

FOOD VIDOGUM L®

(Native locust bean gum)



Raw Material

VIDOGUM L (native locust bean gum E 410) is extracted from the endosperm of the wild 'Ceratonia siliqua L.' tree. The active chain-like hydro-colloidal molecules belong to the Galactomannan group.

Origin: Mediterranean countries.

Production

Separation of the endosperm, milling, sifting, standardisation.

Characteristics

VIDOGUM L is only suitable for products that pass through a heating process. The viscosity only builds late in the heating process:

- The counter-pressure in a closed heating system will thereby be reduced
- Better retention of fruit pieces in fruit preparations due to lower shear forces.
- Ham injections
- In cakes and pastry, a specific and fine crumb structure can be achieved with the viscosity increase of the batter/dough during the baking process (e.g. French brioche).

VIDOGUM L comes in a range of various viscosities, with L 150 having high viscosity, L 200 medium viscosity and L 250 lower viscosity, whereby the synergistic behaviour with other hydrocolloids (gel strength increase) is not affected by the viscosity.

Viscosity and Flow behaviour

Flow behaviour:

VIDOGUM L demonstrates a creamy mouthfeel and has considerably less pseudo-plasticity compared to guar gum. This typical mouthfeel makes **VIDOGUM L** the traditionally used hydrocolloid in dairy products.

 $\mbox{VIDOGUM GH: slimy} \longleftrightarrow \mbox{VIDOGUM SP: full-bodied} \longleftrightarrow \mbox{VIDOGUM L: creamy}$

Gelling strength:

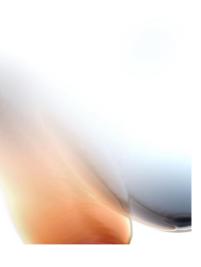
VIDOGUM L is particularly effective in strengthening the gelling network of agar-agar and k-Carrageenan. Their gel structure becomes considerably more elastic with the addition of **VIDOGUM L**.

The gelling optimum in aqueous solutions of k-Carrageenan and VIDOGUM L is achieved at a ratio of 70:30.

Together with xanthan gum, VIDOGUM L forms a similar strong gel at low dosages.

The gelling optimum in aqueous solutions of xanthan gum and **VIDOGUM L** is achieved at a ratio of 50:50.





Benefits

- Particularly strong synergy with k-Carrageenan and agar-agar → strengthening of the gelling network → cost reduction.
- Syneresis reduction, especially important for k-Carrageenan gels.
- Increase of elasticity of k-Carrageenan gels.
- Forms gels after heating, through synergy with xanthan gum (→ mayonnaise, dressings).
- Synergistic viscosity increases when used together with native and modified starch.
- VIDOGUM L is not suitable for cold applications without a heating step.
- Not freeze-thaw stable but binds the water again after a 2nd heating step.
- Creamy mouthfeel is particularly well suited for dairy products, fruit quark and milk spreads.
- Very good aroma release and very good taste neutrality.
- Solubility in sucrose solutions up to 60Bx.

Areas of use

Product Group	Dosage [%]	Benefits in final product using a selected example
Dairy and dessert products	0.2 – 0.4	 Thermally processed quark desserts – together with k-Carrageenan or gelatine: Creamy mouth-feel and optimal melting-action. forms a firm, spoon-able and elastic structure with k-Carrageenan. Outstanding aroma release. Syneresis reduction of pure k-Carrageenan gels. As a rule, the addition before fermentation requires a fat content: > 14% and the use of additional hydrocolloids as stabilisers (e.g. pectin, agar-agar).
Fruit products and soft drinks	0.15 – 0.3	 Fruit preparations with pectin: Especially suitable for fruit preparations for all non-stir / set yoghurts. Flows pleasantly from the spoon – can be easily stirred into the white mass (→ fruit corner packages) Outstanding aroma and acidity release (→ freshness, fruitiness). Solubility in sucrose solutions up to 60 Bx.
Culinary products	0.1 – 0.2	 Mayonnaise, salad dressings – hot process with xanthan and modified starch: Gels strongly with xanthan gum: stabilisation of herbs Not freeze-thaw stable, but can be used in certain cases for frozen products that will be heated again.
Meat products	0.1 – 0.3	Ham injections, injections for cooked and cured products together with k-Carrageenan. Only for hot applications – particularly recommended when very high yields (> 170%) are required: Improved slicing consistency. Reduction of cooking losses. Reduction of syneresis in vacuum packed products.
Organic products		VIDOGUM L may be used for organic products within the framework of the current EU directives.
Others	0.1 – 0.6	 Only suitable for applications which include a heating step. Soya desserts and drinks. Fat-free sauce binder. Thickening agent for baby food (home preparation) → helps against vomiting. Gluten free pasta 'al dente'. Gluten free bread: improved crumb structure.