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| MATERIAL | USES | PROPERTIES |
| CEMENT | Cement is mainly used as a binder in concrete, which is a basic material for all types ofconstruction, including housing, roads, schools, hospitals, dams and ports, as well as for decorative applications (for patios, floors, staircases, driveways, pool decks) and items like tables, sculptures or bookcases. | * Fineness of cement. * Soundness. * Consistency. * Strength. * Setting time. * Heat of hydration. * Loss of ignition. * Bulk density. |
| CONCRETE | It is an important construction material used extensively in buildings, bridges, roads and dams. Its uses range from structural applications, to paviours, kerbs, pipes and drains.Concrete is a composite material, consisting mainly of Portland cement, water and aggregate (gravel, sand or rock). | * Mechanical strength, in particular compressive strength. The strength of normalconcrete varies between 25 and 40 MPa. ... * Durability. ... * Porosity and density. ... * Fire resistance. * Thermal and acoustic insulation properties. * Impact resistance. |
| PLASTIC | Plastics are used in a growing range of applications in the construction industry. ...Plastics in construction are mainly used for seals, profiles (windows and doors), pipes, cables, floor coverings, and insulation. | * Appearance of Plastics. * Chemical Resistance of Plastics. * Dimensional Stability. * Ductility of Plastics. * Durability of Plastics. * Electric Insulation. * Finishing. |
| GLASS | It is most typically used as transparent glazing material in the building envelope, including windows in the external walls. Glass is also used for internal partitions and as an architectural feature. When used in buildings, glass is often of a safety type, which include reinforced, toughened and laminated glasses | The main characteristics of glass are transparency, heat resistance, pressure and breakage resistance and chemical resistance |
| BAMBOO | Bamboo as a building material has high compressive strength and low weight has been one of the most used building material as support for concrete, especially in those locations where it is found in abundance. Bamboo as a building material is used for the construction of scaffolding, bridges and structures, houses. | * Tensile strength: Bamboo has higher tensile strength than steel because its fibers run axially. * Fire Resistance: Capability of bamboo to resist fire is very high and it can withstand temperature up to 4000 C. |
| CLAY | Brick masonry is strong, aesthetic, and is used not only in civil construction. Bricks build foundations and walls, build fences, arbors, wells. As for stoves and fireplaces - then there is no competition at all. It should be noted that for the production of ceramic stones, not allclay is suitable. | Clays generally have low strength, high compressibility and high volumetric changes. Because of clay's high plasticity, permeability, bearing capacity and settlement characteristics, it is a material that has been studied and is still being studied in geotechnical engineering. |
| BRICKS | * Bricks are small rectangular blocks that can be used to form parts of buildings, typically walls. ... * Bricks are still in common use today for the construction of walls and paving and for more complex features such as columns, arches, fireplaces and chimneys. | Hardness, Compressive strength, Absorption, Frost resistance, Efflorescence, Efflorescence. Hardness. This is a somewhat vague term commonly used in the description of bricks |
| STEEL | Construction is one of the most important steel-using industries, accounting for more than 50% of world steel demand. Buildings - from houses to car-parks to schools and skyscrapers - rely onsteel for their strength. Steel is also used on roofs and as cladding for exterior walls | * Strength. * Toughness. * Ductility. * Weldability. * Durability. |
| ASPHALT | In its fluid-like form, asphalt is used to waterproof walls and surfaces, as well as in shingles for residential roofing. A variety of industrial and recreational uses of asphalt make it an ideal choice for many areas of construction | * Stability. * Durability. * Flexibility. * Fatigue Resistance. * Skid Resistance. * Impermeability. * Workability. |
| FERROCEMENT | Ferrocement is used to construct relatively thin, hard, strong surfaces and structures in many shapes such as hulls for boats, shell roofs, and water tanks. Ferrocementoriginated in the 1840s in France and the Netherlands and is the origin of reinforced concrete | Highly versatile form of reinforced concrete. It's a type of thin reinforced concrete construction, in which large amount of small diameter wire meshes uniformly throughout the cross section. Mesh may be metal or suitable material. Instead of concrete Portland cement mortar is used. |