عنوان مقاله:

Spiral Conveyor stress Analysis in Centrifugal Machines

محل انتشار:

سومین کنگره بین المللی و بیست و ششمین کنگره ملی علوم و صنایع غذایی ایران (سال: 1398)

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خلاصه مقاله:

In liquid centrifuge separations such as olive oil plant, spiral conveyor is an important component for pressure and separation of materials. The structural parameters and the performance of the conveyor are closely related to the production capacity, durability and impact of separation of centrifuges. In existing research for the analysis of conveyor strength, theoretical calculations of approximate loads have always been used and can not accurately reflect stress conditions. In this paper, to ensure accuracy in performance, the pressure distribution under working conditions was obtained through evaluation and the stress and deformation equivalents were obtained under different load conditions to verify the strength of the conveyor. The maximum equivalent stress occurs within the inlet of the load while the maximum deformation is at the edge of the conveyor blade located at the end of the cone. In spite of the fact that the load opening has been checked, the computational model and simplified loads have had a great impact on the results of the analysis. The methods and results of this paper can provide a reference for the design and repair of spiral conveyors.

کلمات کلیدی:

Centrifuges; couplings; spiral conveyor; stresses

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