

Quality Control of Foundry Materials and Processes
Using SPC

Project Report Submitted by
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1.1 The Object of Quality Control.

The word "quality" means different things to different people. Therefore we have to consider whether the quality in question is satisfactory for the purpose for which it is intended. Price is important too, because the quality we expect depend on how much we pay for it. So, with few words, the object of quality control is to produce a quality that

- (i) satisfies the customer
- (ii) is as cheap as possible
- (iii) can be achieved in time to meet delivery requirements.

At first sight it is perhaps surprising to find out that our objective is not to produce as high a quality as possible, but merely to satisfy our customer. However, this is all that is required, and indeed it is positively undesirable to produce a higher quality than is necessary, if as a result we have to increase our selling price or delay deliveries.

The quality control story is a well standardized procedure for (quality improvement). The outline is as follow:

- (i) Determine a good theme and make the problem clear.
- (ii) Know the real situation by collecting data or facts.
- (iii) Set a definite goal (express the expected result numerically as possible).
- (iv) Study the true reason why the problem occur .
- (v) Plan the counter measure for quality improvement , and propose or execute them .
- (vi) Measure the effects directly or indirectly .
- (vii) Prevent return by changing the job standards.

In order to set a manufacturing procedure in a complex production line some quality control stages have to be followed. These five basic stages are the following :

- (i) Set the specifications for the product.
- (ii) Prepare to make the product.
- (iii) Build the quality control system.
- (iv) Correct any mistakes that may have been made and use the experience gained to avoid making the same mistakes in

the future.

- (v) Finally, we must know , by how well we got on making that specific quality control system, whether we are likely to be able to tackle something more difficult.

1.2 Definition of Quality Control .

Quality control is a subject which affect everybody in the company. For this reason it is difficult to give a precise definition to quality control even though we may have no doubt what it means. The definition usually adopted is that: Quality control is the function or collection of duties which must be performed throughout an organization in order to achive its quality objectives.

1.3 Meaning of "Quality " .

The word " quality " has come to have a variety of meanings in addition to " fitness for use. " In industrial companies the most usual meanings given to the word " quality " include :

- (i) fitness for use
- (ii) quality of design
- (iii) quality of conformance
- (iv) quality characteristic
- (v) quality function
- (vi) department

1.4 Meaning of Control .

When we say that we have something "under control" we mean that we know what we intend to happen and are confident that we can see that it does. Thus, any control system has certain essential features, as follow :

- (i) There is a plan (quality standard).
- (ii) We prepare to carry out that plan.
- (iii) We carry it out, and all the time we compare what is being achived with our plan.

Chapter 1

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Example

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Example

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Example

Example

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Example

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Example

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Example

Example

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2.10.2 Quality Control of Processes which Vary as Types 4, 5, 6

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Example

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Example

Example

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Example

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Example

Example

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Example

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Example

Example

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Example

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