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## Comparison of Models to Program Activities of Injection Molding Machine

D Cruz-Garcia<sup>1</sup>, DS González-González<sup>1,2</sup>, M Fuentes-Huerta<sup>2</sup>, and RJ Praga-Alejo<sup>1,2</sup>

<sup>1</sup>Corporación Mexicana de Investigación en Materiales (COMIMSA)  
Calle Ciencia y Tecnología #790, Col Saltillo 400, C.P. 25065, Saltillo Coahuila, México

<sup>2</sup>Universidad Autónoma de Coahuila  
Facultad de Sistemas, Ciudad Universitaria, Carretera a México Km 13, Arteaga, Coahuila, México

Corresponding author's Email: [dayana.cruz@becarios-comimsa.mx](mailto:dayana.cruz@becarios-comimsa.mx)

**Abstract:** Nowadays the industry applies maintenance methodologies in order to increase availability and reduce costs. In this way, the RCM (Reliability Centered Maintenance) could be used because this methodology is based on equipment reliability. Commonly, the Weibull distribution is used to make inference and reliability analysis about systems due to its characteristics. However, it exist other useful probabilistic models to perform the lifetime's behavior: the positive support probabilistic models. In some cases, the goodness of fit tests used to select an adequately model suggests that more than one model can be used. Hence, it is of interest to analyze the effects, advantages and disadvantages of using the Weibull distribution even if another probabilistic model fitter. In this paper, a comparison of using the Weibull distribution instead of a distribution with better fit is shown. In order to reliability assessment and define maintenance activities program of Injection molding machine. Results goodness of fit test suggests that Gamma distribution fitter than the Weibull distribution, but both distributions can be used. Additionally, the effect to use a distribution with better fit than other with less fit over the inference and lifetime is analyzed.

**Keywords:** Reliability Centered Maintenance, Weibull, Reliability, Goodness of Fit Test