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THE EFFECTIVENESS OF MORTAR CEMENT PROTECTION TOWARDS FIRE RESISTANCE ON CONCRETE STRUCTURE

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ABSTRACT

This research is intended to know the Post-Burn Concrete (PBC) damage level seen from its cra and its remaining compressive strength based on the heating temperature and duration. In struct strength evaluation process of post-burn building, data regarding the damage level of PBC, eit physically or mechanically, is needed. The damage of PBC as the material forming a structure w determined by the occurred heating rate which depends on the heating temperature and durati The result shows that there is a high amount of plaster extrication in all the concrete's surface. T concrete damage is getting bigger as the width of plaster protection getting thinner. Based on t fact, the addition of plaster surface could help reducing the damage of the concrete caused by fire.

Keywords: Post-burn concrete, Mortar plaster, Remaining compressive strength, Plastic extricatio

INTRODUCTION

Building, when viewed from its component, consists of the structure part and the no structure part. The structure part is the component that used as the framework, which is ab to hold the building from loads factor. The non-structure part is the part of the building th focusing its function for building's comfort and operational services utility.

Generally, the choice of material components of a building are based on som considerations, such as cost factor, availability of materials, purpose and lifespan of th building, mechanical capability of materials, and the difficulty level of work. Anothe important factor is the durability of materials toward high temperature or fire.

The development of building material structure generally is consists of three material widely used, such as steel, concrete, and wood. From those three materials, one that is mos widely used in building until now is reinforced concrete. The considerations for selecting reinforced concrete are due to its cheap price, high workability, widely available, and most importantly is its resistance to high temperature or fire.

The usage of concrete material finishing is mainly implemented on column element with its main purpose to increase the building's aesthetic value. The column itself is a vital element of building the building thus making this condition structurally giving a benefit against the risk of hazards as heat penetration on concrete.

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