Polsiwat Sribanpone 2015: Decision Support System to Reduce Reinforce Steel Bar Waste from Construction Project Using Linear Optimization with Building Information Modeling. Master of Architecture (Building Innovation), Major Field: Building Innovation, Department of Building Innovation. Thesis Advisor: Mr. Siradech Surit, D.Eng. 182 pages.

The objective of this study is to Develop Decision Support System for Reducing of Reinforce Steel Bar Waste from Construction Project by Using Linear Optimization algorithm with the Building Information Modeling (BIM), Reinforce Steel Bar Make more choice in developed form combination by Cartesian product for bring reinforce steel information and information design and arrange for appropriate cutting plan. In this regard, the tools that have been used for analyzing the data in the study are Visual Basic which is embedded in Microsoft Excel And this study choosing by BIM and using information from housing estate project for make alternative information in the steel concrete beam just 10 type for 10 position bring about to 1024 case of combination

The result of experiment to using the reinforce steel bar in case of combination number 616 show signs of compare with gross weight the minimum Steel Bar is 2,105.77 has Using less than all of case and has the least amount of steel waste 229.78 Kg. could comparison from original design case with standard waste 2,228.534 kg. Decision Support System could decease for 5.088% by Weight. So that if using BIM Data for make more choice expected this program can suggest the best way in the Construction project.

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