

FOOD

VIDOGUM G I®

(native standardised guar gum)

Raw Material

VIDOGUM G I (Guar Gum E 412) is extracted from the endosperm of the 'Cyamopsis tetragonoloba L.' bush cultivated rurally.

The active chain-like hydrocolloid molecules belong to the Galactomannan group.

Origin: Pakistan, India.

Production

1. Separation of the endosperm, milling, sifting (in Pakistan or India).
2. Standardisation, quality control and quality assurance (at UNIPEKTIN, Switzerland).

Characteristics

VIDOGUM G I is available in two qualities:

- **VIDOGUM G 120I/150I**: coarse quality. Particularly used in products where delayed swelling is desired, or where lumps would otherwise result.
- **VIDOGUM G 200I**: fine particle size. The majority of applications is covered by this quality. Improved cold solubility and higher hot viscosity. UNIPEKTIN sources guar gum from Pakistan or India in full container loads and standardises it to viscosity, either according to our own standard specification or to customer specification. A batch can, therefore, be seen as a homogenous unit in regard to all important quality factors.

Viscosity and Flow behaviour

VIDOGUM G 200I is suitable for hot and cold processes, but not for cold-soluble instant products that are not subject to strong shearing.

VIDOGUM G I is the most economical and least expensive option for viscosity increase, provided that none of the restrictions mentioned above apply.

VIDOGUM G I features a slimy mouth-feel, and compares as follows to our other gums:

VIDOGUM G I: slimy ↔ **VIDOGUM SP** (tara gum): full bodied ↔ **VIDOGUM L** (LBG): creamy.

The sliminess is particularly apparent at higher dosages (>0.2 %), which is why **VIDOGUM G I** is used in lower dosages in many products without noticeable impairment and with a cost benefit.

Here the competitive environment and the product positioning frequently plays a decisive role.

In some applications, however, a pseudo-plastic/slimy consistency is expressly desired:

- Dips, dressings, ketchup, which should come easily out of their dispensing bottles.
- Products with a slimy consistency such as chocolate mousse.
- Shakes

VIDOGUM G I should not be used:

- If the final product must be of pure white colour (**VIDOGUM G I** gives a slightly yellow colour) → alternative: VIDO GUM GH series.
- If taste neutrality is required (**VIDOGUM G I** has a slightly characteristic bean taste) → alternative: VIDO GUM GH series.
- For cold-soluble instant products not subject to heavy shearing → alternative: VIDO CREM (depolymerized guar gum).
- If thickening is expected for > 40Bx sucrose solutions → alternative: VIDO GUM SP (tara gum), VIDO GUM L (LBG), VIDO CREM (depolymerized guar gum).
- If a superior aroma release is required at use rates of > 0.15% → alternative: VIDO GUM L, VIDO GUM SP, VIDO CREM.
- For fat reduced products with a full-bodied mouth-feel → alternative: VIDO CREM.

Benefits

- Suitable for cold and hot applications.
- Synergistic viscosity increase with native/ modified starches and xanthan gum.
- Strong during stirring due to its pseudo-plastic characteristics → easy to dispense.
- Freeze - thaw stable → suitable for frozen products.
- Disperses easily in solutions of 50° Brix without increasing the viscosity thereby. The dispersed particles then dissolve after re-dilution, through which the viscosity can be build up. “Carry-Over effect”.
- Maintains its viscosity at approx. 65% at a temperature of 75°C compared to room temperature (reversible viscosity loss). As a result, **VIDOGUM G I** is especially well suited for applications in which a maximum hot viscosity is required.
 - High viscosity when consumed hot.
 - Stabilisation during heating process (pasteurisation, sterilisation).
 - Provides sufficient viscosity at hot filling temperatures → reduced splashing → filling machines can be set to higher speed.

VIDOGUM G I should be combined with other hydrocolloids:

- If slimy mouth-feel at dosages > 0.2% creates a problem → combine with VIDOGUM L, VIDOGUM SP, VIDOCREM.
- If syneresis cannot be avoided → combine with VIDOCREM AI.
- If gelled texture should be supported or created → combine with VIDOGUM SP, L, KJ

Areas of use

Product Group	Dosage [%]	Benefits in final product using a selected example
Dairy and dessert products	0.2 – 0.4	Dairy products, dairy desserts, fruit quark – together with gelatine or modified starch: <ul style="list-style-type: none"> • Viscosity increase. • Improved whipping characteristics for aerated products (pseudo-plastic flow behaviour). • Syneresis prevention, however, necessary dosage is limited by the viscosity. • As a rule, addition before fermentation requires a fat content > 14%, and the use of additional stabilisers (e.g. pectin, agar-agar).
Fruit products and soft drinks	0.2 – 0.5 0.7 – 1.2	Fruit preparations for yoghurt (addition at the start of the process at 40°Brix). <ul style="list-style-type: none"> • Thickening in combination with modified starch. • Specially suitable for stirred yoghurts. Fruit preparations for yoghurts (addition at the end of the process ≥ 50° Brix – carry over to white mass). <ul style="list-style-type: none"> • Dispersed guar gum thickens the white mass after mixing. • Specially suitable for stirred yoghurts in the low price sector with low SS content.
Culinary products	0.1 – 0.5	Mayonnaise, ketchup, dips, sauces in combination with xanthan gum and VIDOGUM SP-SYN. <ul style="list-style-type: none"> • Viscosity increase. • Only limited suitability for fat reduced products. • Simple dispensing in dispensing bottles due to the pseudo-plastic effect. • Provides very thick texture at hot consumption temperatures.
Meat products	0.2 – 0.5	<ul style="list-style-type: none"> • Boiled or sterilised sausages with low meat content. • Viscosity increase during chopping → better processing characteristics for filling process. • Suppresses jelly separation, less leaching during boiling process. • Provides better consistency for hot eaten sausages (Frankfurter).
Organic products		VIDOGUM G I (native guar gum) may be used for the production of organic products within the framework of the current EU directives.
Dietary and pharmaceutical products		VIDOGUM G I is used: <ul style="list-style-type: none"> • To increase viscosity. • For gluten free bread. • To increase the feeling of satiety. • To reduce the cholesterol level (may not be permitted to advertise in some countries).