SAJA POLYMER

Technical Data Sheet (TDS)

EP90

Associative Thickener (High-Efficiency Acrylic Grade)

Product Description

> The EP90 modifier is an advanced, high-efficiency acrylic associative thickener compound. It is extensively utilized as a primary rheological modifier or synergistic co-thickener in water-based paints, structural adhesives, sealant formulations, and textile coating or print paste networks. It imparts a high-consistency, low-viscosity rheological state to significantly enhance sag resistance while minimizing industrial application resistance. This additive is ideally suited for compound matrices demanding high-consistency specifications.

Section I: Primary Technical Parameters

Properties	Specification Value
Product Name	EP90
Appearance	Milky white liquid emulsion
Solid Content	35 ± 1%
pH Value Margin	3.68 ± 0.50
Recommended Application	Thick-textured building coatings, including real stone paints, textured finishes, and elastic troweled architectural layers
Recommended Dosage Margins	0.4% - 1.0%

Packaging Specs	50 KG per containment drum or 1 Ton per container vessel

Section II: Laboratory Evaluation Data

The EP90 polymer displays outstanding structural stability across diverse emulsion systems, pure aqueous solutions, and complex latex coating networks.

2.1 Stability Performance in Blended Emulsions

Testing Recipe Profile: Liquid Water (250g), 918 Emulsion Grade (250g), System Defoamer (0.3g), Neutralizing Ammonia (3.22g, to adjust matrix pH around 7.5 - 8.0), and EP90 Thickener (4g).

- **Stormer Viscosity Tracking (KU Stability):**
  - Initial Viscosity: 92.0 KU
  - 7-Day Stored Viscosity: 93.9 KU
  - Viscosity Shift Threshold: +1.9 KU (+2.06%)
- **Brookfield Viscosity Profile Tracking:**
  - High-to-Low Shear Profile (4# Spindle monitored at 12 rpm): Initial 28332 mPa·s → 7-Day 31768 mPa·s (+3436 mPa·s / +12.12%)
  - Low-to-High Shear Profile (4# Spindle monitored at 6 rpm): Initial 36518 mPa·s → 7-Day 47833 mPa·s (+11315 mPa·s / +30.98%)
- **pH Stability Tracking:**
  - Initial pH value: 9.08
  - 7-Day Stored pH value: 9.01
  - pH value Shift: -0.07 (-0.77%)

2.2 Stability Performance in 2.35% Aqueous Dispersion

Testing Recipe Profile: EP90 Thickener (12g), Deionized Pure Water (500g), and Neutralizing Ammonia (3.67g, to adjust system pH around 7.5 - 8.0).

- **Stormer Viscosity Tracking (KU Stability):**
  - Initial Viscosity: 83.8 KU
  - 7-Day Stored Viscosity: 94.4 KU
  - Viscosity Shift Threshold: +10.6 KU (+12.65%)
- **Brookfield Viscosity Profile Tracking:**
  - High-Shear Viscosity Stability (4# Spindle monitored at 60 rpm): Initial

4401 mPa·s → 7-Day 6360 mPa·s (+1959 mPa·s / +44.51%)
    - Low-Shear Viscosity Stability (4# Spindle monitored at 12 rpm): Initial 13015 mPa·s → 7-Day 18599 mPa·s (+5584 mPa·s / +42.90%)
- **pH Stability Tracking:**
    - Initial pH value: 8.92
    - 7-Day Stored pH value: 8.66
    - pH value Shift: -0.26 (-3.00%)

2.3 Stability Performance in Architectural Latex Paints

Testing Compound Formulation: Water (250g), Ethylene Glycol Glycol (10g), Cellulose Binder (2g), Defoamer WBA (1g), Anionic Dispersant 5040 (3g), Functional Co-solvent A2 (5g), Amino Modifier AMP-95 (8g), Pure Titanium Dioxide (25g), 800-mesh Heavy Calcium Carbonate Mineral (350g), Kaolin Clay Filler (150g), Core 116C Emulsion Binder (150g), Defoamer WBA (1.5g), EP90 Thickener Agent (6g), and Liquid Pure Water (38g).

- **Stormer Viscosity Tracking (KU Stability):**
    - Initial Coating Viscosity: 99.3 KU
    - 7-Day Stored Coating Viscosity: 113.7 KU
    - Viscosity Shift Threshold: +14.4 KU (+14.50%)
- **Thermal Storage Assessment:** Following rigorous heat aging storage testing monitored at 50°C for a continuous duration of 7 days, the developed latex paint exhibits robust structural integrity and formulation consistency with zero layer separation, zero macro phase precipitation, and no gelation or abnormal thickening variations.

Disclaimer

Shandong Sanjia Polymer Material Co., Ltd.