

GELATIN
in confectionery



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In confectionery production, the multifunctionality of **gelatin** as a natural ingredient is proven by the large variety of different products in which it is used. Indeed, depending on the desired end-product, gelatin's gelling, foaming, binding, film forming, elasticity or water binding properties can be used to great advantage.

In fact, it even goes beyond, as **gelatin** provides extra benefits:

- it has no E-number and is GRAS approved
- it is a non-allergenic protein
- it has a positive effect on the joints, nails, hair and skin (see our brochure "SOLUGEL® COLLAGEN hydrolysate is good for your health")

Gelatin is extremely well suited for smooth and economical production of high quality confectionery products.

The advantages of **gelatin** in confectionery products:

- excellent flavour release
- no stickiness of finished products in the mouth
- a unique texture because **gelatin** melts completely in the mouth
- easy to dissolve at highly concentrated solutions
- both gellified and aerated products can be produced
- compatible with most other hydrocolloids
- different textures obtainable depending on Bloom and dosage
- reworking is possible as the gel is 100% thermo-reversible
- compatible with modern continuous cooking equipment
- a natural and multifunctional ingredient

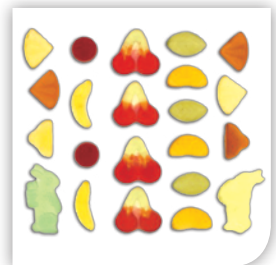
> Gelling property

Gellified confectionery sweets include the popular gummy products, such as **gelatin** and wine gums. They are made by depositing a mix based on glucose syrup, sugar and **gelatin** into starch moulds.

These sweets may differ in terms of shape, texture profile and surface-finishing treatments, and are aimed at specific market segments. **Gelatin** is used here as a gelling agent, giving textures from "soft" to "hard" and from short to elastic (long), depending on the type of **gelatin**, its Bloom strength as well as concentration. Together with the recipe composition, **gelatin** has a major impact on the texture of the finished product.

Gelatin gives the unique melt-in-the-mouth effect, which results in unsurpassed mouthfeel and flavour release. In addition, **gelatin** also has a strong water binding capacity, which is beneficial for the shelf life of the finished products.

In gellified confectionery, **gelatin** is compatible with most other gelling agents. In this way, an even larger variety of different texture profiles can be achieved. Typical examples are combinations with (thin boiling) starch, pectin (see p.4: Swiftgel), agar-agar and gum arabic.



> Foaming property

In the production of aerated confectionery products (e.g. marshmallow), the most important properties of **gelatin** are its ability to produce and stabilise a foam.

Gelatin's functionalities in aerated confectionery:

- lowering the surface tension at the air/liquid interface, enabling the product to be whipped
- stabilising the foam produced through increased viscosity and thus avoiding collapsing
- setting of the obtained foam structure

For extruded marshmallows, medium to high Bloom **gelatins** and medium to high viscosities are advised.



> Binding, viscosity and elasticity properties

Fruit chews and toffees

Gelatin is used here in particular to improve the chewiness (elasticity) of the end product. Typically, these products have a high soluble solids level, a low degree of aeration and fat is added. Low to medium Bloom **gelatin** is advised.

Compressed tablets

Tablets consist of fine sugar particles, which together with flavouring material, lubricants and binders, have been compressed into the required shape and hardness to form a hard, cohesive confectionery. In this case, **gelatin's** binding property is used.

(Extruded) Liquorice

Combined with wheat flour, **gelatin** acts as a binder, improves moisture retention and shelf life. **Gelatin** also gives elasticity and chewability to the product



> Coating or film forming properties

Gelatin is used to coat centres before chocolate or sugar panning takes place. It prevents oil and/or moisture migration from inside while preserving the freshness of the centre.



Gelatin types, functions and dosages in confectionery:

Confectionery	Function	Bloom	Type	Viscosity	Dosage (on end product)
Gelatin gums	<ul style="list-style-type: none"> • gelling agent • texture • elasticity 	180-260	A/B	low-high	6 - 10%
Wine gums (gelatin + starch)	<ul style="list-style-type: none"> • gelling agent • texture • elasticity 	100-150	A/B	low-medium	2 - 6%
Chewable sweets (fruit chews, toffees)	<ul style="list-style-type: none"> • aeration • chewability 	100-150	A/B	medium-high	0.5 - 3%
Marshmallows (deposited or extruded)	<ul style="list-style-type: none"> • aeration • stabilisation • gelling agent 	200-260	A/B	medium-high	2 - 5%
Nougat	<ul style="list-style-type: none"> • chewability 	100-150	A/B	medium-high	0.2 - 1.5%
Liquorice	<ul style="list-style-type: none"> • gelling agent • texture • elasticity 	100-220	A/B	low-medium	3 - 8%
Coating (chewing gum - dragees)	<ul style="list-style-type: none"> • film forming • binding 	120-150	A/B	medium-high	0.2 - 1%

> Swiftgel

In addition to regular **gelatins** used in gellified confectionery, **PB Gelatins** also produces **SWIFTGEL®**, a combination of **gelatin** and pectin especially designed for gellified articles.

Characteristics of SWIFTGEL®:

In production:

- substantial reduction is possible in gummy production time
- same procedures as for regular **gelatin** in confectionery

Finished product:

- enables the creation of new textures and flavours
- has an excellent flavour release, clarity, shelf life and temperature stability
- can be reworked

SWIFTGEL® finds its application in soft and medium hard gums as well as in foamed articles.

SWIFTGEL® is the simple way to increase productivity and/or create new products and textures while maintaining high product quality.

PB Gelatins is committed to assist its customers and has a fully equipped confectionery pilot plant at their disposal to test, develop and evaluate new recipes and products.

