

NECOWEL™ 5110



RHEOLOGICALLY MODIFIED ALKYD RESIN EMULSION WITH IMPROVED OPEN TIME FOR THE FORMULATION OF HIGH GLOSS PAINTS

Properties such as gloss, hardness and weather resistance play a primary role in the formulation of paints and topcoats. These requirements can already be met to a large extent by water-based coatings. In terms of flow and leveling properties, solvent-based coatings usually show superior performance.

Compared to easily applicable solvent-borne coatings, commercially available waterborne paints exhibit a notably pseudoplastic behavior. This property leads to a rapid increase in viscosity after shear stress during brush application, which in most cases results in unwanted “brush marks”. These require corrective work and result in additional costs for the user.

With NECOWEL™ 5110, a rheologically modified alkyd resin emulsion based on renewable raw materials, ASK Chemicals has succeeded in significantly improving the flow properties of waterborne paints (Table 1).

NECOWEL™ 5110

Solid (wt%)	39-43
Oil length (%)	35
pH value	7-8
Neutralizing agent	Ammonia
Solvent	Water

Table1: Product specifications of NECOWEL™ 5110.



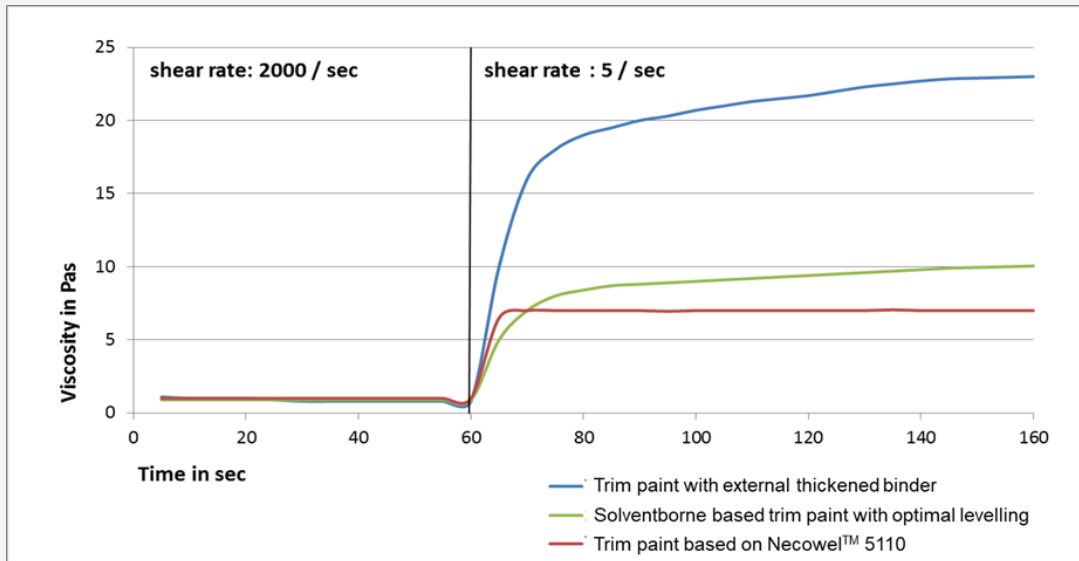


Figure 1: Dependence of viscosity as a function of shear rate for an aqueous trim paint after addition of an external thickener (blue), for a solvent-based system with optimum flow (green) and based on NECOWEL™ 5110 (red).

Due to the more Newtonian flow behavior and an extended open time, excellent flow properties and easy handling are combined. NECOWEL™ 5110 can be used to formulate waterborne paints that are in no way inferior to classic paints based on solventborne alkyd resins in terms of gloss and rheological behavior. (Figure 1).

NECOWEL™ 5110 is both solvent and plasticizer-free and is characterized by good drying behaviour and high gloss. It features a bio-based binder for the formulation of VOC-free paints with excellent flow.

ADVANTAGES AT A GLANCE

- Improved flow behavior
- Based on renewable raw materials (biobased C content ~35%)
- Open time >10 minutes
- VOC and solvent free
- No additional thickeners required
- Excellent spreadability
- High gloss and smooth surface