

## ABSTRACT

### **COLOUMN ENLARGEMENT USING GROUTING METHOD AT BUILDING PROJECT OF BANK BNI BSD SERPONG**

**SARAH MAR'ATUSHOLIHAN**  
**13/350526/SV/03737**

*A tall building needs stiffness and strength in arranging its structure system. Coloumn is a connecting load of the entire building that is also a scheme of load supporter has a very important function so that building experiences no collapse which is caused by the working load. The failure in the column can be in form of structural or non structural failure. In overcoming the problem that happens at the column failure, an effective and efficient fixing method is needed in order to have a maximum column*

*The Strengthen method which is used in the work of column dimension enlargement at the project of bank BNI building is Grouting method. Grouting is the work of filling the gaps by injecting material into the concrete through the hole of drill which is meant to paste the iron post with the column concrete. Grouting cement that can be used is a kind of cement that has a characteristic which is not shrinking and flowing well fulfilling the standard corps of engineering CDR C-621 and ASTM C-1107.*

*After analyzing the capacity of the column by using interaction diagram, it is resulted that the column before it is strengthen at the condition of pure aksial is  $P_{no}$  21.952,91 KN and  $P_{uo}$  20.769,39 KN meanwhile at the condition of pure flexibility is  $M_{nb}$  5.311,43 KNm and  $M_{ub}$  3.452,43 KNm. Whereas the value of column after it is being strengthen at the condition of pure aksial is  $P_{no}$  47.157,3 KN and  $P_{uo}$  30.653,345 KN. On the other hand at the condition of pure flexibility is  $M_{nb}$  9.508,5 KNm and  $M_{ub}$  7.606,8 KNm. The additional cost spends on this column enlargement is Rp.125.744.921,24.*

*Keywords : Concrete Repairs, Colums Srenghth, Interacion Diagram*

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