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# **JK-702S**

**Chemical Name: Hydroxypropyl Guar** 

CAS Number: 39421-75-5

**JK-702S** 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.

# **Specifications**

Chemical description Nonionic etherified guar gum

Appearance Ivory fine powder

Moisture 8% Max
Particle Size through US 60 mesh 99.9% Min
through US 120 mesh 99.0% Min

Viscosity (mPa.s)

15000 Min (25°C,2% sol., Brookfield, Spindle 4#, 20RPM)

pH value 5.0~7.0

# **Technical characteristics**

## Strong delayed solubility

The production process of JK-702S 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-702S 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-702S 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-702S 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-702S will stay within the specifications for 12 months, at least

### Application and dosage

Using JK-702S, 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-702S 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-702S to the neutral water, and dispersed fully. 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-702S stabilizes pigments and fillers and regulates the water