



HYDRABOND[®] HB-2622

Low branching cationic emulsion polymer for sludge dewatering

Description

HYDRABOND[®] HB-2622 is a specialised emulsion polymer used for water clarification and sludge dewatering in industrial and municipal water treatment. HB-2622 is characterised as being a high charge, low branching, high molecular weight cationic emulsion polymer.

Product Benefits

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

Product Use

HYDRABOND HB-2622 is a high charge, low 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-2622, resulting in robust flocs, good solids capture and a clear supernatant.

HB-2622 is ideally suited to dewatering and thickening of sludge's using centrifuge, screw press, sludge press and belt press. HB-2622 can also be used as a traditional polymer to flocculate solids in primary treatment where the shear environment is high.

Product Activation

HB-2622 should be made-down and activated at 0.8–1.2% 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-2622 can be used immediately after activation although a 10 minute aging time is recommended for optimum performance.

The apparent viscosity of HB-2622 increases from an as-supplied viscosity of 1200 cP to around 2500 cP on activation when made-up at 1% strength.

Post dilution to lower strengths in holding tanks after activation is suitable although product hydrolysis may begin within a few hours with the outcome of reducing the product effectiveness. In-line post dilution just prior to application is more suitable.

Properties

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| Form: | Liquid (emulsion) |
| Colour: | Off-white to tan-cream |
| SG: | 1.05 ± 0.05 |
| pH: | 5 ± 0.5 (1% solution) |
| Viscosity: | 1200 cP neat, 2500 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 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-2622 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 6–12 kg/tonne dry solids of HB-2622 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-2622 will improve mixing and may lower dose rate. Using two separated dose points may also reduce overall consumption.

Spills of neat HB-2622 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.