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TITLE OF PROJECT: **PRECAST FORMWORK FOR BEAM AND COLUMN**

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ABSTRACT:

PRECAST FORMWORK FOR BEAM AND COLUMN

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Construction is the significant sector through worldwide. The major factors influencing the success of the construction the speed, quality, cost and safety. Among those factors the formwork plays a fundamental role in the construction sector. About 35 to 40 percent of the total project cost is used for the formworks. There are different types of formworks for different sets of works. Among them, steel forms, aluminum forms, wooden forms, and timber forms are used frequently. These forms require a large area for storage and rehabilitation works. The initial investment and maintenance for these forms are also high. To overcome the above problems precast permanent formworks can be used. For this, we are Providing permanent formwork using geo-polymer / cement mortar with high volume fiber composite which are alternative for wood and metal. This Prefabricated formwork does not require further finishing. A Proposed die design can be used for customized concrete structure. The impact that we can bring by this are, A new construction methodology, cost effective technology, Rapid construction, High durable product, Smooth and Pattern surface it attracts the customer, builders, architect, no need to store and maintain the materials from the supplier, less transportation cost and manpower, Creating a new Job opportunity. By using traditional method of formwork by using timber and steel. It requires the collection of raw materials and it may not available at all time. The collection of wood

is a seasonal process. Loading and unloading of the materials requires labour force. The demolding works can cause pain to labour and may cause injury. Premature removal of the formwork on because of rent can cause the work unfinished. Repairing the formwork requires more labours and time-consuming process. Test results: improved strength (15%) when compared to conventional column. Failure pattern reduced comparatively and Bonding strength is satisfied. To carry(350kg) Load in fresh concrete, it needs to provide locking setup up to 2hr minimum. The incorporation of permanent formwork, which remains in position following the casting of concrete and has the potential to enhance thermal insulation, should be recognized as an integral component of concrete systems with environmental advantages. The structures casted in permanent forms have higher ductility when compared with the structure casted with temporary forms. The bending performance of the structure casted in permanent forms is also better comparatively.

KEYWORDS: PRECAST FORMWORK, PERMANENT FORMWORK, GEOPOLYMER, FIBER REINFORCED FORMWORK.

CATEGORY: STRUCTURAL ENGINEERING