THEORETICAL STUDY OF THE BENDING OF THE COLASNIC IN THE PROCESS OF INSTALLING THE REPLACEMENT ELEMENT TO THE COLASNIC

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ABSTRACT

A theoretical calculation of a new construction of a rectangular colossal structure with minimal flexural and deformable properties for a sawing machine. The rational design of the exchangeable element to be installed on the working part of the columnar in the new construction and the bending of the columnar when installing the exchangeable element on the columnar. Кўп ишлатиладиган, ресурс тежамкор колосник билан жиҳозланган аррали жиннинг энергетик ва физик- механик кўрсаткичлари аниқлаш учун боғланишлар ишлаб чиқиш.

Keywords: kolosnik, deformation, saw demon. Exchangeable element, bruce.

The maximum bending, torsion angle, and normal and tangential stresses strength conditions of a sawed gin cantilever are provided in the article with great reserve.

Fastening of columns to the bridge and exchangeable element-screw-column connections are studied in the work. As a result, the minimum diameter and shear height of the screw in this connection were determined. The construction of the proposed cantilever column is characterized by the reaction force on the supports, and it is determined that it is 3.5 times larger than the two supports.

The change laws of the exchangeable element fixing force, frictional force, joint FIK, bending and displacement of the column due to the installation of the exchangeable element are proposed in the work. It has been found that the use of recommendations such as the inclusion of displacement values in the design of the column, the angle of rotation and the relative deformation of the column can significantly reduce the production costs.

The analysis of the scientific literature showed that there is no information about the calculation of bending and experimental studies on the change of the total dimensions of the column construction during the installation of the exchange element in the column. During the installation of the replacement element in the column, the column is bent. Therefore, in order to reduce the bending of the column, it is necessary to determine the scheme of the process of installing the exchangeable element on the column, which causes the least bending.

To do this, we will consider the following schemes of the process of installing the exchangeable element in the column:

1. column fixed to one side - console (Fig. 1);
2. column is fixed on both sides - two supports (Fig. 2).

In order to determine the rational scheme of the process of installing the exchangeable element on the column, we calculate the bending of the column for the cantilever and two-support schemes. In this case, we divide the colosnik into 3 sections (pictures 1, 2).

Figure 4.1. The calculation scheme of the cantilever installation of the exchanger element on the column

Figure 4.2. Two-pillar scheme of the exchange element of Kolosnikka

The colossal cross-sectional area consists of a right angle with a ratio of h=1.46·b, loaded with forces F1=200 H and F2=200 H concentrated in the horizontal plane (Figures 1, 2) and the minimum dimensions of the right angle are b=0.012 m and h=0.0175 m is equal, and the permissible normal stress based on the strength condition is [σ]=110 MPa.

CONCLUSION

The following conclusions and recommendations were made on the basis of the theoretical and experimental studies conducted on the topic "Development of an efficient technology for making multi-use sawed gin colossus":

As a result of conducting experiments, it was determined that the bending deformation fmax of the exchangeable element under the influence of force P has a linear relationship in the theoretical study, and in the experimental study it is a

nonlinear relationship, its value is equal to fmax= 0.625 mm in the bending force P=921.764 N. The difference between the results of the theoretical calculation and the experimental values of the bending deformation of the exchangeable element was 8.5%.

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