



LORYMA

Native and modified wheat starches

Portfolio: Wheat starches

Take food further.

Wheat starches:

The optimising all-rounder in food production.

The further development of starches with their various functions, the special properties and resulting applications is a Loryma speciality. Thus, we offer you perfectly-matching starches for numerous applications. Apart from our native wheat starches for standard applications and our modified special starches, we round off our Loryma wheat starch portfolio with clean-label starches.

- **Improve the surface texture, crispiness and mouth feel of your breadings with Loryma wheat starches!** The different starches are excellently-suited for processing in batters, flourings or dry breadings, and contribute to the optimal dry breading adhesion.
- **Optimise the stability and increase the volume of your doughs and masses!** Highly functional Loryma wheat starches optimally influence both the dough properties and the desired crumb texture. They make biscuits crispy, muffins fluffy and keep bread fresh for a long time.
- **Ensure optimum consistency of your meat products with Loryma's process-, heat-, freeze-, thaw-, shear- and acid-stable speciality starches!** With their high viscosity stability, they are used as binding and thickening agents in meat processing. Their thickening and stabilising properties make them the ideal ingredient for special production strains.



- **Give your confectionery a pleasant texture!** Loryma wheat starches are the ideal texture-providing product for this. With high solids and low water content, their low hot viscosity ensures a pourable, but rapidly-solidifying, mass without tailing. This already allows moulded products to be formed after a short time, enabling reliable production at high process speeds. In addition, wheat starches possess low stickiness, providing a more pleasant mouthfeel when eating the confectionery.

Stabilise and optimise your baked goods, meat products and confectionery!

Improve texture, stability and taste of your end-consumer product with native or modified wheat starches. Loryma offers you a range of starches with a wide variety of properties and applications. With high heat, acid and shear stability as well as good emulsifying properties, the hot- and cold-swelling Loryma wheat starches can be used for various manufacturing processes, from cold production to sterilisation of fillings, sauces and toppings.

High-performance raw materials

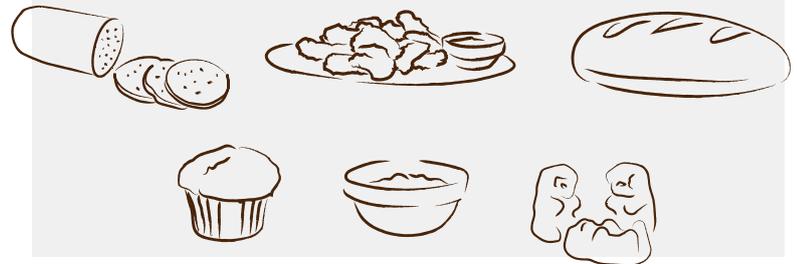
Thanks to the exclusive use of EU wheat, we can guarantee that we only process non-GMO wheat. It is also particularly high in nutrients, in addition to having a high degree of purity.

Native and modified wheat starches ...

- are hot- or cold-swelling.
- are processing stable, water absorbing and freeze/thaw stable.
- ensure strong adhesion and crispiness.
- are texture-providing for solid gels.
- are suitable as binding, stabilising and thickening agents.
- are emulsifying.
- are heat and acid stable.

The fields of application of native and modified wheat starches

- Meat products
- Baked goods
- Delicatessen products
- Convenience products
- Confectionery
- and plenty more ...



We have tailor-made starches for the following applications:

