



# JK-701S

**Chemical Name: Hydroxypropyl Guar**

**CAS Number: 39421-75-5**

**JK-701S** is a rheology modifier with an extra strong delayed swelling, of medium-high viscosity, based on natural polysaccharides, developed for an optimal rheologic behavior of waterborne wall paints, and other purposes up to pH of max. 11.

## Physical characteristics

<b>Chemical description</b>	Nonionic etherified guar gum
<b>Appearance</b>	Ivory fine powder
<b>Moisture</b>	8% Max
<b>Particle Size</b>	99.9% Min through US 60 mesh 99.0% Min through US 120 mesh
<b>Viscosity (mPa.s)</b>	20000 Min (25°C, 2% sol., Brookfield, Spindle 4#, 20RPM)
<b>pH value</b>	5.0~7.0

## Technical characteristic

<b>Solubility</b>	Colloidally soluble in cold or warm water with retardant swelling. Changes in the pH value influence the swelling speed; pH values < 7.0 retard the hydration, pH values > 7.0 accelerate it.
<b>Stability</b>	After hydration JK-701S is stable within a wide pH range and has a stable viscosity. JK-701S contains preservatives. Aqueous stock solutions are protected against bacteria over the usual period of time. We absolutely recommend adding sufficient amounts of further preservatives to final products containing water. Boron ions lead to a reversible gel formation at pH-values > 7.0.
<b>Storage</b>	Store in cool and dry conditions in closed original containers. We recommend not exceeding a storage time of ten months. Higher storage temperatures lead to an irreversible drop in viscosity.
<b>Packaging</b>	Multi-layer 25 kg paper bags or big bags (can be customized).



## Properties

JK-701S is best suited in water-base paints and in synthetic resin plasters.

The following properties stand out in formulation:

- easy incorporation in aqueous systems due to controllable hydration
- good suspending and protective colloid effect
- excellent stability, even at high electrolyte concentrations
- excellent cost/performance ratio

## Application Technique

A special surface treatment of JK-701S facilitates an easy, homogeneous introduction of the powder into prepared, neutral or acid reacting aqueous phases when producing paints and plasters. The moment of hydration and as a consequence the beginning of the viscosity development can be controlled if need be through a change in the pH value.

The visible swelling delay of a 2% solution happens after approx. 25 minutes at neutral pH and 20°C. Should the swelling be retarded over a longer period of time due to the selected production technology, we recommend adjusting a slightly acid pH range (pH 4.0-5.0). Furthermore, we recommend adjusting the pH value at about 8.5~9.0 in case a quick swelling is required after the powdery components have been dispersed. A further change in the pH value within a wide range after swelling has no further influence on the hydration properties.

If JK-701S is added to aqueous phases with an alkaline reaction, an immediate swelling starts together with the risk of a lump formation and a more complicated homogenization. We recommend using powerful stirrers at high speed or a premix with powdery pigments or fillers in case the working method cannot be changed.

The multifunctional properties of JK-701S facilitate the reduction of recipe components and cost in many cases.

The optimal application concentration of JK-701S varies depending on the application field and the selected product recipe

## Application Fields

JK-701S is applied for controlling the viscosity and rheology when producing:

- indoor paints
- housefront paints
- full-tone paints



- powder paints
- synthetic resin plasters
- dispersion tile adhesives

## Recommendation for Use

We recommend carrying out recipe specific pretrials according to the application amounts stated below:

Water-base paints for indoor and outdoor applications:	0.15	- 0.4 %
Full-tone paints:	0.3	- 0.4 %
Powder paints:	0.3	- 0.6 %
Synthetic resin plasters:	0.2	- 0.6 %
Dispersion adhesives:	0.2	- 0.6 %