

EDITORS

ERRY YULIAN TRIBLAS ADESTA

MOHAMMAD YEAKUB ALI

AKM NURUL AMIN

DESIGN FOR MANUFACTURE

Towards Improved Manufacturability



IIUM Press

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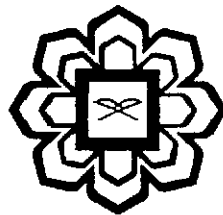
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The Development of Cost Estimation for Quality Assurance System in Die-Casting Processes

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1. Introduction

The American Society for Quality (ASQ) defined quality cost as a measure of the cost specifically associated with the achievement or non-achievement of product or service quality as stated by [1]. Quality assurance (QA) system as all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality [2]. Kalpakjian and Schmid [3], stated that die casting process is a “permanent-mold casting process which being developed in the early 1900s. In this process, the molten metal is forced into the die cavity at pressures ranging 0.7 to 700 MPa. There are two basic types of die-casting machine: hot-chamber and cold-chamber” [kal].

According to Letza and Gadd [4], traditional management accounting techniques whose main functions are inventory valuation and income determination, are geared towards external financial reporting. These techniques do not give the necessary information needed for COQ evaluation.

Activity-Based Costing (ABC) is one of the effective ways in documenting quality cost for an organization. In ABC, systems are designed so that any cost that cannot be attributed directly to a product flow into the activities that make them necessary and the cost of each activity the flows to the product(s) that make the activity necessary based on their respective consumption of that activity [5].

Next, PAF model of calculating quality costing is a traditional method and has been used by most companies as it add all the expenses of three main categories of quality costing which is prevention (*P*) costs, appraisal (*A*) costs and failure (*F*) costs. Schiffauerova and