	Field	Application	Function	Functional description
Baked goods, fillings, toppings, desserts	Doughs	Bread/bread rolls	Increase the dough yield and the number of finished products, keeping the end-consumer product fresh	The starch ensures a high water-binding capacity, which keeps the moisture in the product for longer and allows it to stay fresh longer.
		Choux pastry Cream puffs	Operating costs reduction (or cost-in-use) and work and time savings by omitting the roasting process	The starch ensures high water absorption and replaces the flour's usual roasting process. During the baking process, the water escapes as steam, leaving behind a large-pored crumb structure that makes the pastry airy.
		Pound cake mixtures, Madeira or sponge cake batter, Gugelhupf, Viennese biscuit base for cakes, muffins	Improved stability and airiness of the batter.	Avoids settling of chunky ingredients such as nuts, raisins, chocolate sprinkles or fruits. The viscosity of the dough increases, without influencing the baking behaviour.
		Wholemeal products, wholemeal bread, wholemeal rolls, crisp bread, pizza dough, biscuits, cookies	Fibre enrichment	Food enrichment with dietary fibres. Even for proven high-fibre products with a fibre content of 6 % or more.
	Filling and toppings	Apple strudel filling, tarte flambée topping, hearty and sweet	Increased baking stability	Dimensionally-stable filling in the pastry during the baking process and subsequent cooling.
		Curd cheese strudel, cheesecake	Increased creaminess	Full-bodied texture and shine for sweet and spicy cream fillings.
		Fruit fillings with high liquid content, cherry strudel	Juice binders	Binding of the liquid content, especially in fruit fillings.
		Frozen apple strudel, frozen cherry strudel, frozen cakes, frozen ready meals	Increase in freezing/thaw stability	Prevents syneresis and the dough getting too moist.
Meat processing	Breadings	Classic bread crumb breadings	Adhesion	The starch is used in the pre-dust and/or in the batter. This means that breadings display improved fixation to the substrate, are more vapour-permeable and, as such, also crispier.
		Tempura, batters	Crispiness	Improved surface texture and crispiness
			Viscosity/swelling	Steering of the pick-ups via batter viscosity
	Brines	Tumbling, injection	Yield effect, tenderness, juiciness	Water absorption and minimisation of cooking losses

Delicatessen Sauces, Mayonnaises, Dressings	Field	Application	Manufacturing processes	Functional description
	Cold edible sauces, Table Top Sauces	Ketchup, dips, sauces (e.g. BBQ sauce, Zingara sauce, curry sauce...)	Hot production	Viscosity/thickening, stability flowability, prevents syneresis, process and acid stability
			Cold production	Stability flowability, viscosity/thickening, prevents syneresis, process and acid stability
		Salad mayonnaise, salad cream, vegan/egg-free salad mayonnaise, vegan/egg-free salad cream, dressings	Cold production	Viscosity/thickening, stabilisation, texture
			Cold production with subsequent pasteurisation	Thickening, post-swelling and thus stabilisation, texture
			Procedure, hot production	Thickening, stabilisation, texture
			Hot and cold production	Emulsification, depending on application also as co-emulsifier
	Warm edible sauces	Hollandaise sauce, roast sauce	Hot production	Viscosity/thickening, thermal stability (UHT), texture
		Béchamel Sauce	Hot production	Texture, viscosity/thickening, thermal stability (UHT)
			Cold production	Viscosity/thickening, stabilisation, texture
Salads	Coleslaw, etc.	Cold production	Filling aid for salads (e.g. coleslaws) for homogeneous filling of the product with subsequent starch production by enzymes and acids	
Tinned foods	Sauces, tinned vegetables	Cold production	Cold filling aid for the homogeneous filling of chunky sauces (e.g. canned vegetables, goulash sauce)	
		Hot production	Thickening, thermal stability with subsequent heat treatment of sauces	

Confectionery	Field	Application	Functional description
	Poured jellies and gums	Gummy bears, liquorice, wine gum etc.	Low hot viscosity, strong gelation. To avoid tailing.
Gelatine replacement (vegan alternative)		Partial or complete replacement of gelatine	



**More quality, performance and
cost efficiency for your products.**

We have been a reliable partner to the food industry for more than 40 years. With our innovative solutions, we support you in optimising your products in terms of texture, quality and taste as well as in the development of new, trend-setting food concepts. With certified quality and safety. With in-depth industry expertise and plenty of knowledge in the industrial food production sector. Loryma. Take food further.



Loryma GmbH
Am Falltor 3, 64673 Zwingenberg, Germany
T +49 6251 1799-0, F +49 6251 73964
info@loryma.de
www.loryma.de