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Dry Relaxation Shrinkage Prediction of Bordeaux Fiber Using a Feed Forward Neural

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Abstract : The knitted fabric suffers a deformation in its dimensions due to stretching and tension factors, transverse and longitudinal respectively, during the process in rectilinear knitting machines so it performs a dry relaxation shrinkage procedure and thermal action of prefixed to obtain stable conditions in the knitting. This paper presents a dry relaxation shrinkage prediction of Bordeaux fiber using a feed forward neural network and linear regression models. Six operational alternatives of shrinkage were predicted. A comparison of the results was performed finding neural network models with higher levels of explanation of the variability and prediction. The presence of different reposes are included. The models were obtained through a neural toolbox of Matlab and Minitab software with real data in a knitting company of Southern Guanajuato. The results allow predicting dry relaxation shrinkage of each alternative operation.

Keywords : neural network, dry relaxation, knitting, linear regression
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