

Name: Onofion AbasiFREKS Victor. Matric No, J8/ENG003/050.

Course: CIVIL Engineering Materials (CIVE 307)

HIGHLIGHT TEN CIVIL ENG MATERIALS USES AND PROPERTIES.

MATERIALS.	USES.	PROPERTIES.
1. CONCRETE.	<ul style="list-style-type: none"> - It can hold up against weather condition and is easy to maintain. - Its superior structural integrity provides added degree of protection from the severe weather as well as an earthquake. - It is durable and cost-effective which is necessary for underground use. 	<ul style="list-style-type: none"> - Durability. - Impact resistance. - Thermal Properties. - Porosity. - Density.
2. STEEL.	<ul style="list-style-type: none"> - Because of its high tensile strength and low cost, steel is used in buildings, infrastructure, tools etc. - To build high rise buildings. - To build industrial sheds. - To build bridges. 	<ul style="list-style-type: none"> - High strength. - Low weight. - Resistance. - Ductility. - Durability.

MATERIALS	USES	PROPERTIES
3. BRICKS.	<ul style="list-style-type: none"> - It is used in construction of walls and paving and for more complex features such as columns, arches. - Used in foundations. 	<ul style="list-style-type: none"> - Water absorption. - Strength & density. - Efflorescence. - Frost resistance.
4. Timber.	<ul style="list-style-type: none"> - For heavy construction works like columns, trusses. - For other permanent works like for railway sleepers, fencing poles, and gates. - For light construction works like doors, windows, flooring and roofing. 	<ul style="list-style-type: none"> - Hardness: to resist deterioration - Strength - It should have sufficient strength to resist heavy loads. - Toughness - to resist shocks due to vibrations. - Elasticity, Durability.
5. Asphalt.	<p>The primary use is in road construction, where it is used as the glue or binder mixed with aggregate particles to create asphalt concrete.</p> <ul style="list-style-type: none"> - It is for bituminous water proofing products. 	<ul style="list-style-type: none"> - Workability. - Stability. - Skid resistance - Impermeability.
6. Mortar.	<ul style="list-style-type: none"> - Mortar is used to bind together the bricks or stones in brick or stone masonry. - It is used in plastering works to hide the joints and to improve appearance. 	<ul style="list-style-type: none"> - Mortar should be cheap. - It possesses high durability. - To improve the speed of construction good.

	- It is used for molding.	Mortar should set quickly. - Mortars should resist and ^{water} and the penetration of water.
7. Cement	- It is used in the preparation of foundations. - It is used in the construction of important engineering structures such as dams, bridges, tunnels etc. - It is used to precast pipes manufacturing piles, fencing posts etc.	- Provides strength to masonry. - Stiffens or hardens easily - Good moisture resistant - Possesses good plasticity.
8. Sand	- It is used for road construction, for mixing with asphalt as construction filler. - It is used in the production ^{of construction} materials materials like bricks, blocks, pipes.	- Should be completely inert - Grains should be strong and angular. - There should be no organic matter.
9. Glass	- Glass is also used for internal partitions and as an architectural feature. - Used as transparent glazing material in building.	- Hardness and Brittleness - Weather resistance. - Insulation. - Chemical resistance.