



HYDRABOND[®] HB-2642

Medium branched cationic emulsion polymer for sludge dewatering

Description

HYDRABOND[®] HB-2642 is a specialised emulsion polymer used for water clarification and sludge dewatering in industrial and municipal water treatment. HB-2642 is characterised as being a high charge, medium branching, medium-high molecular weight cationic emulsion polymer.

Product Benefits

- » Fast activation after make-down
- » High charge for improved supernatant quality
- » Medium branching for shearing environments; helps resist polymer chain length destruction
- » Branched structure to provide improved drainage and higher cake solids

Product Use

HYDRABOND HB-2642 is a high charge, medium branched cationic emulsion polymer specially designed for use in high shear environments where general purpose linear polymers tend to shear apart resulting in less than optimal performance. The high shear environment helps to unlock the 'hidden' molecular weight and high charge of HB-2642 resulting in robust flocs, good solids capture and a clear supernatant.

HB-2642 is ideally suited to dewatering and thickening of sludge using centrifuge, screw press, sludge press, and belt press where an optimal balance between sludge dryness and supernatant quality is desired.

Product Activation

HB-2642 should be made-down and activated at 0.8–1.0% strength before use with purpose built make-down equipment. Activation outside this range may reduce product effectiveness leading to higher than expected dose rates. HB-2642 can be used immediately after activation although a 10 minute aging time is recommended for optimum performance.

The apparent viscosity of HB-2642 increases from an as-supplied viscosity of 1200 cP to around 3000 cP on activation when made-up at 1% strength.

Post dilution to lower strengths in holding tanks after activation is suitable although solution stability will be reduced. In-line post dilution just prior to application is more suitable.

Properties

Form:	Liquid (emulsion)
Colour:	Off-white to tan-cream
SG:	1.05 ± 0.05
pH:	5 ± 0.5 (1% solution)
Viscosity:	1200 cP neat, 3000 cP @ 1%

High quality make-up water, low in hardness and free of turbidity, with low ferrous iron concentrations (< 0.2 mg/L) and low residual chlorine (< 0.5 mg/L) is recommended. To minimise polymer hydrolysis and improve the stability of the final solution, the pH can be adjusted down to 4.5–5.5 if needed. A 1% solution at pH 5–5.5 should be stable for up to 48 hours. Weaker solutions with higher pH values may begin to deteriorate after a few hours.

Product Application

An activated solution of HB-2642 can be dosed as made-up (1% solution). Alternatively in-line post dilution by 5–20 times, just prior to application can be used as this may improve mixing and ensure optimum dose rates. Dose rates and dose locations are best determined by jar testing and on-site optimisation.

For sludge dewatering, application rates between 7–13 kg/tonne dry solids of HB-2642 are common. The dosing point should be as close to the sludge dewatering unit as possible while still achieving good mixing. Dosing with diluted solutions of HB-2642 will improve mixing and may lower dose rate. Using two separated dose points may also reduce overall consumption.

Spills of neat HB-2642 should firstly be wiped up and any remaining product removed using bleach, salt, sawdust or absorbers, before rinsing the area with water. Do not use water on neat spills as the area will become very slippery and clean-up will be difficult. Do not let any spills (or any hosing of spills) enter the stormwater system.