

applications

Candy (Confectionary) Manufacturing



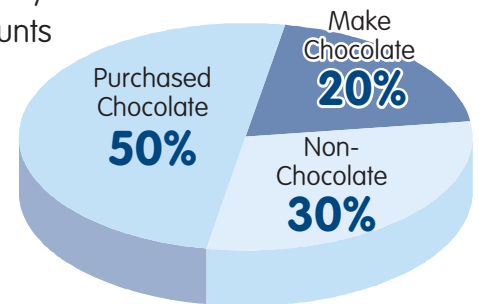
General Design and Application Considerations:

The industry includes three major segments:

- companies that make chocolate from beans
- companies that use purchased chocolate to produce candies
- companies that make non-chocolate candy

Candy made from purchased chocolate accounts for about half of the industry revenue, non-chocolate candy for a third, and chocolate from beans about 20 percent. Non-

chocolate candies include a wide variety of products: jelly beans, chewing/bubble gum, marshmallows, mints, and hard candies.



One of confectionery manufacturers' worst fears is high humidity in their production facilities. Candy quality deteriorates when humid conditions exist in these primary areas; coating, cooling, packaging and storage areas.

These areas require a means of dehumidification, especially if the plant is located in a region of the country known for having high humidity.

For example, a high-speed packaging piece of equipment processes individually "twist" wrapped hard candy pieces throughout the day. On humid days these candy pieces become "sticky" as the moisture dissolves surface sugar and the pieces do not release from the dies. The packaging operation shuts down for clean-up and backs up the production line. The solution is to cool and dehumidify the area surrounding the packaging machines, if not the entire production area.



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phone: 507.451.2198 • website: www.cdihvac.com • email: sales@cdihvac.com



Environmental Standards or Requirements:

While specific environmental conditions will likely be specified by the respective candy manufacturer, there are some industry "rules of thumb" that will provide a good starting point for dehumidification system designs. The industry recommended relative humidity range within the confectionary manufacturing and packaging industry is 25-35% RH at cooler temperatures (e.g., approximately 70° to 75°F).

You'll find various temperature and relative humidity combinations within the various parts of a plant and with the different types of candy being produced. Here are some examples of the differing preferred conditions of some of the larger manufacturers:

Fdb	Relative Humidity	gr/#	Fdp
Production/Processing:			
77°	40%	55.39	50.86°
70°	45%	49.17	47.71°
70° to 75°	50%	54.7 to 64.92	50.53 to 55.12°
75°	40%	51.78	49.07°
Storage:			
64°	40%	35.41	39.22°
50° to 70°	40%	21.29 to 43.65	27.26 to 44.60°
Packaging:			
70° to 75°	35 to 40 %	38.15 to 51.78	41.12 to 49.07°

For more information
 contact CDI:
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