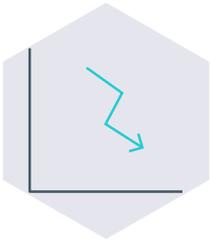


Product Testing

You would use this approach as part of your manufacturing process.

Projected performance gain



Reduced

- Product costs
- Customer complaints.

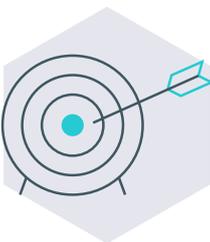


Improved

- Delivered quality
- Production yields.

What investment is needed to understand the concept?

DIFFICULTY



Medium

Requires some reading around the subject and a structured approach.

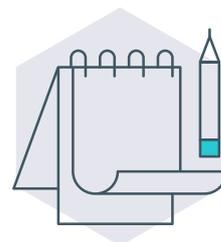
ACTIVITY



Team

Best results come from a team of Engineers and Assembly Operators.

EQUIPMENT

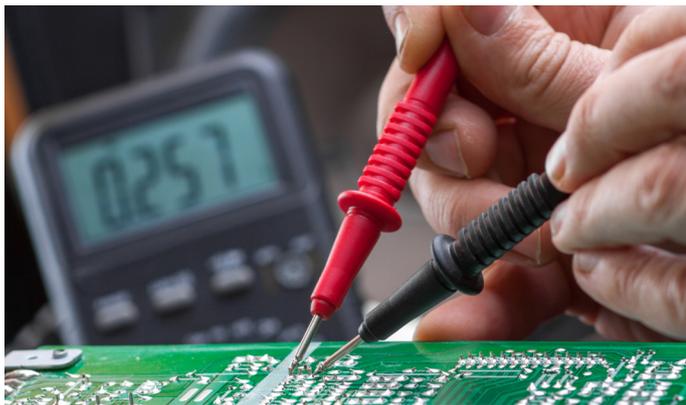


Some

This will be dependent on the product.

Explanation of the concept

All production processes have their own level of process capability. That means that they will usually not produce 100% good products. If no testing takes place, defective products will be shipped to the customer. Product testing is a way of preventing defective products from reaching the customer.



Manually Testing a Circuit Board

Tests can take many forms including targeting:

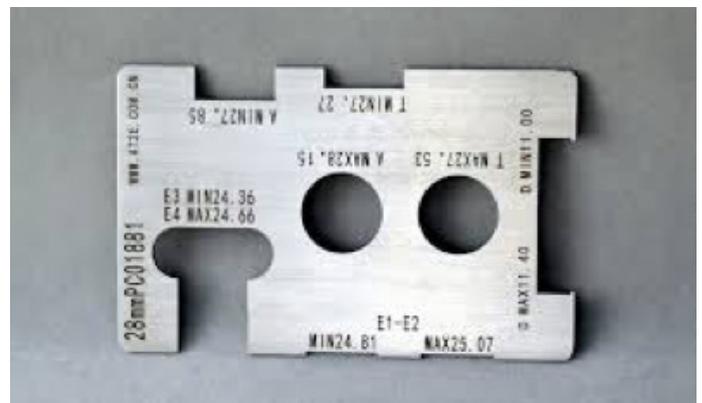
- Physical product features – weights, dimensions, density, colour etc
- Product functionality – will it work in use as intended?
- Product safety – will it be safe to use?



Automated Optical Test Machine



Go / No go Gauge for Testing a Product Feature



Multiple Feature Gauge

In general, a test should be targeted at detecting something on the product that is most likely to fail.

The test approach should be developed as early as possible; ideally at the same time as the product is going through its design and prototyping phase.

For an existing product, it is usually possible to work with a team of Engineers and Production Operators to identify the best approach to testing.

Where production volumes are high, it is often possible to automate testing by making use of new technologies such as Automated Optical Inspection and computerised functional test machines. The cost of these technologies has fallen rapidly and at the same time, their performance and flexibility has increased.

What action should I take?

1.



Gather together a group of Engineers and Production Operators.

2.



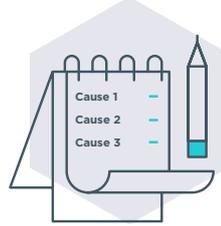
Explain the concepts behind Product Testing.

3.



Identify a product or product family where Product Testing could deliver a significant improvement in process yield.

4.



Identify the top causes of product yield issues.

5.



Research and select an appropriate Product Testing approach.

Glossary

Go / No Go Gauge: An inspection tool used to check a workpiece against its allowed tolerances.

Yield: A calculation of non-defective products within production.

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