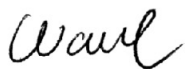


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One of the common problems founded in the rubber compression moulding process is the shrinkage of rubber products leading to inaccuracy in product dimension requirements. Therefore, this research presents an application of artificial neural network in a prediction of the rubber product shrinkage in compression moulding. A back propagation neural network was developed to determine the shrinkage based on principle variables such as rubber compound, processing conditions i. e., curing temperature and mould sizing variables. A two factorial design of experiment was carried out to obtain the significant variables before the neural network was trained.

The results from the neural network prediction for the inside diameter shrinkage and the cross section diameter shrinkage indicate that architectures 5-11-21-1 and 5-11-16-1 provide a good prediction within 95.9% and 96.1% accuracy, respectively.



Student's signature



Thesis Advisor's signature

22 / AUG / 2006