



# Dehumidification Application

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## CANDY PROCESSING, DRYING, STORAGE & PACKAGING

*Bry-Air environmental control systems allow for consistent and quality products to be produced efficiently by preventing the effects of humidity.*



Photo Courtesy of MCT Direct Photos

**H**ard candies often contain corn sugars and sorbitol, both of which are highly hygroscopic. When humidity is high, the product can absorb moisture and become sticky, which can cause it to stick to the packaging machinery and wrapping material, slowing the process and creating sanitary problems.

Any coated candy like gumballs or chocolate-covered nuts can benefit from using dry air to speed drying.

In the case of chocolate, high temperatures would melt or dent the products. With gumballs, the gloss of the coating is enhanced by using dry air, and the product is less likely to stick together in the coating pan.

In general, the highly hygroscopic nature of the ingredients in most candies makes them sticky, runny or moldy when exposed to humid conditions. This inhibits natural flow as the material sticks to high speed processing and packaging

machinery and wrapping material, thus slowing the process and creating hygiene problems. The chart below lists optimum design air conditions for several candy manufacturing processes.

Moisture gain also affects the storage and shelf life of most candies. Proper candy storage is essential for reasons such as:

- The marketing season of the candy.
- The stability of the candy (based on proper manufacturing conditions).
- The storage temperature and humidity conditions.

The following chart lists recommended temperature and humidity levels for the storage of common candies

The benefits of humidity and temperature controlled storage, especially during summer are:

- Candies remain firm as an

Optimum Processing Temperature & Humidity Conditions for Candy Processing		
Applications	Temperature °C	RelativeHumidity
Hard Candy Cooling Tunnel	13 to 17	55% - 40%
Hard Candy Packing	21 to 24	40% - 35%
Hard Candy Storage	10 to 21	40%
Caramel Rooms	21 to 27	40%
Chocolate Packing Room	18	50 %
Chocolate Finished Stock Storage	18	50%
Centers Tempering Room	24 to 27	30%
Marshmallow Setting Room	24 to 26	45% - 40%
Gum Drying (in starch)	52 to 66	25% - 15%
Liquid Sugar	24 to 27	40% - 30%

assurance against sticking to the wrapper or being smashed.

- Loss of color, aroma and flavor is reduced.
- Insects are rendered inactive at temperatures of 9°C or lower.
- The tendency to become stale or rancid is reduced.
- Candies can be manufactured year-round and accumulated for periods of heavy sales.

The solution to the problem lies in surrounding the processing, packaging and storage areas with cool, dehumidified air. Bry-Air, Inc. has worked with candy manufacturers throughout the world to provide cost effective solutions for their processing and storage needs. Some of our customers include: Wrigleys Gum, Marich Confectionary, Hershey, Leaf Candies, and Nestles.

Candy	Relative Humidity	Storage Life in Months with Temp.			
		20°C	9°C	0°C	18°C
Sweet Chocolate	40%	3	6	9	12
Milk Chocolate	40%	2	2	4	8
Lemon Drops	40%	2	4	9	12
Choc. Covered Peanuts	40% to 45%	2	4	6	8
Peanut Brittle	40%	1	1.5	3	6
Nougat Bar	50%	1.5	3	6	9
Bonbons	50%	1.5	3	6	9
Coconut Squares	50%	2	3	6	9
Choc. Covered Cremes	50%	1	3	6	9
Caramels	50%	3	6	9	12

For more information on Bry-Air's products and services please visit [www.bry-air.com](http://www.bry-air.com)

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