

(native locust bean gum)



**Viscosity,  
Flow behaviour and  
Gelling strength**

## Raw Material

**VIDOGUM L** (native Locust bean gum E410) is extracted from the endosperm of the wild tree 'Ceratonia siliqua L.'. The active chain-like hydrocolloid molecules belong to the Galactomannan group.

Origin: Mediterranean countries.

## Production

Separation of the endosperm, milling, (special physical process for increased cold viscosity) sifting, standardization.

## Characteristics

**VIDOGUM L.../C500** is only suitable for products that pass through a heating process. It has a slightly higher viscosity compared to VIDOGUM L but shows a significantly improved protection of the whey proteins during the heating phase of thermally processed cream cheese products and quark desserts. This is because initially, only those galactomannan molecules with a lower molecular weight dissolve during the heating phase, and these do not make a significant contribution concerning the viscosity. Their protective colloid effect is, however, no different from that of long-chain molecules.

The somewhat higher cold viscosity is, therefore, sufficient to provide adequate protection during the critical temperature range (40-60°C). It is the special advantage of this grade that exactly as much locust bean gum dissolves as is needed for the protective colloid effect for the whey proteins. An excessively fast and over-stabilizing reaction would correspondingly result in an impairment of the stability. This is exactly the reason why a partially cold soluble locust bean gum provides optimum protection.

**VIDOGUM L.../C500** demonstrates a creamy mouth-feel and behaves considerably less pseudo-plastic than guar gum. Due to this typical mouth-feel, **VIDOGUM L.../C500** traditionally is widely used particularly in dairy products.

VIDOGUM GH: slimy ↔ VIDOGUM SP: full-bodied ↔ **VIDOGUM L.../C500**: creamy.

**VIDOGUM L.../C500** is particularly effective in strengthening the gel network of agar-agar and k-Carrageenan.

The gel structure becomes considerably more elastic with the addition of **VIDOGUM L.../C500**. The gelling optimum in aqueous solutions of k-Carrageenan or Xanthan and **VIDOGUM L.../C500** is achieved at a ratio of 70:30.



## Benefits

- Improved protective colloid effect in heat-processed quark products due to the increased cold viscosity and the slow water absorption during heating, of special importance with a fat content < 27 %. At higher fat contents, the protective colloid effect of the milk fat is usually sufficient.
- Particularly strong synergy with k-Carrageenan, agar-agar → strengthening of the gel network → cost reduction.
- Syneresis reduction, of particular importance when using k-Carrageenan.
- Increase of elasticity of the k-Carrageenan gel network → improved spreading.
- Viscosity increase when used together with native and modified starch.
- **VIDOGUM L.../C500** is not suitable for cold applications.
- Creamy mouth-feel is particularly well suited for cream cheese and quark desserts.
- Very good aroma release
- Very good taste neutrality.

## Areas of use

Product Group	Dosage [%]	Benefits in final product using a selected example
<b>Dairy and dessert products</b>	0.2 – 0.5	Thermally processed cream cheese and quark desserts – alone or in combination with k-Carrageenan: <ul style="list-style-type: none"> <li>• Protects milk protein from sandiness due to the specific solubility characteristics during the heating step → higher process reliability, better quality (protective colloid effect).</li> <li>• Creamy mouth-feel, better melting action.</li> <li>• Together with k-Carrageenan, it can form a spreadable and gelled structure.</li> <li>• Syneresis prevention in comparison with pure k-Carrageenan.</li> <li>• Outstanding aroma release.</li> </ul>
<b>Organic products</b>		<b>VIDOGUM L.../C500</b> (native locust bean gum) may be used for the production of organic products within the framework of the current EU directives.