

Improvement of Quality of Shutoff Valve Body: A Case Study

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Abstract

In the current era of fierce competition, industries have adopted various quality management approaches in order to improve the quality and productivity of their products. The present study analyses the rejection of shutoff valve body through a seven step approach and recommends the corrective action measures to be implemented for improvement of quality of shutoff valve body.

Key words: Shutoff valve body, rejection analysis, seven step approach.

Introduction

Due to the fierce competition in the global market, the practitioners are interested to implement innovative quality management programmes in their organizations in order to improve the quality of their products and customer satisfaction. In this context, the present study analyses the quality related problems of shutoff valve body through a seven step approach and proposes the solutions.

7-STEP APPROACH FOR IMPROVEMENT OF QUALITY OF SHUTOFF VALVE BODY:

STEP 1: IDENTIFICATION OF THE PROBLEM

- Mounting cap screw thread pulled in Shutoff Valve Body.

STEP 2: POSSIBLE CAUSES OF THE PROBLEM

- Shift in position of thread due to wrong loading.
- Shift due to core hole shift during die casting.
- Shift due to usage of blunt tool.

STEP 3: SHORT TERM CORRECTIVE ACTION TAKEN TO THE PROBLEM BEING PASSED TO CUSTOMER:

- Perform 100 % inspection for the available lot at the casting supplier end for the above defect.

STEP 4: DATA TO BE GATHERED TO DETERMINE ROOT CAUSE OF THE PROBLEM

- Check core hole position before machining.
- Observe component loading during machining.
- Check the condition of tool.

STEP 5: ANALYSE DATA TO DETERMINE THE MOST PROBABLE CAUSES

Sl. No.	Possible Cause	Observation	Inference
1	Core hole shift in die casting	Position of core hole checked and found within specification	Possibility of core hole shift during die casting ruled out.
2	Shift due to wrong loading	Loading of component studied and found possibility for improper loading.	There is a possibility of wrong loading of component
3	Increase of diameter due to blunt tool	Tool condition checked and found to be OK	Possibility of usage of blunt tool ruled out.

STEP 6: WHAT IS THE RECOMMENDED SOLUTION (S) FOR PERMANENT CORRECTIVE ACTION?

- Educate operator about loading of component.
- Introduce 100% check of core plug gauge at pre delivery inspection.

STEP 7: WHAT IS AGREED UPON CRITERIA THAT WILL BE USED TO RECOMMEND 'CLOSE OUT'?

- Introduce 100% check of core plug gauge at final inspection.

Conclusion

The present study analyzed the reasons for rejection of the shutoff valve body and proposed the corrective steps to be taken using a seven step approach.

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