WACKER

CREATING TOMORROW'S SOLUTIONS

INFO SHEET I CANDY2GUM® I CAPIVA® C 03

CANDY2GUM®: MAKING CHEWING GUM AS YOU WOULD CANDIES

A Toolbox for Creative Chewing Gum: Combination of Chewing Gum and Conventional Candy-Cooking Process

Candy and chewing gum are two entirely different forms of confectionery. They have very different manufacturing processes and produce different end consumer experiences. CANDY2GUM® technology combines the two worlds into one.

A Variety of New Possibilities

CANDY2GUM® combines the best of both – chewing gum and candy – for new and unique consumer products. The candy-cooking process enables the use of a variety of water-based, fat-based and natural ingredients that could not be used in conventional chewing gum, such as fruit juice, coffee, caramel and milk. The application of candy-forming technologies opens up unique product shapes.

The Chewing Experience

CANDY2GUM® technology gives the end consumer a different new chewing experience: a mouthfeel change from a chewy candy to a chewing gum.

Compatible with Sugar and Sugar-Free Systems

CANDY2GUM® technology is compatible with sugar- and polyol-based (sugar-free) systems.

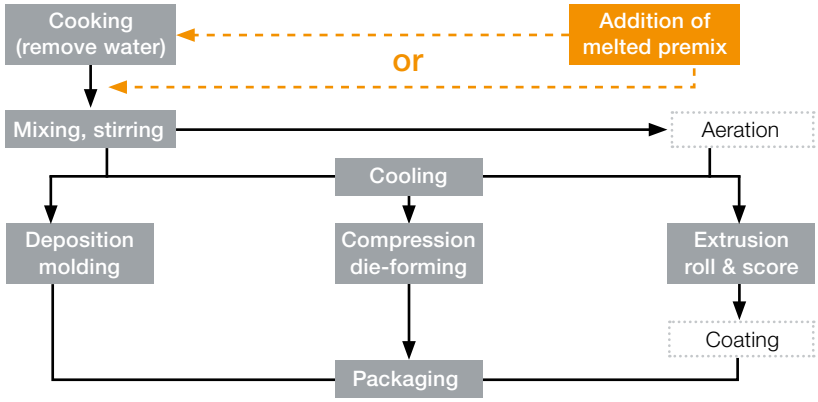
The CANDY2GUM® Technology

CANDY2GUM® technology is compatible with conventional candy processes and equipment. For small-scale production, an open system using a cooking pot, heating plate and blade agitator can be used. For larger quantities, batch cookers are a good option. For continuous cookers, addition of the melted premix after the cooking stage is recommended. If desired, sugar pulling (aeration) can be applied to the cooled-down mass. Downstream processing is usually performed using batch roller/rope sizer or extruder, followed by cut and wrap. Alternatively, molding or die-forming techniques can be used. If desired, the individual pieces can also be coated using a pan-coating process.

Our Product: CAPIVA® C 03

The CANDY2GUM® premix CAPIVA® C 03 melts fully at approx. 100 °C. Processing the premix in a melted form is recommended. Pre-melting can be performed in a heated vessel/melter or oven. The temperature of the mass should not exceed 120 °C. At this temperature, the material can be kept for 12 hours.

Production Process



Variety of New Possibilities

Guide Formulation CANDY2GUM® – Lemon-Mint Sugar-Free			
	Ingredients	**Parts by Weight Before Cooking [kg]**	**Calculated on Dry Substance of Final Product [%]**
(A)	Maltitol syrup (Cargill Maltidex M16311)	48.9	44.2
	Mannitol cryst. (Roquette Mannitol 60)	15.7	19.0
	Palm oil (Henry Lamotte Refined RSPO)	5.0	5.3
	Emulsifier (Grindsted® ACETEM 50-00P)	0.7	0.8
	Glycerol	2.4	2.9
	Lecithin	0.4	0.5
	Water	4.4	
(B)	CAPIVA® C 03 (pre-melted at 120 °C)	19.6	23.07
(C)	Citric acid	0.6	0.7
	Malic acid	0.5	0.6
	Acesulfam-K	0.1	0.1
	Sucralose	0.03	0.04
(D)	Flavor (Symrise Lemon #220496)	1.0	1.2
	Flavor (Symrise Optamint #201588)	0.13	0.2
(E)	Mannitol cryst. (Roquette Mannitol 60)	0.5	0.6

Simple Manufacturing Guidelines for Open System

Homogenize **(A)** and cook to 128–135 °C, stirring continuously at medium speed. Target moisture content of the final product is 6–7.5%. Transfer the mass to a mixer, add **(B)** and continue stirring (maximum speed) until a homogeneous mixture is reached. Then add **(C)** (110–100 °C), **(D)** (100–90 °C) and **(E)** (80–70 °C), always mixing well. Cool down further on the cooling table till about 35–45 °C. At the right temperature, run the dough through the batch roller/rope sizer or extruder, followed by cut and wrap.

Adjusting Mouthfeel

The standard recipes can be varied according to the desired texture and chewiness. Initial chew is mainly influenced by the moisture content and bulk sweetener composition. The transition phase can be adjusted by adding 0.5–1.5% emulsifier (Grindsted® ACETEM 50–00). The final chewing gum can be softened by adding 0.5–1.5% triacetin. For sugar-based formulations, addition of 1.0–1.5% talc and some sugar pulling is recommended.

Equipment Cleaning

It is advisable to establish and test a cleaning procedure before working with this technology. The use of hot water and, if required, alkaline detergent is recommended. A sieve should be installed to prevent any water-insoluble parts from clogging the drainage system. Detailed cleaning recommendations are availaible.

Stability of Final Product

Like other confectionery products, the stability of the final product depends on the exact formulation and ingredients used. Samples based on the guide formulation shown above were stable for several months at room temperature. Even under extreme conditions (40 °C for 4 weeks) the products remained dimensionally stable and retained their sensory acceptability.

Properties of Recommended CANDY2GUM® Premix	
Product	**CAPIVA® C 03**
Composition	Mixture of copolymers of vinyl acetate and higher vinyl esters, emulsifiers and auxiliaries
Supply form	Block or drum
Recommended use level [% of dry mass]	24
Food allergens & nutritional values	Data available upon request

Regulatory Classification

The CAPIVA® C 03 premix is considered a gum base. The final product is therefore labeled as chewing gum. For information on the regulatory situation in your country, please contact your local WACKER sales representative.

At a Glance: CANDY2GUM® Technology

- Simple implementation through ready-to-use CAPIVA® C 03 premix
- Manufacturing based on standard candy-cooking process and equipment
- Compatible with sugar and sugar-free systems
- Use of water-based, fat-based and natural ingredients that cannot be used for conventional chewing gum
- Texture change from chewy candy into chewing gum
- Stability of final products is comparable to conventional chewy candy
- Existing regulations for chewing gum and gum base can be applied

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CAPIVA®

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