

18.6 Selecting the right chocolate

Selecting the right chocolate means choosing the correct flavour, smoothness, rate of melt and viscosity. The right choice will depend upon other components of the final product as well as the method of manufacture.

18.6.1 Flavour, smoothness and speed of melt

This requires the skills of the chocolatier. Peppermint, or a similar strong flavour, will mask the taste of most chocolates, so a strong flavour dark chocolate is needed. It might indeed only be partly conched. A high-quality praline, on the other hand, needs a less intense chocolate flavoured coating, perhaps somewhat milky, to compliment it. Pralines are also often finely ground and melt easily in the mouth. These properties must be reflected in the chocolate being used, as any grittiness or waxy melt in it will lower product quality.

18.6.2 Viscosity

A product being made on an enrober needs chocolate with different flow properties to one being used for hand-dipping/decorating, which is different again from one needed for moulding (see also Chapter 11). An incorrect viscosity will lead to poor quality and even mis-shapes.

18.6.3 In-house manufactured or purchased chocolate

Chocolate can be purchased with a very wide range of flavours, fineness and flow properties, but in-house manufacture can give increased consumer interest and perceived value. It is also possible to develop a house signature flavour.

Chocolate manufacturing machinery is however very expensive and the artisan producer tends to be limited to the choice between small scale (about 10–100 kg per week) or using some partly processed ingredients. The former is very good for gaining consumer interest, but it is very difficult to make consistently a high-quality product.

Starting with cocoa beans is extremely expensive and great care is required to prevent microbiological contamination from the raw beans. Perhaps the easiest option is to use shelled, roasted and milled beans in the form of cocoa mass. Grinding and conching is then needed, although it is possible to buy pre-milled sugar and fine milk powder and just use a conche.

18.6.4 Legal and recipe requirements

The information given below is applicable to the “fine” chocolate industry, where it is generally accepted that products will meet the prescribed reserved description for chocolate products (see Chapter 28) *Note:* the legal term cocoa solids means cocoa mass (liquor), plus cocoa butter, plus any cocoa powder present.

Dark Chocolate – Contains not less than 35% total dry cocoa solids, including not less than 18% cocoa butter and not less than 14% of dry non-fat cocoa solids. Typical ingredient list might look like:

Cocoa mass, sugar, cocoa butter, lecithin, natural vanilla flavouring

Milk Chocolate – Contains not less than 25% total dry cocoa solids, not less than 14% dry milk solids, not less than 2.5% dry non-fat cocoa solids, not less than 3.5% milk fat and not less than 25% total fat content (cocoa butter and milk fat). Typical ingredient list might look like:

sugar, cocoa butter, whole milk powder, cocoa mass, soya lecithin, natural vanilla flavouring

White Chocolate – Contains not less than 20% cocoa butter and not less than 14% dry milk solids of which not less than 3.5% is milk fat.

Typical ingredients list might look like:

sugar, cocoa butter, whole milk powder, soya lecithin, natural vanilla flavouring

18.7 Hand-tempering techniques

A knowledge of the science behind chocolate tempering is essential to understanding and mastering the process (see also Chapters 7 and 13). All chocolate practitioners should ensure they understand the chocolate tempering process and be able to practice at least two tempering methods. Demonstrating hand-tempering in a shop, café or even on a website can develop customer interest. It also requires very little chocolate.

18.7.1 Why does chocolate need tempering?

Without tempering, the cocoa butter in the chocolate will set in the wrong crystalline form. This gives the chocolate a soft crumbly texture and a short shelf life as the surface turns white due to a phenomena called “bloom”.

Chocolate must be tempered to create a stable crystal structure. During this process heat is utilised to melt some of the cocoa butter and break down the crystal structure enough for the chocolate to be able to be pushed/scraped around. The crystals must not all be melted, however. When chocolate sets the cocoa butter solidifies and forms a solid crystal structure which is like a jigsaw puzzle that can go together in one of six different ways. Only one crystal form will give the desired effect, all other forms will give an appearance of chocolate “bloom”, developing a whiteness or streakiness across the surface of the chocolate dependent upon the conditions of the cocoa butter and the working environment.

To temper chocolate consistently the procedure should start by melting out any existing crystals. It is then cooled to create several different types of crystals in a chocolate that can be poured and worked. Next it is reheated by 2–3 °C in a manner that is gentle enough to ensure that some solid cocoa butter crystals