

SIMULATION AND MATHEMATICAL MODELLING OF A MANUAL STIRRUP MAKING ACTIVITY USING FIELD DATA BASED MODEL

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Abstract

Stirrups or Lateral-ties are used as a shear reinforcement in Civil construction. These stirrups are presently produced manually which suffer from many drawbacks like low production, inaccuracy and more human energy expenditure beyond physical working capacity of operator. An attempt here is made to form a mathematical model by applying theories of experimentation, sensitivity analysis using a concept of field data based model so as to optimize the human energy, production rate and inaccuracy. Discussion on IDASM software is also made in this paper which is a very powerful tool for establishing mathematical model.

Keywords : Stirrups, Experimental data based modeling, Field data based modeling, IDASM software, Model reliability