

Title (en)
METHOD OF CONTROLLING WEFT INSERTION INTO A SHED IN AN AIR-JET WEAVING MACHINE AND A WEAVING MACHINE FOR PERFORMING THE METHOD

Title (de)
VERFAHREN ZUR STEUERUNG DES SCHUSSEINTRAGS IN EIN WEBFACH EINER LUFTDÜSENWEBMASCHINE UND WEBMASCHINE ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)
PROCÉDÉ DE COMMANDE D'INSERTION DE TRAME DANS LA FOULE DANS UN MÉTIER À TISSER À JET D'AIR ET UNE MACHINE À TISSER POUR LE APPLICATION DU PROCÉDÉ

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Application
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Abstract (en)
A method of controlling weft insertion into a shed (6) in an air jet weaving machine, in which a weft thread (5) is during its passage through the shed (6) acted upon by an auxiliary air flow from relay nozzles (8), whereby weft (5) arrival times are monitored and according to them parameters of the auxiliary air flow from the relay nozzles (8) are adjusted during the next insertion. From the weft (5) arrival times during a plurality (n) of successive weft insertions, the statistical mean value and statistical deviation from the mean value are continuously determined at least for each section (9) of the relay nozzles (8) along the weft insertion length, whereby the mean value is used for setting the mean value of the interval of the engagement of each section (9) of the relay nozzles (8) for supporting weft insertion depending on the angle of the working cycle of the machine and the statistical deviation value is multiplied by coverage factor (k) of the probability (p) of the weft arrival and this multiplied value is used to set the start and the end of the interval of the engagement of each section (9) of the relay nozzles (8) to support the weft insertion depending on the angle of the working cycle of the machine, and so the moments of the start and the end and therefore also the length of the individual sections (9) of the relay nozzles (8) are adaptively and automatically adjusted on the basis of the statistics of the weft arrival times of a pre-determined number (n) of the previous weft insertions, which, consequently, allows adaptive optimization of compressed air consumption and energy intensity in accordance with the current actual conditions on the machine. The invention also relates to a weaving machine for performing the method.

IPC 8 full level
D03D 47/30 (2006.01)

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D03D 47/304 (2013.01)

Citation (search report)

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- [A] US 6314335 B1 20011106 - SAINEN TSUTOMU [JP], et al
- [A] US 2009120524 A1 20090514 - PUISSANT PATRICK [BE]

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