

14.2.15.1 Book moulding

Initially similar to conventional shelling, but once the shell has been formed the two matching halves of the mould are pressed together like a book so that they seal, forming a hollow (or centre filled) shell. A shallow but continuous and even lip is needed to provide chocolate for the seal. Conventionally the lip is formed after shelling, whilst still inverted, by an extra shaking stage. The mould is re-inverted and the lip is reheated by infrared heaters before closing the book to form a seal. Closing can be done by turning one half of the mould pair through 180° whilst held in a frame, or on a loose mould plant by moving both moulds through 90° to the vertical. A plastic clip or a magnet holds the halves together.

14.2.15.2 “One shot” or “Single shot” moulding

This is described in detail in Chapter 15 and is a method of depositing both shell and centre simultaneously.

14.2.15.3 Spinning

The liquid chocolate mass is placed inside one half of the mould, which is then closed and spun on two axes and can also be vibrated for de-aeration of the mass. Once the chocolate has set and contracted the mould is opened and the item taken out. Different coloured chocolates can be added to certain portions of the mould to give the item an attractive appearance (e.g. Santa Claus’ beard in white on a milk chocolate). The hollow articles can also be filled with surprise toys or other solid or liquid fillings. To insert the toys or objects the moulds are opened quickly after spinning. At this point the chocolate is not liquid and remains stuck to the mould wall, but it is not completely hardened. After filling with the surprise toys, the mould is closed again and brought into the cooling tunnel.

There are several suppliers that can offer fully or semi-automated moulding plants for the production of hollow figures. They differ mainly in the type of spinning machine and rotation pattern, and the type of mould used, that is separate mould halves with centring pins, hinged book moulds or exchangeable mould sheets supported by magnet containing frames (Gebhart, 2013).

14.2.15.4 Cold forming

This is described in detail in Chapter 15, but in the context of this chapter, it is a way of making very accurate shells wherein an exact amount of liquid chocolate is put into a cavity, and a plunger at around -20 °C (-4 °F) applies pressure to distribute and set the mass. This is very good in forming a lip for book moulding. It can also be added to a conventional tablet moulding line to enable it to make filled products.

14.2.15.5 Drop moulding

This is a specialised plant for making chocolate pieces such as buttons or chips for cookies. Depositing is done directly onto a cooled belt (see Figure 14.13). Such plant can also be used to make easily melted chips for the distribution of industrial chocolate masses.

14.2.15.6 Dragee moulding

A plant for making shaped chocolate pieces, such as lentils for sugar coating, was originally developed by Erikson in the 1940s and is shown in Figure 14.14. Liquid tempered chocolate is poured between the two rolls, which are maintained

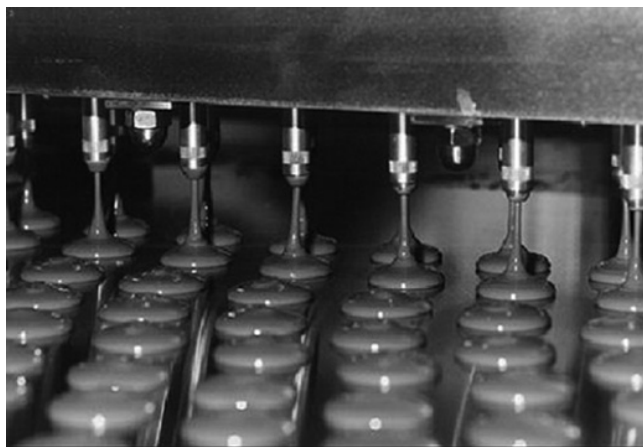


Figure 14.13 Picture of drop moulding production plant.

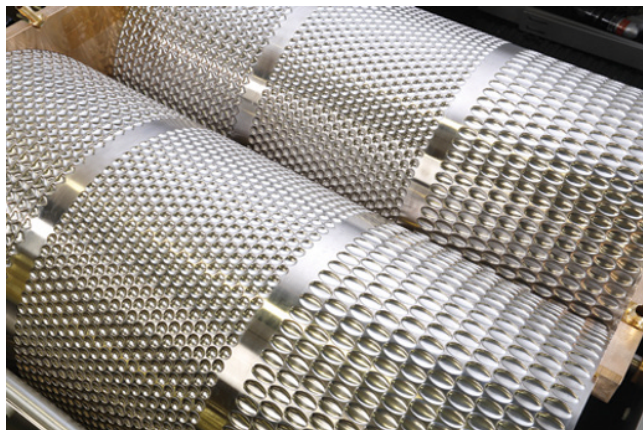


Figure 14.14 Picture of dragee moulding plant. Source: Aasted. Reproduced with permission of Aasted Denmark.