京昆化学

JINGKUN CHEMISTRY COMPANY
210, Kuntai Road, Kunshan, Jiangsu, China
Tel: +86-512-57665261 Fax:+86-512-57665755
E-mail: ivy@jingkun.cn

JK-701SH

Chemical Description: Mixture of Hydroxypropyl Guar with Hydroxyethyl Cellulose
Hydroxypropyl Guar CAS No. 39421-75-5
Hydroxyethyl Cellulose CAS No. 9004-62-0

JK-701SH is the mixture of hydroxypropyl guar with hydroxyethyl cellulose. It 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. JK-701SH combines the merits of HPG & HEC, it performs better than single HPG or HEC. It has a higher viscosity, better painting appearance, compatibility, and stability than JK-701S.

Specifications

Chemical description	Nonionic etherified guar gum
Appearance	Ivory fine powder
Moisture	8% Max
Particle Size through US 60 mesh	97.0% Min
through US 120 mesh	90.0% Min
Viscosity (mPa.s) (25℃,2% sol., Brookfield, Spindle 4#, 20RPM)	21000~29000
pH value	5.0～7.0

Technical characteristics

Strong delayed solubility

The production process of JK-701SH includes a special surface treatment which delays the swelling of the product in water at a neutral or slightly acidic pH. This enables the user to disperse JK-701SH easily in water without getting lumps, even at much higher than usual concentrations. The visible swelling delay of a 2% solution happens after approx. 25 minutes at neutral pH and 20°C .By increasing the pH to 8.5 – 9 or higher, the swelling occurs rather quickly.

Viscosity

Solutions of JK-701SH behave pseudoplastically; i.e. the viscosity decreases as a function of increased shear-rate, independent of time. Furthermore the viscosity increases at rising concentration and decreases at rising temperature.

Stability against biological attack

As a consequence of the high degree of substitution,JK-701SH contains almost no germs and shows reasonable resistance against bacteria, moulds and other micro-organisms. Nevertheless it is necessary to add a suitable in-can preservative agent to the paint formulation.

Storage

If stored in unopened, original bags, under cool and dry conditions and away from heat, JK-701SH will stay within the specifications for 12 months, at least

Application and dosage

Using JK-701SH, it is possible to formulate waterborne paints with a final viscosity similar to such ones containing cellulose-ether (medium-high grades). The optimal concentration of JK-701SH has to be determined by the user himself within his own formulations. Usually the dosage range in wall paints is around 0.2-1.0%.

A fast increase of viscosity is obtained by adding alkaline (e.g. caustic soda) right from the beginning of the paint production process, but always just after having added JK-701SH to the neutral water, and dispersed. Adding alkali only in the letdown allows dispersing at lower viscosity. This simplifies the dispersion of pigments and fillers:

Components containing borates in the formulation are to be strictly avoided: gelification may occur!

Further to the thickening effect, JK-701SH stabilizes pigments and fillers and regulates the water