STUDY ON THE EFFECT OF SPAN ON SINGLE GIRDER OVERHEAD CRANE WITH CAPACITY 5 TON TYPE EKKE AND ELKE AND CAPACITY 10 TON TYPE EKKE OF ITS GIRDER HEAVY CONSTRUCTION

ABSTRACT

Industrial development that followed also by the need for equipment is very supportive to facilitate the process of production such as aircraft lift faster. One of the planes overhead crane lift is used, the combination of a separate mechanism from the frame or structure used to lift and move materials from one place to another. One type of crane is often used by industry is the Single Girder Overhead Crane, a crane with one of girder structure. Overhead single girder crane journey from the material used consists of two types EKKE and ELKE. EKKE made of steel plate in the shape like a box. ELKE made of beams. Making the main girder is always adjusted by Span available in the building will be occupied by a crane with a choice of available capacity.

Before making cranes, producers and consumers requires an estimate material needs so they can determine the cost required in the manufacture of a single girder top crane. Oleh therefore, using five examples of existing cranes and heavy construction to compute the three dimensions using Autocad software. Then analyzed with Simple Linear Regression method, namely \( y = a + bx_1 \). With the provisions of \( y = \) heavy construction, \( x_1 = \) Stretch (range), whereas \( a, b \) are constant. So the equation to get:

- **TYPE EKKE SWL 5 TON**: \( Y = -2.811 + 0.351 X_1 \)
- **TYPE ELKE SWL 5 TON**: \( Y = -0.49 + 0.219 X_1 \)
- **TYPE EKKE SWL 10 TON**: \( Y = -1.296 + 0.304 X_1 \)

The result will be able to speed up calculations in the heavy construction estimates for a single girder overhead crane with stretch insert values into the equation.

Keywords: overhead crane, single girder, capacity, stretching