Back to Basics — Sugarfree Confections

Sugarfree Hard Candy Overview

Improved cooking processes and more types of high-intensity sweeteners have made the manufacture of sugarfree candies faster and easier.

Mark Puch
Primrose Candy Co.

The process for manufacturing sugarfree hard candy is very similar to regular hard candy (Figure 1). The two distinctions are that you have to cook more moisture out, hence cooking to higher temperatures, and the low viscosity of the candy after it has been cooked to those final temperatures.

The hard candy process starts by mixing the sweeteners, which for sugar-type candy are usually sugar and corn syrup. After mixing, the candy is cooked to final temperature as quickly as possible to prevent the sugar from inverting. In the next step, it is either pumped or placed into a vacuum chamber. There the candy starts being cooled, but because of the lower atmospheric pressure moisture is still being drawn off. It is important to have 2 percent or less moisture in the final product for good shelf life.

After the vacuum stage of the process, the candy has to be cooled to a point where flavors and colors can be mixed or folded into the candy mass. This can be done by pouring the candy mass onto slabs cooled by water, or other processes emulating this. Once the flavors and colors are mixed in and the viscosity of the mass is proper, the candy can be formed and cooled to room temperature. It will then be ready for packaging.

Figure 2 shows a popular hard candy cooker. This and other similar models were designed to boil off water from liquid sweeteners as efficiently and as fast as possible. For that reason, you can use dairy products or fats only on a very limited basis. Our company has been using this type of cooking system since the 1950s and still has two fully intact units that we use for hard candy. However, we had to modify two others to cook sugarfree candy. The reason for this will be covered later in this paper.

The diagram on the right side of Figure 2 shows more detail of the cooker. This cooking system pumps the sweetener through a coil. Around the coil is high-pressure steam, which cooks the candy. In a couple of minutes, the cooker will heat the sweetener from a preset precooked temperature to the desired final cook temperature, which will vary depending on the sweeteners being cooked. Once it reaches the final designated cook temperature, the candy flows into an atmospheric ➤

Mark Puch is the sales and administrative head of Primrose Candy. In 1984 he and his brother took over the day-to-day management of the company their grandfather started in 1928. He learned candymaking at a young age from his grandfather.