

- Title: Analysis of Dynamic Mechanic Belt Stresses of the Magistral Conveyor  
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- Abstract: Controlling the amount of material flow coming from the accumulated bunker to the input of the conveyor line and controlling the speed of the conveyor belt are common ways to reduce the energy consumption of the transport system. However, most works do not take into account transients associated with a change in the speed of the conveyor belt or a change in the input material flow. As a result of transient processes acceleration or deceleration of the conveyor belt occurs and dynamic stresses arise. These dynamic stresses can exceed the permissible values. In this study, the task of analyzing the causes of dynamic stresses in the transition process is considered. When constructing a model of dynamic stresses, the Hooke's law was used. The model of resistance to the movement of the conveyor belt is adopted in accordance with DIN 22101: 2002–08. The analysis of the propagation of waves of dynamic stresses in the conveyor belt has done. The formation of dynamic stresses as a result of the addition of the forward and backward waves is considered.
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