

## **CASE STUDY ON CONTINUAL IMPROVEMENT OF FOUNDRY PROCESSES**

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ISO 9001:2008 is the latest version of ISO Quality Management Systems Standard, evolved from its original version in 1987, and subsequent versions of 1994, 2000. This standard focuses on Process Approach and Continual Improvement of organization's processes. Several thousand foundries are certified to ISO 9001:2008 all over the world and must be focusing on Continual Improvement of the processes in their foundries. However, foundries appear not to have understood how to have their processes operate in optimum condition using continual process improvement approach. This is due to the fact that foundries still lose on average about 5 to 10% of their revenue in scrap and rework. In spite of very impressive developments in foundry technology in several fields such as foundry machinery, foundry chemical binders and simulation software, foundries do not appear to have mastered the skills of operating their sub-processes in optimum condition. The only test for the foundries that they have adequate skills or have the technologies to operate their processes in optimum condition is that the outcome of their processes does not contribute to scrap or rework.

ISO 9001:2008 rightfully focuses on Process Approach and emphasizes that the foundries need to provide objective evidence that their sub-processes show Continual Improvement. Essentially ISO 9001:2008 is not only a standard for Quality Management System, but also a standard for Business Management that focuses on profitability of the company by making its processes to operate in optimum condition. Continual improvement refers to the process improvements that are undertaken in stages that are separated by a period of time. Evaluations are made at the end of each time whether improvements have in fact occurred.

Foundries have several sub-processes based on the type of alloys they cast or the type of molding and coremaking processes they use. Foundries need to develop their own methods on how to continually improve their sub-processes. Foundries need help and guidance in methods to continually improve their processes. There is no better way other than provide good case studies with appropriate format so the foundries can relate to their own sub-processes. Foundries then can use some of the techniques shown in the case studies and use their own judgment to evaluate the status of their sub-processes, relating to their optimum state of condition.

This presentation provides a format for creating Case Studies on Continual Improvement of Foundry Processes. P-matrix software is found to be a very useful tool in the continual improvement of foundry processes. The use of P-Matrix software and 7-Epsilon approach will be discussed in the presentation.