Drag reducer products

The drag reducer products of our company are mainly applied in the construction of slick water fracturing fluid. As the main agent of the slick water system, the function of the drag reducer for fracturing is to reduce the friction coefficient when the fracturing fluid flows, thus reducing the construction pressure. Besides its low friction, it also features online blending, excellent solubility, low surface tension and simple construction. In terms of product performance, it can be classified into: conventional drag reducers, salt-resistant thickeners and acidizing thickeners.

Drag reducer	Indicator	Application	
Appearance	White emulsion		
рН	68	It has high drag reducing performance, can be blended online, has good solubility, causes little formation damage, contains no insoluble substances, and is easy to flow back.	
Content, %	≥30		
Swelling time,s	≤30		
Drag reduction rate,%	≥70		
Apparent viscosity (0.1%, dissolved for 1 min, at 100s ⁻¹) mPa·s	≥3		
Compatibility performance	No flocculation, no sedimentation occurs.		
Kinematic viscosity of the gel - broken fluid (at 25 $^{\circ}\text{C}$), mm²/s	≤5		
Surface tension of the gel - broken fluid (at 25 $^\circ \! \mathbb{C}$), mN/m	≤28		
Interfacial tension of the gel - broken fluid (at 25 $^{\circ}\mathrm{C}$), mN/m	≤2		

Salt resistance drag reducer	Indicator	Application	
Appearance	White emulsion		
рН	38		
Content, %	≥30	It features high temperatureresistance, salt resistance,	
Swelling time, s	≤30		
Drag reduction rate, %	≥70	shear resistance, rapid	
Apparent viscosity (0.1%, dissolved for 1 min, at 100s ⁻¹) mPa·s	≥3	solubility, low damage,	
Apparent viscosity retention rate (containing 3% KCl and 0.3% CaCl), %	≥70	excellent drag reducing	
Compatibility performance	No flocculation,no sedimentation occurs.	performance, and simple	
Kinematic viscosity of the gel - broken fluid (at 25℃), mm²/s	≤5	treatment of flow - back fluid.	
Surface tension of the gel - broken fluid (at 25° C), mN/m	≤28		
Interfacial tension of the gel - broken fluid (at 25 $^\circ$ C), mN/m	≤2		

Salt-resistant integrated emulsion	Indicator	Application
рН	6.57.5	
Stability	No obvious delamination	It features high temperature resistance,
Hydration rate, s	≤ 180	salt resistance, shear resistance, rapid
Apparent viscosity (0.1% concentration in clear water, 25℃), mPa·s	≥ 6.0	solubility, low damage, excellent drag
Apparent viscosity (0.1% concentration in 2% KCl solution, 25℃), mPa·s	≥ 3.0	reducing performance, and simple
Drag reduction rate (0.1% concentration in clear water, 25℃), %	≥ 70	treatment of flow back fluid