# Integrated Inventory Control And Inspection Policies With Deterministic Demand

**Ben-Daya, M; Noman, SM; Hariga, M**

## Summary

In this paper, we develop integrated inventory inspection models with and without replacement of nonconforming items. Inspection policies include no inspection, sampling inspection, and 100% inspection. We consider a buyer who places an order from a supplier. When a lot is received, the buyer uses some type of inspection policy. The fraction nonconforming is assumed to be a random variable following a beta distribution. Both the order quantity and the inspection policy are decision variables. In the inspection policy involving determining sampling plan parameters, constraints on the buyer and manufacturer risks are set in order to obtain a fair plan for both parties. A solution procedure for determining the operating policies for inventory and inspection consisting of order quantity, sample size, and acceptance number is proposed. Numerical examples are presented to conduct a sensitivity analysis for important model parameters and to illustrate important issues about the developed models. (c) 2004 Elsevier Ltd. All rights reserved.

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For pre-prints please write to: bendaya@ccse.kfupm.edu.sa