

Year 11 Knowledge organiser – RM manufacturing

Tolerance:

- Very difficult to make a component exactly correct
- Easier to make a component within tolerances
- This is the maximum and minimum sizes a component can be
- Manufacturer knows that if a product is within tolerances then it will work.

Quality control:

- It has undergone numerous checks throughout its Manufacture
- Quality control gives the consumer to have a better quality product
- Quality control gives the consumer a more reliable product
- There is less chance of a part of the product failing as each component is independently checked.
- Maintenance possible because all components are manufactured to a set tolerance facilitating interchangeability

Maintenance:

- Bits of the product can be replaced.
- Improves safety components are less likely to fail if they are maintained well.
- Makes the product more reliable, it is less likely to break if the product is well maintained.
- Can save time, because it then makes the product more efficient.
- Saves money because you don't have to replace the whole item.
- Helps the environment, so the whole item doesn't have to be replaced and made again.
- Improves sustainability of the item.

Mass manufacture

Advantages

- Jigs/Moulds/Templates/Stencils, these products are used at every stage to ensure quality control, to ensure all products are the same.
- Numerous quality control checks will have been made.
- The product is more reliable with quality control checks.
- Makes the product is consistent, so all the products are the same.
- Makes the product more accurate as human error is limited.
- Makes the product quicker to manufacture, because it reduces making out time.
- Makes the product cheaper in the long run, because less labour is required to mark out the product.
- Easier to make a component within tolerances
- This is the maximum and minimum sizes a component can be
- Manufacturer knows that if a product is in tolerance it will work.

Disadvantages

- High initial set up costs
- Staff require training
- Higher energy costs
- Not cost effective for manufacturing in small quantities.

One off production- wedding rings, bespoke furniture

- One product being made
- Manufactured by a skilled craftsperson
- Very expensive

Mass production- cars, cookers

- Many similar products are made
- Manufactured by machines
- Affordable prices

Continuous production- plastic bottles, food cans

- One product made 24/7
- There is a constant demand
- Very high set up costs