :→

(i) It should renders the surface glossy.
(ii) It should not shrink or shows cracks after drying.
(iii) The protected film developed by varnish should be tough hard and durable.

(iv) It should dry rapidly and present a finish surface which is uniform in nature and pleasing in appearance.

(v) The colour the of varnish should not fade away when the surface is exposed to the atmospheric action

(ii) Ingredients of varnish or consitue constituents of varnish :→

(i) Resin or Resinous substance.
(ii) Drier
(iii) Solvent

(i) Resin or Resinous substance :→

The commonly used resins are copal lac or shellac and other resins are amber, gum etc. dammar, mastic

(ii) Drier :→ The function of drier in varnish is to accelerate the process of drying. The common der drier used in varnish are litharge, white copper and lead ~~lo~~ acetate etc.

(iii) Solvent :→

The function of solvent is to thin the varnish so that it can apply easily on the surface.

Depending upon the nature of the resin the type of solvent is decided :-

Sr no.	Solvent	Resins
1.	Boiled linseed oil	Amber, Copal
2.	Methylated spirit of wine	Lac or shellac.
3.	Turpentine	Mastic, Resin gum dammer

(II) Types of varnishes :-

Depending upon the nature of the solvent, the varnishes are classified into the following four categories :-

(i) Oil varnish :- The linseed oil is used as solvent in this type of varnish.

(ii) Spirit varnish :- The methylated spirit of wine are used as a solvent in this type of varnish.

(iii) Turpentine varnish :- The turpentine is used as solvent in this type of varnish

(iv) Water varnish :- The shellac is dissolved in hot water and enough quantity

of either ammonia or borax or potash or sode is added such that shellac is dissolved.

"The End"

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Different types of glass and their uses :→

Types of glass	uses
1.) Soda lime glass →	It is used for making bottles and bulb.
2.) Potash glass →	It is used in making laboratory apparatus
3.) Crystal glass →	It is used in making lens and prisms
4.) Safety glass →	It is used in making windscreens for automobiles trains.
5.) Colored glass →	It is used for decoration.
6.) Pyrex glass →	It is used for making laboratory apperatus like beakers and flask.

Types of glass — uses

(7) Quartz glass :→ It is used for making test tubes used in the laboratory.

(8) Photochromatic glass → It is used for making spectacles and Cameras..

(11) FEROUS, NON FEROUS ALLOY :→

NOTE :→
The term "ferrous" has been derived from latin term ferrum meaning in iron.

Alloy :→
It is the mixture of two or more metals ; metal or non metal.

Ferrous alloy :→
It is the types of alloy in which iron is one of the major Constituent.

Non ferrous alloy :→
It is the type of alloy in which iron is not present as a Constituent.

Examples of ferrous alloy :→

(i) Stainless steel
(ii) Cast iron
(iii) Mild steel
(iv) High Carbon steel

ferrous
Properties of alloy :→

(i) Resistance to Corrosion
(2) Hard, strong, brittle.
(3) Ductile, tough, high tensile strength
(4) Malleable.

(++) Application or uses of ferrous alloy :→

(1) It is used in making nuts and bolts
(2) It is used in making engine part.
(3) It is used in making ~~gear~~ gear and shaft.
(4) It is used in making cutting equipment for lathe.

Examples of non ferrous alloy :→

(i) Brass (Cu + Zn)
(ii) Bronze (Cu + Sn)
(iii) Duralumin
(iv) Copper alloy

Properties non ferrous alloy :→

(i) It is light weight

(iv) Non ferrous alloy posses the highest of thermal conductivity.

(iii) Corrosion resistance
(iv) It is non magnetic.
(v) Non ferrous alloy posses aesthetic appeal.
(vi) It has low melting point.

uses or application of Non ferrous alloy :→

(i) It is used in making components of aircraft.
(ii) It is used in making components of automobiles.
(iii) It is used in making roofing, plumbing electrical wiring.
(iv) Non ferrous alloy is used in medical diportment also.
(v) Single use product packaging.