

Title (en)

Determination of web tension with modelling of web curvature

Title (de)

Ermittlung des Bandzuges mit Modellierung der Bandkrümmung

Title (fr)

Détermination de la tension de bande au moyen de la modélisation de l'incurvation de bande

Publication

EP 2926918 B1 20170201 (DE)

Application

EP 14163058 A 20140401

Priority

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Abstract (en)

[origin: CN104971953A] A web member loads a web tension between two fixing positions. A back-and-forth rising roller presses on the web member between the two positions and deflects the web member from a straight connecting line between the two positions. The deflection of the web member in the connecting line and a force moment acted on the back-and-forth rising roller are determined and transmitted to a controller for determining the web tension. Thus, the force moment compensates with a force moment component based on the weight of the web member between the fixing positions, the self weight of a lifting apparatus, and the web curvature between the fixing positions. The controller is used to determine the web tension according to corresponding compensated force moment. The controller determines the web curvature of the web member between the rising roller and the fixing positions for determining the force moment component based on the web member curvature. The curvature trend of the curve force moment of the web member is that the curvature linearly decreases on the fixing positions from the maximum of the rising roller as follows. The trend associates with the curvature curve trend given by the web curvature according to the curved characteristic curvature. The characteristic curvature has a right ascension of the curved force moment to the curve of the ultimate curvature, and is flat relative to the curve of the ultimate curvature.

IPC 8 full level

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CPC (source: EP)

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