

# Blow moulding

## What is blow moulding?

**Blow moulding is a process for making hollow parts, such as plastic bottles, by inflating a pre-heated plastic tube with air to fill a mould.**

Typically used to produce objects with openings of smaller diameter than the body, there are three main types of blow moulding. Extrusion blow moulding involves the plastic raw material being first melted and extruded into a tube, which then immediately enters the mould to be inflated with air. Injection blow moulding is a two-stage process whereby a test-tube like 'preform' is first injection moulded and this is then transferred over to the blow moulding station to be inflated. Stretch blow moulding is similar to injection blow moulding but as the air is injected, the plastic material is simultaneously stretched, increasing its tensile strength.

## How does the process work?

- A hot tube of plastic material enters a two-part metal mould.
- The mould is closed around the tube, pinching it closed at the bottom.
- Hot air is injected through the top, so that the tube expands, like a balloon, to fill the cavity.
- Once cooled the piece is removed from the mould and the pinch point is trimmed.

## What plastics materials can be used?

Commonly high density polyethylene and polyethylene terephthalate.

## What are the clues?



A pinch line on the base.

## When was the process first introduced?

1881 for use with cellulose nitrate.

## Advantages:

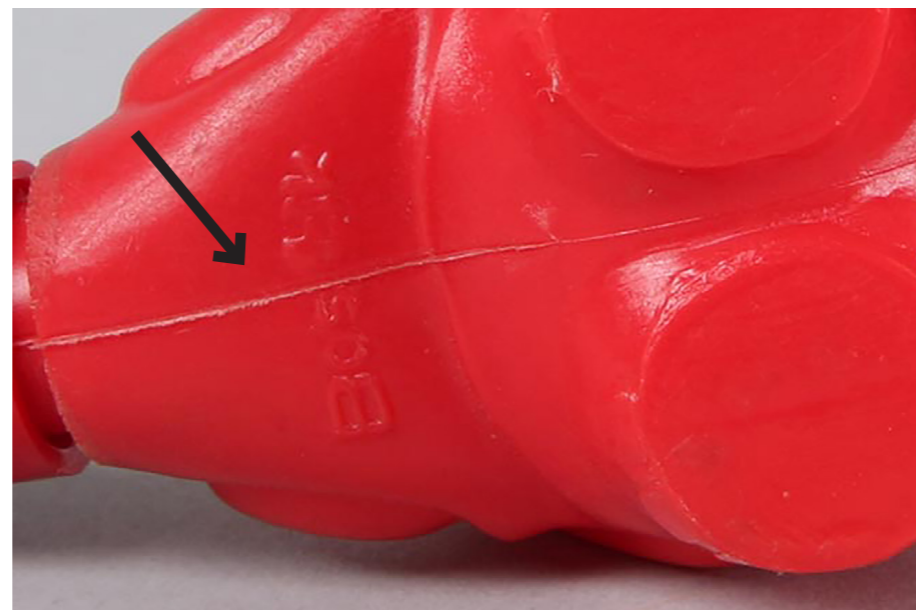
- High production rate.
- Allows for a wide variety of container shapes and sizes.

## Disadvantages:

- Tooling costs can be high.

## Uses:

Hollow articles, usually with openings of smaller diameter than the body, such as bottles or containers.



Sometimes a thin seam is visible running vertically around the surface, left by the split mould.