MAKING CONFECTIONS EXTRAORDINARY

Entice the Demand for Texture with Tate & Lyle

From smoother, cream-filled sweets to chewier, juicier fruit sweets, Tate & Lyle can help you create the texture that makes your confections irresistible – while helping you save time, reduce costs and extend the shelf life of your products. Consumers are looking for and expecting more exciting sensory experiences, especially if they are going to treat themselves to sweets.

As a result, confectionery manufacturers have been very keen to employ innovative textures and shapes for ultimate indulgence. Techniques such as increased aeration in fillings, layering multiple textures or experimenting with shapes for improved mouthfeel are innovations top manufacturers have brought to the category.

Tate & Lyle’s food starches are derived from a variety of botanical food sources and are available in native, modified, cook-up, instant and clean-label varieties. Our diverse portfolio provides options from basic thickening to highly-unique functionalities relevant to the confectionery category. Also, if you need assistance, we offer experienced application guidance to help you achieve your goals.
Starches can help to provide a wide variety of textures ranging from soft fruit snacks to chewy sweets. Processing benefits include moulding and decreased stickiness in jelly type confectionery, reduced hot viscosity to facilitate cooking and ease of depositing, as well as quick setting to reduce curing time.

**Starch source:** CORN | TAPIoca | POTATo

<table>
<thead>
<tr>
<th>FUNCTIONALITY</th>
<th>STARCH</th>
<th>MODIFIED STARCH</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moulding and Depositing</td>
<td>Cook-Up</td>
<td>Moulding Starch</td>
<td>Absorbs moisture from deposited confections. Prevents stickiness. e.g. Gummy or jelly sweets</td>
</tr>
<tr>
<td>Low temperature processing</td>
<td>CLARIA® MIRA-GEL®</td>
<td>LO-TEMP® MIRA-THIK® SOFT-SET®</td>
<td>Controlled hydration in high solids corn syrups and HFCS. Reduces drying times. e.g. Chewy confections</td>
</tr>
<tr>
<td>Gelling</td>
<td>CONFECTIONER’S G MIRA-QUIK® MGL MIRA-SET® 285</td>
<td>MIRA-THIK®</td>
<td>Gelatin replacement and ease of depositing. Thin-boiling and rapid gelling once deposited. e.g. Jelly sweets, gummies</td>
</tr>
<tr>
<td>Extrusion of high solids content confections</td>
<td>CLARIA® MIRA-GEL®</td>
<td>MIRA-CLEER®</td>
<td>Extrudes in continuous process with high solids content. No further curing required.</td>
</tr>
<tr>
<td>Cold flow control</td>
<td>Powdered Redried Starch</td>
<td>MIRA-QUICK® MGL MIRA-SET® 285</td>
<td>Aids in shape retention and resistance to cold flow. e.g. Caramels and toffee</td>
</tr>
</tbody>
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**Viscosity Development**

- **Heat process** – Whether you use direct steam injection or vacuum cooking, thin-boiling starches allow viscosity and texture development in high-sugar solids paste while maintaining a low viscosity for depositing. Additionally, speciality thin-boiling starches enable open-kettle cooking.

- **Low-temperature processing** – Low-temperature pasting starches and cold-swelling starches allow lower or no heat levels, so functional ingredients like vitamins and nutrients are retained. Plus, plastic or silicone moulds can be used for depositing instead of traditional starch moulds, saving energy costs and time.

**Texture Development**

- **Gelling** – Our full line of confectionery starches enables a wide range of jelly sweets textures. Speciality thin-boiling starches can improve clarity and viscosity, opening up opportunities to create new and unique sweets products. These starches can also be used to replace certain hydrocolloids in some formulations.

**Process Functionality**

- **Moulding and depositing** – Improve the moulding, depositing and drying processes of gummy and jelly sweets. Our moulding starches can accept and hold any shape or impressions and then absorb moisture from the deposited sweet as it cools, dries and sets.

- **Dusting** – Help form and cut confections and decrease product stickiness in the package with our dusting starches.

- **Setting** – Use high-fluidity starches to increase final depositing solids in gummies and jellies, which can help save time in the moulding starch stage and improve process efficiencies.

**Finished Product Stabilisation**

- **Cold flow control** – Starches improve viscosity handling and help with depositing and shape formation. Additionally, they contribute to texture stability during shelf life.

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**ABOUT TATE & LYLE**

Tate & Lyle is a global provider of ingredients and solutions to the food, beverage and other industries, with operations in over 30 locations worldwide.

tateandlyle.com