

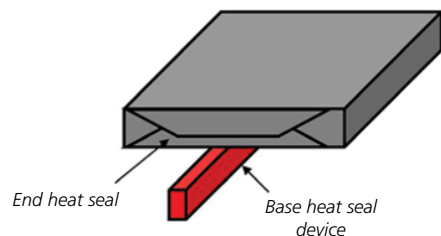
order to address environmental concerns, biopolymer trays are finding their way in to some markets. Plastic and biopolymer trays are produced by heating the plastic or biopolymer to soften the sheet, which is then drawn by vacuum into a metal mould of the desired shape, with an individual cavity for each sweet. Plastic trays can be made from one of several different polymers in a variety of colours ranging from crystal clear to silver or metallised gold. They can be made to reproduce the appearance of a layer of paper cups or designed to give extra protection to particularly vulnerable centres. They can also be built up below the flatter sweets by the inclusion of a “step” so that the whole layer appears to be of uniform height.

Other items that may be incorporated in the internal packaging of a box of chocolates are wave-embossed glassine or a greaseproof sheet to provide cushioning and prevent crushing of the sweets. Glassine-lined cellulose wadding can perform a similar function, perhaps more attractively, although more expensively. Corrugated glassine pads are commonly found in chocolate boxes, with corrugated plastic sheets providing a cheaper alternative.

Some nutty sweets, such as pralines or coconut clusters, exude fat to such an extent that this can permeate glassine or cellulose layers. These may therefore require a sheet of impermeable film to prevent staining of the box itself. An alternative method of restraining fat exudation is to foil wrap these individual sweets. In addition to protecting the packaging from the sweet and, in some markets with extreme climates, providing a last protective barrier to the sweet, foil is frequently used on individual sweets purely for decorative purposes.

The principle means of protecting boxed chocolates from the atmosphere, and incidentally the box itself from scuffing and marking, is a film overwrap. This can take the form of cellulose or plastic film (predominately bi-oriented polypropylene; BOPP). Polypropylene has largely replaced cellulose due to the limited numbers of suppliers and high cost of cellulose. This overwrap format employs a heat-sealed overlap along the base and heat-sealed envelope folds at the ends (Figure 26.7). While offering good protection to the sweets inside, envelop sealed overwrap formats rarely provide a 100% seal due to the number of folds in the ends. To offer easy opening of the overwrap, self-adhesive tear tape is normally applied to the film on the wrapping machine.

Figure 26.7 Carton overwrap envelope format.



Heat induced shrink-wrap film using either polyvinylchloride (PVC) or PE film provide an alternative to the envelope style overwrap. However, environmental concerns have reduced the use of PVC in recent years and dust build-up due to static of PE shrink films has led to an increase in the use of BOPP shrink films. These films produce a smooth, flat, tight surface whereas the envelope style wrap tends to leave gentle undulations and ripples in the film surface.

Converting standard chocolate boxes to seasonal use can be performed by the addition of a printed paper or film band with a seasonal theme, which can be removed from unsold stock after the festival. The same objective can be achieved by the use of self-adhesive stickers, for example heart-shaped for St. Valentine's Day. Such stickers can be made of a wide variety of materials, ranging from high-gloss paper to crystal-clear polyester and polypropylene.

When boxes of chocolates are combined together in an outer, a conscious decision must be taken as to whether they should travel flat or on edge. If there is any likelihood of a large soft-centred sweet coming under pressure, it is often better to pack the carton on edge so that the thermoformed tray can relieve the pressure, provided it is made sufficiently strong to do so. In addition, in a double layer box (common in the UK), the tray should be designed so that the upper layer can be turned round to place a small sweet over a large one in the bottom layer. In other respects, the construction of the outers and cases is similar to bars or countlines.

26.2.5 Twist wrapping

Brightly wrapped twist-wrapped chocolates (Figure 26.8) have been a major part of the confectionery scene for many years. The basic materials used have become more sophisticated and the machinery faster. Materials used still include aluminium foil (backed or un-backed, plain silver or coloured) and film (tinted,



Figure 26.8 Twist wrap.